Ordinance No. 122050

Council Bill No. 115414

AN ordinance amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

CF No. _____

Date Introduced: OCT 10 2005	
Date 1st Referred: OCT 10 2005	To: (committee) Energy & Environmental Policy Committee
Date Re - Referred:	To: (committee)
Date Re - Referred:	To: (committee)
Date of Final Passage:	Full Council Vote:
Date Presented to Mayor:	Date Approved: 4/5/06
Date Returned to City Clerk: 4/5/06	Date Published: DNS 12&PS T.O. F.T. ✓
Date Vetoed by Mayor:	Date Veto Published:
Date Passed Over Veto:	Veto Sustained:

The City of Seattle - Legislative Department

Council Bill/Ordinance sponsored by: Jean Godden
Councilmember

Committee Action:

2/09/06 DO PASS AS AMENDED - JG, DD, RC

3-6-06 amended & Held 2 weeks

3-20-06 Held 1 week

3-27-06 Passed As Amended 9-0

This file is complete and ready for presentation to Full Council. Committee: _____ (initial/date)

Law Department

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3/6/06
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(Ver. 5)

ORDINANCE 122050

AN ORDINANCE amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

WHEREAS, the City of Seattle wishes to adopt regulations to promote safe, stable, and compatible development and to protect critical areas pursuant to the authority of Chapter 36.70A RCW (the "Growth Management Act"), including the statewide planning goals, and pursuant to the City's police power authority independent of the Growth Management Act to adopt planning and zoning regulations; and

WHEREAS, compliance with the Growth Management Act requires balancing of competing goals which cannot always be reconciled easily in a single regulatory ordinance; and

WHEREAS, Council recognizes that the successful implementation of the Environmentally Critical Areas ordinance increases the ongoing local and regional need to develop and implement policies that provide adequate housing capacity and identify suitable buildable lands; and

WHEREAS, the City of Seattle wishes to adopt regulations to implement the City's Comprehensive Plan; and

WHEREAS, the City of Seattle has engaged in public participation, has considered the best available science, the statewide planning goals, and the City's Comprehensive Plan, and has determined that it is appropriate to amend its environmentally critical areas regulations and Title 23 based on the information and analysis set out in the Director's Report and Recommendations;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Title 25.09 of the Seattle Municipal Code is amended as follows:

25.09.010 ((~~**Moratorium on development in landslide-prone areas**~~))**Purpose of the chapter.**

((~~Notwithstanding any other provision of this chapter or of Chapter 23.76, all public and private development that is subject to this chapter and proposed for landslide-prone areas, as described in Section 25.09.020 B1a, is prohibited during the term of this section, except that the Director may approve the following:~~

CITY CLERK

~~A. Work that will not disturb the ground, such as interior repairs to existing structures;~~

~~B. Work that is necessary to stabilize a site that has been rendered unstable by recent slide activity, so as to lessen the risk of new or additional damage;~~

~~C. Work that is necessary to repair damaged structures or utilities, as long as the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property;~~

~~D. Work that would be exempted pursuant to Section 25.09.040, provided that work that would be exempted pursuant to subsections B, C, and F may be approved only if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property; and~~

~~E. Work that would be exempted pursuant to Section 25.09.180 D1 if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property.~~))

This chapter is based on and implements The City of Seattle Comprehensive Plan, as amended from time to time. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person, or class, or group of persons who will or should be especially protected or assisted by the terms or provisions of this chapter. This chapter is intended to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin.

25.09.015 Application of chapter.

SDS CITY CLERK

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer.

B. This chapter applies to altering vegetation, trees, or habitat carried out by any person in landslide-prone critical areas (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers on publicly or privately owned parcels.

C. Section 25.09.200 A4 applies to daylighting pipes and culverts defined in that subsection.

25.09.017 Administration.

A. The Director shall administer and interpret the provisions of this chapter, except as specifically provided.

B. The Director shall determine whether development, platting, or alteration of vegetation, trees, or habitat is subject to this chapter. The Director may also consult with other City departments and state and federal agencies as necessary to obtain additional technical and environmental review assistance.

C. The Director shall review and analyze all applications for all permits or approvals subject to this chapter that are issued by the Department of Planning and Development. Such applications shall be approved only after the Director is satisfied the applications comply with this chapter.

D. Every other City department issuing a permit for development on parcels containing an environmentally critical area or its buffer or for altering vegetation, trees, or habitat in the areas set out in subsection 25.09.015 B shall require the use of best management practices to prevent impacts to environmentally critical areas and their buffers and to meet the intent of this chapter. Departments shall

2006 CITY CLERK

require mitigation to address unavoidable impacts. All such City departments shall maintain records documenting compliance with this subsection D.

E. The Director shall identify techniques that are best management practices for actions administered by the Director. The Director may do this by Director's Rule. The directors of other City departments applying these regulations or issuing permits for development in environmentally critical areas or their buffers may identify techniques that are best management practices and may do this by Director's Rule.

F. The provisions of Section 23.88.020 apply to a decision by the Director as to the meaning, application, or intent of any provision of this chapter. Other administrative appeal provisions set out in Title 23 do not apply to decisions under this chapter, except as specifically provided.

25.09.020 Environmentally critical areas definitions.

((~~A. This chapter is based on and implements the Seattle Environmentally Critical Areas Policies as adopted by Resolution 28559, and as amended from time to time. This chapter shall apply to all development and platting located in environmentally critical areas as defined below and characterized by specific site conditions. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person or class or group of persons who will or should be especially protected or benefited by the terms or provisions of this chapter.~~))

((~~B.~~)) The following ((~~shall constitute~~)) are environmentally critical areas regulated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

FILED CITY CLERK

((~~1~~))A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas and landslide-prone areas described in subsections 2 and 3. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4. Seismic hazards are addressed in subsection 5.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

((~~a~~))3. Landslide-prone Areas. The following are ((~~L~~))landslide-prone areas ((~~are characterized by the following~~)):

(((~~1~~)))a. Known landslide areas identified by documented history, or ((~~any~~)) areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris ((~~that occurred~~)) deposited during this period; or

(((~~2~~)))b. Potential landslide areas: ((~~Potential landslide areas based on documented geological characteristics, and based on a combination of geologic, topographic and hydrologic factors, including the following:~~

~~(a) Areas over fifteen (15) percent slope which have at least one (1) of the following characteristics:~~

~~(i) Impermeable soils (typically silt and clay) interbedded with permeable granular soils (predominantly sand and gravel); or impermeable soils overlain with permeable soils. This includes the area within one hundred (100) feet either side of the contact between Esperance Sand and either Lawton Clay or Pre-Lawton sediments as is shown on the area noted as Class Four (4) on the Slope Stability Map of Seattle, in Causes, Mechanisms and Prediction of Landsliding in Seattle,~~

2005 CITY CLERK

~~by Donald Willis Tubbs, Ph.D. Dissertation, University of Washington, 1975 ("Tubbs Map"), or as otherwise mapped, or~~

~~(ii) Identified relatively unstable soils in either Lawton Clay or Pre-Lawton sediments, as is shown on the area noted as Class Three (3) of the Tubbs Map, or as otherwise mapped, or~~

~~(iii) Springs or groundwater seepage;~~))

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000, 2003), or as more accurately mapped.

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(((~~(b)~~)))(5) ((~~Steep s~~))Slopes with an incline of forty (40) percent ((~~average slope or greater as defined by the Director. A slope must have a vertical elevation change of at least ten (10) feet to be considered a steep slope, although the ten (10) feet may cross the boundaries of a site. Slopes that meet)) these characteristics shall be considered steep-slope environmentally critical areas in addition to being classified as potential landslide areas;~~)) or more within a vertical elevation change of at least ten feet (10').

CITY CLERK

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

((~~(e)~~))(6) Areas that would be covered under ((~~either (a) or (b)~~)) one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

((~~d~~))(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

((~~b. Liquefaction-prone Areas. Liquefaction-prone areas are areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table which lose substantial strength during earthquakes.~~))

CITY CLERK

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that the area is only a landslide prone area when such a slope is on a parcel in a Downtown zone or highrise zone.

5. There is a known risk from a seismic events in Seattle and the surrounding region. Subsection 1-4 identify areas that constitute a particularly high risk to safety and welfare from such events and are therefore regulated as environmentally critical areas. The risks associated with seismic hazards in the remainder of the City are regulated by the Building Code (SMC Title 22) and not by this Ordinance.

((~~2~~))B. Flood-prone Areas. Flood-prone areas are those areas that would likely be covered with or carry water as a result of a one hundred (100) year flood event ((~~storm~~)), or that would have a one percent (1%) or greater chance of being covered with or of carrying water in any given year based on current circumstances or maximum development permitted under existing zoning. This includes areas identified as flood-prone on the Seattle Floodplain Development Ordinance or on FEMA maps, and streams identified by the Washington State Department of Fisheries Catalog of Washington Streams, and areas with ((~~drainage~~)) stormwater runoff problems known to ((~~the~~)) Seattle ((~~Drainage and Wastewater Utility.~~)) Public Utilities.

((~~3. Riparian Corridors. Riparian corridors include all areas within one hundred (100) feet measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark of the watercourse and water body, or a one-hundred (100) year floodplain as mapped by FEMA, as regulated by the Seattle Floodplain Development Ordinance, whichever is greater, and are classified as either a Class A Riparian Corridor or a Class B Riparian Corridor. Class A Riparian Corridors are stable, established streams and lakes that flow year-round and/or support salmonids, and include, but are not limited to, corridors that have an established floodplain as mapped~~

CITY CLERK

~~by the FEMA Flood Insurance Program, and include Longfellow, Thornton, Pipers, Venema, Mohlendorph, Fauntleroy, Ravenna, Mapes, DeadHorse/Mill, Maple Leaf and Little Brook Creeks, and Haller and Bitter Lakes. Class B Riparian Corridors are not mapped by FEMA and are intermittent streams without salmonids that still demonstrate a high water mark. Riparian corridors do not normally include those artificial drainage areas intentionally created from grass-lined swales, canals, detention facilities, wastewater treatment facilities, and landscape amenities.~~))

((4))C. Wetlands. Wetlands are those 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 stormwater 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. (((~~f~~))The method for delineating wetlands shall follow ((~~the most current version of~~)) the "Washington State Wetlands Identification and Delineation Manual" as adopted by the State Department of Ecology (Publication #96-94.)

((~~5~~))D. Fish and Wildlife Habitat Conservation Areas. The following are ((~~F~~))fish and wildlife habitat conservation areas ((~~include, but are not limited to, the following~~)):

1. Areas mapped by the Washington State Department of Fish and Wildlife ("WDFW") as urban natural open space habitat areas.

CITY CLERK

((a))2. Areas designated ((identified)) by ((the Washington State Department of Wildlife)) WDFW as priority habitats and species areas, including native eel grass beds, kelp beds, and recreational shellfish areas. ((or urban natural open space habitat areas;))

(((1))3. Corridors connecting ((other)) priority habitats and species areas or habitat areas for species of local importance meeting one of the following criteria: ((especially areas that would otherwise be isolated;))

a. WDFW or the Department's species habitat management plan identifies the parcel as part of a corridor connecting habitat areas for priority species or species of local importance;

b. the parcel is adjacent to or connects parcels containing priority species or species of local importance and the Director determines that the parcel is part of a wildlife corridor based on information provided by a qualified wildlife biologist or;

c. the parcel provides fish passage between fish habitat in Type 1-5 waters upstream and downstream of the parcel, whether that passage is in riparian watercourses, pipes or culverts.

(((2) Areas that remain an isolated remnant of natural habitat of ten (10) acres or more and surrounded by urban development, with local consideration given to areas smaller than ten (10) acres;))

((b. All bodies of water that provide migration corridors and habitat for fish, especially salmonids, including Lake Washington, Lake Union and the Lake Washington Ship Canal, Duwamish River , and that portion of Elliot Bay within the City's jurisdiction;))

((e)) ((Commercial and Recreational shellfish areas and kelp and eelgrass beds and))

2006 CITY CLERK

((~~d~~))4. Areas ((~~which~~)) that provide habitat for species of local importance.

5.a Riparian corridors, which are the riparian watercourse and the riparian management area. The riparian watercourse is the watercourse of Type 2-5 waters defined in WAC 222-16-031 that have fish or wildlife habitat. Water in surface water ditches and stormwater conveyances, pipes, culverts, flow control facilities and water quality facilities are not regulated as riparian watercourses. The riparian management area is the area within one hundred feet (100') measured horizontally landward from the top of each bank of the watercourse, or from the ordinary high water mark of the watercourse as surveyed in the field, if the top of the bank cannot be determined. In watercourses with braided channels or alluvial fans, the ordinary high water mark shall be determined so as to include the entire stream feature.

b. When a pipe or culvert connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert is daylighted, the waters formerly in the pipe or culvert will be regulated as a riparian watercourse, and the area adjacent to that watercourse will be regulated as a riparian management area, as defined in subsection 5. This subsection 5b does not apply when the pipe or culvert is removed to provide a publicly–owned facility designed primarily for water quality treatment, flow control or stormwater conveyance.

6. Shoreline habitat, which is Type 1 waters, defined in WAC 222-16-031, that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

((~~6~~))E. Abandoned Landfills. Abandoned landfills include those abandoned solid waste landfills identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project, additional sites identified by public or historical research, and areas within one thousand feet (1,000') of methane-producing landfills.

CITY CLERK

((~~C. Environmentally Critical Areas Maps. Environmentally critical areas defined and identified in subsections A and B shall be mapped whenever possible. These maps shall be advisory and used by the Director to provide guidance in determining applicability of the standards to a property. Sites that include environmentally critical areas which are not mapped shall be subject to the provisions of this chapter.~~))

((~~The Director may update or amend the environmentally critical areas maps by Director's Rule, according to Seattle Municipal Code Chapters 3.02 and 3.06, as new information and improved mapping resources become available. Mapping amendments may occur at a frequency not to exceed once every year.~~))

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. These maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary.

25.09.040 ((~~Application of standards~~)) Permits and Approvals Required.

((~~The standards of this chapter shall apply to all public and private proposals for new structures, additions to structures, short subdivisions and subdivisions, grading and drainage activity, and tree and vegetation removal per Section 25.09.320 located on either public or private property within~~

2005 CITY CLERK

~~environmentally critical areas and their buffers. Public projects proposed by any public agency shall comply with the standards of this chapter. Projects shall be exempted from the requirements of the chapter when the following situations and/or conditions apply:~~))

A. Prior to undertaking development or platting on a parcel containing an environmentally critical area or buffer, the person responsible shall submit an application complying with the provisions of Section 25.09.330, unless the person complies with the provisions of Section 25.09.045, 25.09.055, or 25.09.320.

B. Prior to undertaking actions under Section 25.09.045, 25.09.055, or 25.09.200 A4, the person responsible shall comply with provisions of the applicable section.

C. Prior to altering vegetation, trees, or habitat protected by this chapter the person responsible shall comply with the provisions of Section 25.09.320, unless that person complies with Section 25.09.045 or 25.09.055.

25.09.045 Exemptions.

A. 1. When the Director determines that criteria in subsections D to J below are met, those activities are exempt from the provisions of this chapter, except Sections 25.09.017 and .030 B and as otherwise provided in this section.

2. An application for an exemption may be made only as a component of a specific proposed development.

3. a. The applicant for an exemption shall provide all information requested by the Director and demonstrate that the work qualifies for the exemption. The Director shall determine whether work is exempt and may impose conditions on the work to protect environmentally critical areas and buffers or other property.

2006 CITY CLERK

b. City agencies taking the action under any subsection of this section and the public agency taking the action under subsection J do not need to make an application to the Director provided that if no application is made, they shall comply with all provisions of this Section 25.09.045, make all determinations required to be made by the Director, including required conditions, and shall maintain records documenting compliance with all provisions.

B. All exempt activities shall be undertaken using best management practices; the applicant shall maintain records documenting compliance with this subsection B.

C. The enforcement provisions of this chapter apply to all activities exempted under this section. The Director's determination that a violation exists is not limited by determinations made by other City agencies or public agencies under subsection A3b, above.

D. Development that does not temporarily or permanently encroach within, alter, or increase the impact to the environmentally critical area or buffer on the parcel where the development occurs is exempt from the provisions of this chapter; if existing development that encroaches within or impacts the environmentally critical area or buffer is removed, then new development that encroaches within, alters or impacts the environmentally critical area or buffer is not exempt.

(((~~(A)~~)))E. ((~~When the Director determines there is an emergency threatening the public health, safety and welfare;~~)) Work directly related to ending a condition that (1) is an immediate threat to the public health, safety and welfare, or creates an immediate risk of damage to public or private property and (2) requires remedial or preventive action in a timeframe too short to allow compliance with the application provisions of this chapter is exempt from those provisions, provided that the work is the minimum work necessary to end the condition and the work is consistent with the development standards of this chapter to the extent practicable. Once the Director determines that the condition no longer meets these criteria, all work is subject to the provisions of this chapter, including but not limited

2006 CITY CLERK

to its application requirements, its development standards, and any requirements for technical reports and reviews for work that was exempt at the time it was performed.

((~~B~~))F. Maintenance, repair, renovation, or structural alteration of an existing structure ((~~structures in existence on October 31, 1992, the effective date of the ordinance codified in this chapter, unless otherwise prohibited by law.~~))that does not increase the impact to, or encroach further within, or further alter an environmentally critical area or buffer is exempt from the provisions of this chapter. ((~~Expansion or extension in any manner which increases the extent of nonconformity with the environmentally critical area provisions of the chapter shall not be permitted. When these structures are damaged by an act of nature, they may be rebuilt or replaced within one (1) year or the act of nature provided that the new construction or related activity does not further intrude into an environmentally critical area or required buffer and is subject to the flood hazard areas reconstruction restrictions;~~))

((~~C. New accessory structures and additions to structures whose developmental coverage does not exceed a cumulative addition of seven hundred and fifty (750) square feet of impervious surface after October 31, 1992, the effective date of the ordinance codified in this chapter, provided the addition is not constructed over a watercourse, water body or wetland;~~))

((~~D. When the applicant demonstrates to the satisfaction of the Director, through site surveys, topographic maps, technical environmental analysis, and other means as determined necessary by the Director that either one of the following situations apply:~~))

((~~1. The site contains no environmentally critical areas as defined in Section 25.09.020, or~~))

((~~2. The proposed development and associated land disturbing activity, including developmental coverage, does not occur within the area of the site designated as environmentally critical and any required buffer as defined in Section 25.09.020;~~))

SEATTLE CITY CLERK

((~~E. Normal and routine operation, maintenance, remodeling, and repair of existing public facilities and utilities, including the maintenance, vegetation management and revegetation of public parkland and open spaces, when undertaken pursuant to best management practices to avoid impacts to environmentally critical areas;~~

~~F. The following electric, natural gas, cable communications, telephone, public facility and utility, and right-of-way improvement projects, with the Director's approval of the location and limits of the project, only when the project is not a prerequisite to development. The exemption shall only be approved when the project is undertaken pursuant to best management practices to avoid impacts to environmentally critical areas, and when it can be demonstrated that:~~

~~1. No practicable alternative exists;~~

~~2. The encroachment into a critical area is minimized to the greatest extent practicable; and~~

~~3. Mitigation measures are employed before, during and after construction:~~))

G. Rebuilding or replacing structures that are destroyed by an act of nature is exempt from the provisions of this chapter, provided that action toward the rebuilding or replacement is commenced within one (1) year of the act of nature, that the rebuilding or replacement is diligently pursued, and that the new construction or related activity does not further encroach into, or increase the impact to, or further alter an environmentally critical area or buffer and complies with restrictions on flood hazard areas reconstruction.

H. 1. The activities identified in subsection 3 below are exempt from the provisions of this chapter when the applicant demonstrates:

a. The work is not a prerequisite to other development;

ENS CITY CLERK

b. No practicable alternative to the work with less impact on the environmentally critical area or buffer exists; and

c. The work does not pose an unreasonable threat to the public health, safety or welfare on or off the parcel.

2. The Director's decision shall:

a. include the approved location and limits of the work; and

b. shall require specific mitigation measures for impacts to all environmentally critical areas and their buffers before, during, and after construction.

3. The provisions of this subsection H apply to the following activities:

a. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less only when required by a governmental agency,

b. Relocation of natural gas, cable communications, gas, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances only when required by a governmental agency,

c. Installation or construction in improved public road rights-of-way, and replacement, operation or alteration, of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less,

d. Installation or construction in improved public road rights-of-way, and replacement, operation, repair or alteration of all natural gas, cable communications, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances,

e. Public or private projects designed to enhance ((~~streams~~)) riparian corridors, shoreline habitat and its buffer, and wetlands and their buffers, including ((~~drainage~~

FILED CITY CLERK

))stormwater-related functions, that require either a Hydraulic Project Approval from ((~~either~~))the Washington Department((~~s~~)) of ((~~Fisheries or Wildlife~~))Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers, Aquatic Habitat Matching Grant program, established by City Council Resolution 30719,and

f. Public projects ((~~that promote a public objective,~~)) where the intrusion into the environmentally critical area or buffer benefits the public, such as trails providing access to a creek or wetland area, when located and designed to ((~~minimize~~)) keep environmental disturbance to ((~~the greatest extent possible~~)) a minimum. The applicant shall protect vegetation and trees pursuant to a tree and vegetation plan consistent with best management practices. The plan shall be prepared by a qualified expert with experience related to the type of environmentally critical area or buffer where work will occur. In landslide-prone areas of the plan shall also be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on steep slopes.

I. Normal and routine operation, maintenance, remodeling, repair, and removal of existing public facilities and utilities is exempt from the provisions of this chapter when these activities do not result in substantial disturbance of environmentally critical areas or buffers.

J. Normal and routine (a) pruning, (b) tree and vegetation maintenance and management, and (c) revegetation are exempt from the provisions of this chapter when they do not result in substantial disturbance of environmentally critical areas or buffers and when they are carried out in parks, public utility right of ways, and publicly owned open spaces by the public agencies, including City agencies, that are responsible for them.

25.09.050 City Projects.

CITY CLERK

"City project" means all work described in Section 25.09.015 that is undertaken by a City agency. A City project shall comply with all provisions of this chapter unless the project is exempt under Section 25.09.045.

25.09.055 Small Project Waiver.

A. The Director may approve new accessory structures or additions to existing structures in environmentally critical areas and buffers, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

2006 CITY CLERK

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

B. Director's Decision.

1. The Director shall require the use of fencing with a highly durable protective barrier during the construction to protect the remainder of the environmentally critical area and/or buffer.

2. The Director shall require planting native vegetation in an area equal in size to the area of any native vegetation in a riparian corridor, wetland buffer, steep slope, or steep slope buffer that is removed or adversely impacted by the development. Any invasive species shall be removed from the planting area. The planting area shall be on site and, whenever possible, in the same environmentally critical area or buffer. When this is not possible, the Director may authorize all or a portion of the planting to be outside the environmentally critical area or buffer or on another parcel, when the Director determines this will mitigate the impact.

3. The Director may require additional measures to protect the remainder of the environmentally critical area and/or buffer.

25.09.060 ((~~Application submittal requirements, general requirements and development standards~~)) General Development Standards.

((~~All proposals listed in Section 25.09.040 shall meet the following application submittal requirements, general requirements and development standards:~~

FILED CITY CLERK

~~A. Application Submittal Requirements. In addition to the application submittal requirements specified in other codes, development proposals subject to this chapter shall include the following additional information as applicable:~~

~~1. Surveyed Site Plan. A surveyed site plan, prepared and stamped by a State of Washington licensed surveyor, shall be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. The surveyed site plan shall include the following existing physical elements:~~

~~a. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~b. Terrain and drainage-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~c. General location of areas with significant amounts of vegetation, and specific location and description of all trees and shrubs over six inch (6") caliper measured three feet (3') above the base of the trunk, and noting their species;~~

~~d. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of development coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);~~

~~e. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands within twenty-five feet (25') of~~

SEATTLE CITY CLERK

~~the site's property lines, and in the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and~~

~~g. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~2. Additional Site Plan Information. The following site plan information shall also be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.~~

~~a. Location and boundaries of all critical areas on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;~~

~~b. Proposed location and boundaries of all required undisturbed fenced areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines;~~

~~c. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land~~

CITY CLERK

~~disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);~~

~~d. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;~~

~~e. Location of all proposed grading activities, and all proposed drainage control facilities or systems on site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and~~

~~g. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~3. Technical Reports. Technical reports shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, vegetation, and other pertinent site information. The reports shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.~~

~~B. General Requirements for the Lot, Adjacent Lots, Surrounding Area, and Drainage Basin.~~

~~1. The developer shall ensure safe, stable and compatible development which avoids adverse environmental impacts and potential harm on the lot, to adjacent lots, the surrounding neighborhood, and the drainage basin. Detailed analysis of impacts, including cumulative impacts of development, of the proposed development upon wetlands, riparian corridors, native vegetation and~~

EMS CITY CLERK

~~wildlife habitats, water quality, fisheries, natural water temperature, slope and soil conditions, and surface water drainage may be required by the Director when lot and area conditions indicate the need for such analysis. Supplemental technical reports may be required by the Director to specify measures to preserve, protect, and maintain adjacent sites and the drainage basin and ensure safe, stable and compatible development.~~

~~2. All conditions of approval associated with an approved development application and permit shall be recorded as official permit conditions at the Department of Construction and Land Use. During construction, the Director may require conditions to be posted on the site in such a manner as to be visible from public rights-of-way.~~

~~3. If applicable, as determined by the Director, the following environmentally critical areas and/or their associated buffers located on a development site, together with any permanent conditions, shall be described in a permanent covenant with the property which shall be recorded in the King County Office of Records and Elections:~~

~~a. Riparian corridor buffers; and/or~~

~~b. Wetlands and steep-slope environmentally critical areas and their required buffers.~~

~~If applicable, the Director may require placement of small permanent visible markers to delineate riparian corridor buffers and/or wetlands and steep-slope environmentally critical areas and their required buffers. The location of the markers shall be described in the permanent covenant.~~))

((~~C. General Development Standards. General development standards as applicable shall include, but are not limited to the following:~~)) The following general development standards apply to

FILED
CITY CLERK

development on parcels containing environmentally critical areas or their buffers, except as specifically provided in this chapter:

A. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335.

B. The project shall avoid adverse impacts from development on environmentally critical areas and buffers, and the Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable, naturally stable, and least sensitive portion of the site in order to protect the ecological functions and values of wetlands and fish and wildlife habitat areas, prevent erosion from development on steep slope areas, and protect the public health, safety and welfare in landslide-prone, liquefaction–prone, and flood-prone areas. Grading activities and impervious surfaces that may impact environmentally critical areas or buffers shall be kept to a minimum and limited to areas approved by the Director.

C. Driveways and utility corridors that may impact environmentally critical areas or buffers shall be kept to a minimum through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access shall be located in a way that keeps impacts to environmentally critical areas and buffers to a minimum.

D.((~~1~~)) All buffers and designated non-disturbance ((~~areas and other designated protected~~))areas shall be fenced with a highly visible and durable protective barrier during construction to prevent access and to protect environmentally critical areas. ((~~No removal of vegetation or wildlife habitat shall be permitted within the protected wetlands and their buffers, riparian corridors and their buffers, and steep slopes and their buffers either during or after construction, except as otherwise permitted by the chapter.~~))

CMS CITY CLERK

((~~2. All disturbed areas on the site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control drainage and prevent erosion during construction, and revegetated to promote drainage control and prevent erosion after construction. The Director may require an erosion control plan and a vegetation removal and replacement plan when erosion potential is severe. The erosion control plan shall be prepared and followed using best management practices. The vegetation removal and replacement plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of trees, shrubs, and ground cover that does not require permanent irrigation systems for long-term survival and is suitable for the location.~~))

E. ((~~3.~~)) All site clearing ((~~sites~~)) on the lot that may impact environmentally critical areas or buffers shall be carried out ((~~cleared~~)) in stages just prior to construction, and cleared areas shall ((~~only~~)) be kept to the minimum ((~~as large as necessary~~)) for construction. Revegetation shall occur after the particular phase of construction is completed. When required by the Director, ((~~the vegetation removal and replacement~~))a tree and revegetation plan shall establish a staged vegetation removal and replacement program ((~~which minimizes~~)) that keeps the amount of exposed soil during and after construction to a minimum. In drier months, temporary surface irrigation or temporary installation of intermediate plantings may be required until weather or seasonal conditions permit installation of the permanent plantings.

F. Construction activity on the lot that may impact environmentally critical areas or buffers shall adhere to a prepared schedule and mitigation plan approved by the Director prior to the start of construction. This schedule and mitigation plan shall include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation,

Ems CITY CLERK

maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation.

G. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless the applicant demonstrates to the satisfaction of the Director based on approved technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st. This provision does not apply to grading in liquefaction-prone areas and abandoned landfills environmentally critical areas unless the parcel contains another environmentally critical area.

H. Best management practices shall be used for all construction activity on parcels with or adjacent to environmentally critical areas or buffers to prevent sediment and other pollutants from entering the riparian corridor watercourses or other fish and wildlife habitat conservation areas on or off the property. Best management practices include, but are not limited to, installation of siltation barriers, diversion measures, slope drains, and structural, vegetative stabilization techniques and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

I. The Director may require an erosion control plan and a tree and revegetation plan when erosion potential is severe. The erosion control plan shall be consistent with best management practices, and best management practices shall be followed in implementing it. The tree and revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of native vegetation.

J. The site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control stormwater and prevent erosion during construction, and shall be revegetated to promote stormwater control and prevent erosion after construction, consistent with Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

CITY CLERK

((~~4. The Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable and naturally stable portion of the site. Grading activities and impervious surfaces shall be minimized and limited to areas approved by the Director.~~

~~5. All drainage associated with the development shall be connected to City-approved drainage control systems with approved discharge points in compliance with the SMC Chapter 22.802-808, Stormwater, Drainage and Erosion Control. If an adequate drainage conveyance system is not available and safety and erosion concerns dictate, the Director may require design of drainage facilities to handle up to a one hundred (100) year storm, and/or require a release rate slower than the rate normally required.~~

~~6. All construction activity on environmentally critical area sites in watersheds containing designated critical watercourses and associated riparian corridors shall follow best management practices. These practices include installation of siltation barriers to minimize erosion and pollutants entering the watercourse, as well as other methods such as diversion measures, slope drains, and structural and vegetative stabilization techniques.~~))

K.((~~7.~~)). When calculating detention requirements, all disturbed areas on the site shall be calculated as developmental coverage, including revegetated areas, excluding enhanced or restored areas as approved by the Director.

L.((~~8.~~)) Pesticides and fertilizers shall not be applied within (50) feet of a riparian corridor watercourse, wetland or shoreline except as allowed by the Director for the following circumstances and when allowed pesticide applications will be done by a licensed applicator:

1. The state or local Health Department recommends or directs their use to address a threat to public health, or

FILED CITY CLERK

2. A county, state, or federal agency with jurisdiction directs their use for control of a state listed noxious weed or plant pests covered by the Washington State Department of Agriculture plant pest program, and when non-chemical alternatives have been evaluated, or

3. When the Director determines the applicant has demonstrated that the use will have no adverse impact to fish and wildlife. Such a determination may be in the form of concurring that the applicant has developed best management practices or an integrated pest management plan consistent with standards developed by the Director, or

4. When the Director has determined that use of a pesticide to control invasive plants would have less overall environmental impact than other control strategies, or

5. When the Director determines there is a serious threat to public safety, health, or the environment.

M. The Director may require a development proposal's design to account for a one hundred (100) year seismic and one hundred (100) year flood event, unless a design for a greater event is required by other applicable codes.

((~~9. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless demonstrated to the satisfaction of the Director based on approved technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st.~~

~~10. Development occurring in riparian corridor, wetland and steep-slope sites shall preserve the integrity of wildlife habitat corridors, and minimize the intrusion of development into designated wildlife habitat areas.~~

~~11. Construction activity shall adhere to a prepared schedule and mitigation plan to be approved by the Director prior to the start of construction. This schedule and mitigation plan shall~~

2005 CITY CLERK

~~include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation. This plan shall be reviewed with the owner's representative and approved by the Director at a pre-construction meeting prior to the start of construction.~~

N.((~~12.~~)) The Director may require additional construction practices and methods and requirements, including, but not limited to best management practices as outlined in federal, state and Seattle manuals, and limitations on construction equipment permitted on the site, to protect environmentally critical areas and buffers on and off the property. (~~on-site, on adjacent sites, and within the drainage basin of a proposed development.~~))

O. No provision of this chapter shall be construed to require putting new or existing power lines underground.

25.09.080 ((~~Development standards for landslide-prone hazard~~)) Landslide-prone critical areas.

A. ((~~Site.~~)) This section applies to all parcels in or containing a landslide-prone critical area.

B. Site.

1. Complete stabilization of all portions of a site ((~~which~~)) that are disturbed or affected by the proposed development, including all developmental coverage and construction activity areas, ((~~shall be~~))is required. Complete stabilization of all portions of a site refers to the process and actions necessary to stabilize ((~~ensure that~~)) proposed site improvements ((~~are stabilized~~)), and ((~~that~~)) all on-site areas and adjacent properties, including adjacent public and private rights-of-way, ((~~which~~)) that are disturbed or ((~~impacted~~)) affected ((~~are stabilized~~)).

FILED CITY CLERK

2. The proposed development ((~~or use~~)) shall be limited and controlled to avoid adverse impacts and potential harm, and to ((~~ensure~~)) provide safe, stable and compatible development appropriate to site conditions. Other reasonable and appropriate solutions to ((~~solve~~)) provide site stability ((~~problems~~)) may be required by the Director. This may include imposing conditions concerning the type and method of construction that reflect the specific constraints of the site.

3. Removal of, clearing, or any action detrimental to trees or vegetation in landslide prone critical areas is prohibited, except as provided in this section and Section 25.09.320.

((~~B. Staged Review Process. Projects proposed in landslide-prone areas shall be subject to a staged review process.~~

~~1. The staged review process may consist of one (1) or more of the following steps:~~

~~a. Site visit and reconnaissance;~~

~~b. Preliminary soils investigations including tests and borings; and~~

~~c. Detailed geotechnical studies and engineering plans.~~

~~2. During the staged review process, more extensive studies and investigations may be required for more hazardous sites, based on the degree of slope, hydrology and underlaying soils and geology. The Director may require detailed site investigation including, but not limited to the following:~~

~~a. Review of available literature regarding the site and surrounding areas;~~

~~b. Detailed topographic analysis;~~

~~c. Subsurface data and exploration logs;~~

~~d. Ground surface profiles;~~

~~e. Analysis of relationship of vegetated cover and slope stability;~~

~~f. Site stability analysis;~~

~~g. Geotechnical considerations to reduce risk; and~~

CITY CLERK

~~h. Construction and post-construction monitoring.~~

~~3. The Director shall determine the amount of additional study necessary depending on the degree of landslide-prone hazard on a site based on the information disclosed during the staged review process. The Director may require third-party review.~~

~~4. As part of the staged review process, the Director shall provide mailed notice to adjacent property owners, and the applicant shall post one (1) land use sign visible to the public at each street frontage abutting the site except, when there is no street frontage or the site abuts an unimproved street, the Director shall require either more than one (1) sign and/or an alternative posting location so that notice is clearly visible to the public. The land use sign may be removed by the applicant within fourteen (14) days after final action on the application has been completed. The purpose of this notice is to allow for an exchange of information between the applicant, adjacent property owners and the Director. Adjacent property owners may review and comment on site investigations and technical studies, and provide information and documentation of any previous landslide problems on the site. Notice will include information on how to find out whether or not third-party review is required.~~))

C. Third-Party Review. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, ((~~T~~))the Director ((~~shall determine when~~)) may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. ((~~shall be required.~~)) Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant. ((~~In determining the need for third-party review, the Director shall consider whether or not the project is to be constructed on deep soft-soil areas, areas identified as being affected~~

2006 CITY CLERK

~~by deep slide masses or block movements, sites with excessive groundwater, and sites subject to lateral ground failure due to earthquakes.~~))

D. Bonds and Insurance. The Director may require adequate bonds and/or insurance to cover potential claims for property damage ((~~which~~)) that may arise from or be related to excavation or fill within a landslide-prone area ((~~a. The Director shall require such bonds or insurance~~)) when the depth of the proposed excavation ((~~shall~~)) exceeds four feet (4') and the bottom of the proposed excavation ((~~shall be~~)) is below ((~~a~~)) the one hundred percent (100%) slope line (forty-five (45) degrees from a horizontal line) from the property line. The Director may require such bonds and insurance in other circumstances where the Director determines that there is a potential for significant harm to an environmentally critical area or buffer during the construction process.

E. Permit renewals.

In addition to complying with the permit renewal standards in Chapter 23.76, applications for permit renewal shall comply with the following standards.

1. The Director may renew a permit for development that is in conformance with applicable regulations in effect at the time the renewal is sought.

2. An applicant seeking to renew a permit for new development in a landslide-prone area must submit a letter of certification from the current project geotechnical engineer of record as described in subsection G2. If such a letter of certification is not submitted, the permit shall not be renewed.

3. The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections G, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to

CITY CLERK

the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans.

4. An applicant for renewal also must demonstrate that any required bond or insurance will be in effect during the renewal period, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.

F. Issued permits in landslide-prone areas. If the Director has reasonable grounds to believe that an emergency exists because significant changes in conditions at a project site or in the surrounding area may have occurred since a permit was issued, increasing the risk of damage to the proposed development, to neighboring properties, or to the drainage basin, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a letter of certification as described in subsection G2 and has satisfied the standards of that section.

G. Letter of Certification.

1. The Director may require a letter of certification based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.

2. The letter of certification shall be from the current project geotechnical engineer of record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:

a. In the project geotechnical engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to the Department as part of the application for the permit; or that

FILED
CITY
CLERK

b. In the project geotechnical engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria, and that in the project geotechnical engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been prepared and submitted.

25.09.100 Development standards for liquefaction-prone areas.

A. The general development standards set out in SMC 25.09.060 do not apply to liquefaction prone areas.

B. Soils engineering studies may ((~~shall~~)) be required for ((~~of all proposed~~)) development in ((~~areas subject to~~)) liquefaction-prone areas to determine the physical properties of the surficial soils, especially the thickness of unconsolidated deposits, and their liquefaction potential, as set out in Title 22, Subtitle I.

((~~B~~))C. If it is determined that the site is subject to liquefaction, mitigation measures may be imposed pursuant to ((~~appropriate to the scale of the development shall be recommended and implemented through requirements of~~)) Title 22, Subtitle ((~~VIII~~))I, ((~~Grading and Drainage Control Ordinance, SMC Title 22, Subtitle I, Building Code, and any~~)) in addition to other applicable codes or regulations pertaining to development ((~~within~~)) in liquefaction-prone areas.

25.09.120 Development standards for flood-prone areas.

A. Development is prohibited within the "floodway" of flood- prone areas. Permitted development within flood-prone areas lying outside the floodway shall not contribute to increased downstream flow of floodwaters and shall comply with the provisions of ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance. ((~~(FEMA) A drainage control plan shall be required for all proposed development.~~))

2006 CITY CLERK

B. Drainage-Control Plan. If the site is mapped or determined to be flood-prone, the Director may require a drainage-control plan ((~~shall~~))to be submitted with the permit application showing the flood-prone area, the tributary watershed, and all drainage features, to describe the existing situation and proposed modifications to the drainage system. If required, the ((~~The~~))drainage-control plan shall provide for control of water quality and quantity in compliance with ((~~the~~)) Title 22, Subtitle VIII, Stormwater Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance, and any other subsequent applicable flood-control codes or ordinances to protect the public interest and prevent harm.

C. Elevation Above Base Flood Level. The lowest floor elevation of any structure located in a flood-prone area shall be no less than two feet (2') above the one-hundred (100) year flood elevation ((~~unless otherwise specified by the Director of Seattle Public Utilities~~)).

((~~**25.09.140 Development standards for riparian corridors.**~~

~~A. Riparian Corridor Watercourse. No development shall be permitted within or over the watercourse as delineated by survey and accepted by the Director. If no other access is available to the property, the Director may approve access over the watercourse as long as it maintains the natural channel and floodway of the watercourse and minimizes the disturbance of the buffer to the greatest extent possible.~~

~~B. Minimum Riparian Corridor Buffer. In order to prevent harm on-site and downstream, and in order to minimize degradation of water quality, a buffer shall be established within the corridor within which development shall not be permitted. All buffers shall be measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark as surveyed in the field. In cases with braided channels and alluvial fans, the top of the ordinary high water mark shall be determined so as to include the entire stream feature. The buffer shall not extend beyond an existing~~

CITY CLERK

~~public road if the road has an adequate storm water catchment facility. The minimum buffer shall be as follows:~~

~~1. Class A Riparian Corridor Buffers; Fifty Feet (50'); and~~

~~2. Class B Riparian Corridor Buffers; Twenty-five feet (25').~~

~~C. Buffer Vegetation and Restoration.~~

~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required.~~

~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately.~~

~~3. Buffer Restoration Exemption. When the site is a single lot, located adjacent to properties where natural vegetation has already been removed for lawns or other residential activities, the Director may conclude that a buffer restoration plan is not to be required or that buffer restoration is limited to planting trees for creek shading when no significant increase in protection of the water body would result from full restoration of the buffer.~~

~~D. Buffer Reductions on Existing Lots. The Director may reduce a Class A buffer if development of adjacent lots is less than fifty feet (50') from the watercourse. However, the buffer shall not be less than the distance to the watercourse from the adjacent structure that is furthest from the watercourse, or less than twenty-five feet (25'), whichever is greater.~~

DNS CITY CLERK

~~E. Riparian Corridor Restoration.~~

~~1. To encourage restoration of a riparian corridor presently located in an underground pipe or culvert, the following conditions shall apply:~~

~~a. Every effort shall be made to avoid building over a riparian corridor located in an underground pipe or culvert, except when located under a street right-of-way; and~~

~~b. Uncovering of the riparian corridor should be encouraged and allowed with the Director's approval of the following exceptions to riparian corridor standards:~~

~~i. The minimum buffer may not be required if there is no space available; and~~

~~ii. The open riparian corridor may be located elsewhere on-site or on adjacent sites.~~

~~2. To encourage restoration of a riparian corridor presently located in an open channel or drainage way, the Director may waive the minimum buffer.~~

~~F. More intensive site review and application of stricter development standards may be applied in areas outside of the riparian corridor buffer where any of the following conditions are present:~~

~~1. High, steep slopes that could produce debris slides directly to surface waters; or~~

~~2. Sites with polluted groundwater seeps or springs; or~~

~~3. Other areas of potentially extreme adverse impacts.~~

~~G. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant shall be encouraged to~~

SEA CITY CLERK

~~make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.~~))

25.09.160 Development standards for wetlands.

((~~A. Wetland. Wetland provisions of this chapter shall apply only to wetlands of one hundred (100) square feet or greater in area, unless a smaller wetland or a combination of adjacent, smaller wetlands are part of a larger drainage system. No grading, filling, draining and/or development shall be permitted within or over a wetland of exceptional value and its buffer as delineated by a survey accepted by the Director. Grading, filling, draining and/or development within wetlands and their buffers, other than wetlands of exceptional value, shall only be allowed under the following limited situations and conditions:~~

~~1. Wetlands altered for use as lawns or playfields prior to the effective date of this ordinance shall not be regulated as wetlands unless the Director determines that the wetland could be restored when new development or redevelopment occurs on the site; and~~))

A. Wetlands are rated according to the Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-25). Illegal grading, filling, draining, or other development will not result in a change to that wetland's rating. Wetlands constructed for mitigation or replacement purposes are subject to the provisions of this chapter.

B. Impacts to Wetlands.

1. Development, including but not limited to grading, filling, or draining, is prohibited within or over:

a. Category I, II or III wetlands greater than one hundred (100) square feet;

b. Category IV wetlands one thousand (1,000) square feet or greater;

2005 CITY CLERK

c. A wetland of any category or size that is part of a larger wetland system or abuts any Type 1-5 water.

2. Development may occur within or over Category IV wetlands less than one thousand (1,000) square feet, other than those wetlands described in subsection B1c, in accordance with subsection C3.

3. When development is authorized on a parcel containing a wetland:

a. All on or offsite runoff shall be routed away from the wetland and wetland buffer; and

b. Direct lighting shall be directed away from the wetland and its buffer.

4. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in wetlands is prohibited, except as provided Section 25.09.320.

((~~2. Wetlands, excluding wetlands of exceptional value, may be considered for alteration if the proposal meets the criteria for an Environmentally Critical Areas Exception, Section 25.09.300 of this chapter, and complies with the following wetland compensation requirements:~~

~~a. Restoration of an existing degraded wetland, or~~

~~b. Creation of additional substitute wetlands, although the Director shall give preference to restoration, and~~

~~c. Restoration of an existing degraded wetland or creation of substitute wetlands shall meet the following conditions:~~

~~i. The applicant shall fund the wetland restoration or creation under the direction and authority of the Director,~~

~~ii. To the greatest extent practical, restoration or creation may occur either on or off site, but within the same drainage basin,~~

2005 CITY CLERK

~~iii. Restoration or creation shall be of a similar type and shall take place before alteration of the original wetland,~~

~~iv. Restoration or creation shall require the original wetland to be replaced at a ratio of two to one (2:1), and~~

~~v. The restored or substitute wetland shall provide comparable water quality benefits and be of at least equal habitat and hydrologic value.~~))

((~~B~~))C. Wetland Buffers and Mitigation. ((~~In order to protect wetland areas and maintain water quality, a minimum wetland buffer of fifty feet (50') shall be established within which no development shall be permitted and all vegetation shall remain undisturbed. The wetland buffer shall be measured horizontally from the edge of the wetland.~~))

1. Establishment of buffers.

a. The wetland buffer is measured horizontally from the edge of the wetland.

b. Wetlands have the following buffers:

Category I and II wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	100 feet 110 feet for moderate level habitat function 200 feet for high level of habitat function
Category III wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	60 feet 85 feet for moderate or greater level habitat function

CITY CLERK

Category IV wetlands one thousand (1,000) square feet or more in total size or of any size with the characteristics described in subsection B1c above	50 feet
Category IV wetlands under one thousand (1,000) square feet in total size that do not have the characteristics described in subsection B1c above	No buffer. Use mitigation under subsection C3.

A wetland with a moderate level of function is one that scores 20 to 28 points for habitat function when rated according to Washington State Ecology publication #04-06-025. A wetland with a high level of function for habitat is one that scores of 29 to 36 points for habitat function when rated according to Washington State Ecology publication #04-06-025.

c. Wetlands constructed in upland areas or non-wetland areas by any person for stormwater control, biofiltration or aesthetic purposes are not subject to the wetland buffer requirements of this chapter. Maintenance activities are not restricted in these types of wetlands.

2. Development is prohibited in wetland buffers, except as approved by the Director under subsection D.

3. The Director may authorize development in a Category IV wetland under one thousand (1,000) square feet that does not have the characteristics described in subsection B1c above, when the Director finds that one of the following measures, which must occur on site, will mitigate wetland function lost by development:

a. Construct a wetland of equal function to the lost wetland function.

CITY CLERK

b. Plant an area of native vegetation equal or greater in size to the area of the developed wetland, and remove invasive species in the area to be planted.

c. Construct a bioengineered/ infiltration facility, such as a bioswale, stormwater planter or infiltration planter, that replicates the hydrologic and/or water quality benefit of the developed wetland. This facility shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

d. Construct a eco-roof or roof garden that replicates the hydrologic and/ or water quality benefit of the developed wetland. These facilities shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

((~~C~~)) 4. Buffer Vegetation ((~~and Restoration~~)).

((~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required~~)).

a. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the wetland buffer is prohibited, except as provided in subsection D and Section 25.09.320.

((~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately~~.

((~~3. Buffer Revegetation Exemptions. The Director shall allow the removal by hand of i~~))

CITY CLERK

b. Invasive plants and noxious weeds ((~~, such as purple loosestrife,~~)) may be removed by hand. No machines or chemical removal shall be permitted without the Director's approval.

((~~E.~~))D. Buffer Averaging and Buffer Reductions.

1. Buffer Width Averaging. The Director may modify the standard wetland buffer width by averaging buffer widths when a qualified wetlands professional demonstrates to the Director's satisfaction that:

a. It will not reduce wetland functions or values;

b. The total area contained in the buffer area after averaging is no less than that which would be contained within the buffer required in subsection C above; and

c. The buffer width is not reduced to less than the following:

Category IV wetlands	35 feet
Category III wetlands with a high level of function for habitat	60 feet
All other Category III wetlands	40 feet
Category I and II wetlands with a high level of function for habitat	140 feet
All other Category I and II wetlands	75 feet

A high level of function for habitat shall be determined as set out in Subsection C1 above.

((~~D~~))2. Buffer Reductions. ((~~on Existing Lots. Buffer reductions on existing lots may only be allowed after the Director has determined that the front or rear yard or setback reduction or variance provisions of Section 25.09.280 will not provide sufficient relief.~~))

CITY CLERK

a. The Director may reduce a Category IV wetland buffer when the applicant qualifies for a variance by demonstrating that:

(1) the lot where the buffer is located was in existence before October 31, 1992;

(2) the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full buffer; and

(3) either the site does not meet the criteria for buffer averaging under subsection D1 or such averaging does not relieve the hardship that was found under subsection 25.09.280 B2.

b. If any buffer reduction is authorized by a variance under subsection D2a, the Director shall

(1) require the Category IV wetland to be restored on site in a manner that improves water quality, hydrology and habitat functions. Restoration must comply with subsections F and G below and with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29); and

(2) determine the amount of wetland buffer to reduce by applying the buffer averaging to the extent possible under subsection D1 and reducing the yards and setbacks before reducing the wetland buffer, unless reducing the yards or setbacks is injurious to safety. The wetland buffer shall be reduced by the minimum amount to mitigate the hardship, but never to less than thirty five feet (35');and

2005 CITY CLERK

(3) impose additional conditions on the location and other features of a proposed development as necessary to carry out the purpose of this chapter and to mitigate the loss or reduction of the yard, setback or buffer.

c. The process and procedure for a variance under this subsection D2 shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~1. The Director may reduce a wetland buffer on existing lots only if the front or rear yard or setback reduction provision of Section 25.09.280 A does not provide sufficient relief to allow placement of an adequate structure and maintain the full width of the required wetland buffer.~~))

((~~2. The Director may further reduce a front or rear yard or setback through an Environmentally Critical Areas Yard or Setback Reduction Variance pursuant to the provisions of Section 25.09.280 B. If, during the review of this variance, the analysis shows that additional front or rear yard or setback reductions would not meet the criteria for variance approval and/or would not provide sufficient relief to allow placement of an adequate structure and maintain the full wetland buffer requirement, the Director may either approve reduction of the wetland buffer only or reduction of both yards or setbacks and the wetland buffer. The wetland buffer reduction shall be the minimum amount necessary, but never less than the twenty-five-foot (25') minimum buffer, to provide for use of the property and to prevent harm to the wetland.~~))

((~~3. The Director may reduce a wetland buffer only for wetlands which are determined to be degraded under the following circumstances:~~))

((~~a. If the degraded portion of the wetland is restored on site at a four to one (4:1) ratio, restored land area to reduced buffer, for wetlands larger than fifteen hundred (1,500) square feet; and at a two to one (2:1) ratio for wetlands under fifteen hundred (1,500) square feet; and~~))

SEAS CITY CLERK

((~~b. Such buffer reduction adjacent to the degraded wetland shall not result in a buffer of less than twenty-five feet (25') and does not apply to the wetland itself.~~))

((~~E~~)) ((~~Constructed Wetlands. Wetlands constructed by a private interest or public agency for stormwater control, biofiltration or aesthetic purposes shall not be subject to the wetland buffer requirements of this chapter. Maintenance activities shall not be restricted. This does not apply to wetlands constructed for mitigation or replacement purposes.~~))

E. Avoidance and Mitigation Standards.

1. The standards for wetland mitigation shall be applied in following order of priority:

a. avoid the impact to the extent practicable by not taking all or part of an action;

b. keep the impact to a minimum by limiting the degree or magnitude of the action and its implementation, and by taking affirmative actions to mitigate the impact over time; and

c. mitigate unavoidable impacts to the designated uses of a wetland by replacement, enhancement, or other approved compensation methods.

2. Mitigation for grading, filling, or draining wetlands shall achieve the equivalent or better biologic functions of the existing wetland. Mitigation plans shall be consistent with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29).

3. Wetland mitigation actions shall not result in a net loss of wetland area unless the following criteria are met as determined by a site-specific function assessment:

a. The lost wetland area provides only minimal functions and the mitigation action(s) results in a net gain in wetland functions; or

2006 CITY CLERK

b. The lost wetland area provides only minimal functions and other replacement areas provide greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

4. Mitigation actions that require compensation by replacing, enhancing, or substitution, shall occur in the following order of preference:

a. Restoring wetlands on sites that were formerly wetlands.

b. Creating wetlands on disturbed sites, such as those with vegetative cover consisting primarily of exotic introduced species.

c. Enhancing wetlands and/or wetland buffers with significantly degraded functions and values. The amount of required enhancement is dependent on the wetland classification in subsection 5.

5. a. The following ratios are required for the restoration, creation or enhancement of wetlands for authorized alterations. As determined by the Director, wetland mitigation may include the preservation and enhancement of habitat if it provides greater ecological function than the existing wetland. The first number specifies the area of replacement wetlands, and second specifies the area of wetlands altered:

	Restoration or Creation Ratios	Enhancement Ratios
Category I	6:1	16:1
Category II	3:1	16:1
Category III	2:1	8:1
Category IV	1.5:1	6:1

b. Replacement ratios may be increased under the following circumstances to achieve the equivalent wetland function of the wetland that is altered:

(1) Uncertainty exists as to the probable success of the proposed restoration or creation; or

2006 CITY CLERK

(2) A significant period of time will elapse between impact and establishment of wetland functions at the mitigation site; or

(3) Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted.

c. Replacement ratios may be decreased when the proposed mitigation actions are conducted in advance of the impact and result in no net loss in wetland functions.

F. Mitigation Timing. Any restoration, creation or enhancement of wetlands that is required as mitigation shall be completed prior to issuance of the certificate of occupancy for the displacing use. If that has not occurred or if no certificate of occupancy is needed, the applicant shall submit plans that establish a specific schedule for completion, which must be approved by the Director, and shall provide a bond of at least one hundred and fifty percent (150%) of the cost of installation, in addition to the monitoring plan and bond required under subsection G. If the required mitigation can be completed for less than five thousand dollars ($5,000), no bond is required under subsection F or G.

G. A monitoring plan shall be prepared to monitor successful re-establishment of the wetland for a period of five growing seasons or the period required to achieve the performance standards of the plan, whichever is earlier. The applicant shall provide a bond in an amount of at least one hundred fifty percent (150%) of the cost to retain a qualified wetlands scientist to assess the wetland and submit a report to the City at least twice yearly, prior to and near the end of each growing season and shall also provide a bond in an amount sufficient to implement additional restoration measures if the replacement wetland does not equal the functions of the wetland displaced at the end of five growing seasons.

((F))H. Other Agency Regulations. Review of projects subject to the wetland provisions of this chapter shall be coordinated by the applicant with the appropriate state and federal agencies.

FILED
CITY CLERK

((~~Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act~~)) The applicant ((~~shall be encouraged to~~)) should make early contact with these agencies to ensure compliance with local, state and federal ((~~riparian corridor~~))regulations.

I. In addition the information provided pursuant to Section 25.09.330 and to Director's Rule, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. The third party review will be conducted by a qualified wetland consultant hired by the Director and paid for by the applicant.

25.09.180 Development standards for steep slope((s)) areas.

A. This section and Section 25.09.080 apply to parcels containing a steep slope area or buffer.

B. ((~~A. Development Limitations on Steep Slopes and Buffers on Existing Lots~~)) Impacts on Steep Slope Areas.

1. Development ((~~shall be avoided on areas over forty percent (40%) slope whenever possible~~)) is prohibited on steep slope areas, unless the applicant demonstrates that the provisions of subsections B2 or E apply.

2. ((~~Generally, the Director shall require a~~)) Provided that all the provisions of this chapter and all applicable provisions of Title 23 and Title 22, Subtitle VIII, are met, the development standards in subsection B 1 do not apply when the applicant demonstrates the development meets one of the following criteria. In determining whether these criteria are met, the Director may require a geotechnical report to verify site conditions and to evaluate the impacts of the development in the steep

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CITY CLERK

slope area and shall require such a report for criteria (c) and (d). The geotechnical report is subject to the provisions for third party review in Section 25.09.080 C.

a. Development is located where existing development is located, if the impact on the steep slope area is not altered or increased; or

b. Development is located on steep slope areas that have been created through previous legal grading activities, including rockeries or retaining walls resulting from rights of way improvements, if no adverse impact on the steep slope area will result; or

c. Development is located on steep slope areas that are less than feet (20') in vertical rise and that are thirty feet (30') or more from other steep slope areas, if no adverse impact on the steep slope area will result; or

d. Development is located on steep slope areas where the Director determines that application of the development standards in subsection B1 would prevent necessary stabilization of a landslide-prone area.

C. Buffers.

1. Steep slopes have fifteen-foot (15') buffers from the top ((~~or~~))and toe of a slope unless the Director determines ((~~whenever practicable~~)) that a greater or lesser buffer is required ((~~based on geotechnical and hydrological site constraints and the impacts of proposed construction methods on the stability of the slope, increased erosion potential, and disruption of existing topography and vegetation. The width of the buffer may be increased or decreased as determined by the Director~~)) based on the following considerations:

a. Proposed construction method and its effect on the stability of the slope and ((~~increased~~)) erosion potential;

CITY CLERK

b. Techniques used to ((~~minimize~~))keep the disruption of existing topography and vegetation to a minimum; and

c. Preparation of technical reports and plans to address and propose remedies regarding soils and hydrology site constraints.

2. Development is prohibited on steep slope area buffers, except as authorized in subsection B2 or to provide access to such an area, which shall be kept to a minimum, and except as provided in subsection E.

((~~3. When it is not practicable to avoid development on areas over forty percent (40%) slope and the buffer area, the following conditions shall apply:~~))

((~~a. Grading and development activity and other land disturbing activity shall not exceed thirty percent (30%) of the areas measured over forty percent (40%) slope. This shall not include vegetation removal for the purposes of replacing existing vegetation with more suitable plants; and~~))

((~~b. The Director may impose conditions concerning the type and method of construction that reflect the specific constraints of the site, as well as the landslide-prone area regulations of this chapter, Section 25.09.080 A.~~))

((~~B. Vegetation Removal and Replanting. Removal of vegetation in steep-slope areas shall be minimized. Any replanting that occurs shall consist of trees, shrubs, and ground cover that is compatible with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival.~~))

D. Vegetation Removal and Replanting. If removal of trees or vegetation in a steep slope area and its buffer is authorized as part of approved development, it shall be kept to a minimum, and shall be carried out pursuant to a tree and revegetation plan described in section 25.09.320. Other

2006 CITY CLERK

removal of, clearing, or any action detrimental to trees or vegetation in a steep slope area or buffer is prohibited, except as provided in Section 25.09.320. In addition to complying with Section 25.09.320, any replanting that occurs shall consist of native vegetation.

~~((C. Site Design Guidelines. The following guidelines shall be followed for development in steep-slope areas:~~

~~1. Structures should be designed and placed on the hillside to minimize negative impacts, such as grading and land disturbing activity;~~

~~2. Driveways and utility corridors should be minimized through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access should be located in a way that minimizes impacts to steep slopes or other critical areas;~~

~~3. Development should be located on the least sensitive portion of the site to preserve the natural land forms, geological features, and vegetation;))~~

~~((4. Terracing of land shall be kept to a minimum; and~~

~~5. Cluster development may be allowed pursuant to the provisions of Section 25.09.260 to emphasize the existing topography and conserve existing resources if compatible with the surrounding residential character.~~

~~D. Steep Slope Exemptions.~~

~~1. Highly Developed Areas. Existing lots, short subdivisions and subdivisions may be exempted by the Director from steep slope regulations when located in highly developed and urbanized areas. Highly developed and urbanized areas include all Downtown and Highrise zones. Sites located in Midrise and Commercial 1 and 2 zones may also qualify for this exemption when~~

FILED CITY CLERK

~~surrounding lots contain high-density residential development and/or concentrated commercial development which closely matches the development potential for the zone. This exemption shall not apply to single-family, lowrise, neighborhood commercial, industrial, or any other zones. If the site is characterized by or adjacent to at least one (1) of the following areas, this exemption shall not apply:~~

~~a. A wetland over one thousand five hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor;~~

~~b. A large undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or other large areas with significant tree cover that provides valuable wildlife habitat.~~

~~2. Steep Slopes Resulting from Rights-of-way Improvements. Steep slopes resulting from street, alley, sidewalk and other typical rights-of-way improvements, including rockeries or retaining walls, may be exempted from compliance with the environmentally critical areas regulations. This exemption shall not extend beyond the cut or fill created by the street, alley, sidewalk or other rights-of-way improvement, and does not release the applicant from any applicable geotechnical review requirements under the Stormwater, Grading and Drainage Code. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~3. Previously Developed Sites. Sites that have been previously developed may be exempted by the Director from steep-slope requirements under the following conditions:~~

~~a. If the objectives of the steep-slope regulations would not be compromised; and~~

CITY CLERK

~~b. If the degree of nonconformity with the environmentally critical areas regulations, if applicable, is not increased. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~4. Limited Exemptions. Slopes with a vertical elevation change of up to twenty feet (20') and not part of a larger steep slope system, or slopes which have been created through previous, legal grading activities, may be exempted by the Director from the steep-slopes regulations based on a geotechnical report demonstrating that no adverse impact will result from the exemption.~~

~~5. Stabilization of Landslide-prone Area. Certain steep slopes may be exempted from the steep slope regulations upon the Director's determination, based on geotechnical expertise, that application of the regulations would prevent necessary stabilization of a landslide-prone area, subject to the provisions of Section 25.09.080 C, Third- party Review.~~

~~6. Any project receiving an exemption shall be subject to steep-slope drainage control and vegetation removal regulations, as well as applicable landslide-prone area regulations of this chapter.~~))

E. 1. Steep Slope Area Variance. The Director may reduce the steep slope area buffer and may authorize limited intrusion into the steep slope area and steep slope buffer to the extent allowed in subsection E2 only when the applicant qualifies for a variance by demonstrating that:

a. the lot where the steep slope or steep slope buffer is located was in existence before October 31, 1992; and

b. the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full steep slope area buffer.

ENS CITY CLERK

2. If any buffer reduction or development in the critical area is authorized by a variance under subsection E1, it shall be the minimum to afford relief from the hardship and shall be in the following sequence of priority:

a. reduce the yards and setbacks, to the extent reducing the yards or setbacks is not injurious to safety;

b. reduce the steep slope area buffer;

c. allow an intrusion into not more than thirty percent (30%) of the steep slope area.

3. The Director may impose additional conditions on the location and other features of the proposed development as necessary to carry out the purpose of this chapter and mitigate the reduction or loss of the yard, setback, or steep slope area or buffer.

4. The process and procedures for a variance under this subsection E shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.200 Development standards for fish and wildlife habitat conservation areas.

((~~The characteristics of fish and wildlife habitat conservation areas shall be used to evaluate development within wetlands, riparian corridors and steep slopes. Preserving the integrity of fish and wildlife habitat corridors, and minimizing the intrusion of development into these designated habitat areas shall be considered in applications for buffer reductions and conditional use permits to transfer development credit to noncritical portions of a site.~~))

A. Development standards for parcels with riparian corridors.

1.a The provisions of this subsection A apply to all development on parcels containing riparian corridors as defined in Section 25.09.020 D5. In addition, the provisions of subsection C apply to these parcels, except subsection C2 with respect to fish. In the event of an

FILED CITY CLERK

irreconcilable conflict between the provisions of subsection C and this section, the most restrictive provision applies.

b. It is the long term goal of the City to restore the City's riparian corridors and to protect salmon passage in such corridors where scientifically justified. The City has determined that best available science supports protecting these riparian corridors as described in this chapter. Where past development has encroached into riparian corridors, redevelopment shall be regulated subject to the provisions in Section 25.09.045.

2. Riparian Watercourse.

a. Development is prohibited within or over the watercourse, except as provided in subsection A2b. If no other access is available to the property, the Director may approve access over the watercourse, provided that it maintains the natural channel and floodway of the watercourse and that disturbance of the riparian management area is kept to a minimum.

b. On Haller and Bitter Lakes, piers are regulated pursuant to the development standards for similar structures in the Seattle Shoreline Master Program, Chapter 23.60, Part X, The Urban Residential Environment. If a pier is allowed, access to it through the riparian management area is also allowed, provided the impact on the naturally functioning condition of the riparian management area from the pier's location, method of construction, and construction materials is kept to a minimum.

c. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian watercourse is prohibited, except as provided in Section 25.09.320.

3. Riparian Management Area.

2005 CITY CLERK

a. The riparian management area is defined in subsection 25.09.020 D5. Existing public or private streets are excluded from the regulations for the riparian management area, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat on the parcel and downstream and to keep degradation of water quality for habitat to a minimum.

b. Activities in the riparian management area.

(1) Development is prohibited in the riparian management area, except to provide access to development approved under subsection A2 and except under subsections A3b(2), A3c, and A3d.

(2) Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian management area is prohibited, except as provided in subsection c below and Section 25.09.320.

c. Riparian Management Area Vegetation.

(1) If the vegetation in the riparian management area protects the fish habitat and wildlife habitat as they exist on the site at the time development is proposed, including preventing erosion and protecting water quality, the existing vegetation shall remain undisturbed, except as allowed under Section 25.09.320.

(2) If the riparian management area is not functioning in the manner set out in subsection A3c(1) above, the applicant shall prepare and carry out a tree and vegetation plan that augments the existing vegetation with native vegetation to the extent commensurate with the impact of the development on the riparian management area. The plan shall be prepared and executed consistent with Section 25.09.320. Vegetation in the riparian management area shall not be removed or otherwise disturbed until the applicant is ready to immediately replant according to the approved plan.

SMS CITY CLERK

A monitoring plan shall be prepared to monitor the establishment of the vegetation. The plan shall cover five (5) growing seasons or the period needed to successfully carry out the plan, whichever is earlier.

d. In addition to subsections A3b(2) and A3c, development is allowed in the riparian management area on lots existing at the time this ordinance takes effect if the applicant demonstrates that:

(1) the development is in the limited riparian development area, which is the area in the riparian corridor but outside of the watercourse and more than seventy-five feet (75') from the top of the watercourse bank for Type 2 and 3 waters with anadromous fish present for any part of the year, fifty feet (50') from the top of the watercourse bank for Type 2 and 3 waters where anadromous fish are not present for any part of the year and more than fifty feet (50') from the top of the watercourse bank for Type 4 and 5 waters;

(2) the development complies with Section 22.802.016, regardless of the area of land disturbing activity or the size of the addition or replacement of impervious surface, except as provided in subsection 3e; and

(3) any development, including but not limited to coverage by impervious surface, does not exceed 35% of the total area of the limited riparian development area, provided that the maximum lot coverage does not exceed that allowed under Title 23, and except as provided in subsection 3e.

e. When compliance with Section 22.802.016 is required solely based on subsection 3d(2) above, the Director may approve a restoration plan in lieu of requiring compliance with subsections 3d(2) and (3) if the applicant demonstrates that the plan meets the following criteria:

(1) The watercourse or riparian management area function will be restored so that it prevents erosion, protects water quality, and provides diverse habitat; and

2006 CITY CLERK

(2) The restoration results in greater protection of the watercourse and riparian management area than compliance with subsections 3d(2) and (3).

4. Daylighting Water in Pipes and Culverts.

a. Pursuant to Section 25.09.200 D, the Director may require daylighting pipes and culverts that meet the definition of fish and wildlife corridors in Section 25.09.020 D3c.

b. The City encourages daylighting pipes and culverts connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert, and the Director is authorized to modify development standards as set out in subsection 4c ((~~b~~)) below when the applicant submits a plan for daylighting such a pipe or culvert that meets the following criteria:

(1) the plan is prepared by a qualified professional;

(2) the ecological functions of the daylighted waters and adjacent area are improved so the new riparian corridor area is compatible with and protects the ecological functions of the existing riparian corridor upstream and downstream and does not contribute to flooding; ecological functions include preventing erosion, protecting water quality, and providing diverse habitat; and

(3) if the plan proposes daylighting the pipe or culvert in a different location on the parcel from its current location or off the parcel, the ecological functions required in subsection (2) above are provided as effectively as they would be without the relocation.

c. If the Director finds the conditions in subsection 4b are met, the Director may modify the following development standards. The modification shall be the minimum to provide sufficient area to meet the standards in subsection 4b and shall be in the following order of priority:

(1) Yard and/or setback requirements on the property may be reduced, unless reducing them is injurious to safety.

2006 CITY CLERK

(2) The riparian corridor watercourse and adjacent area maintained as a riparian management area under the approved plan may count toward open space requirements for all multifamily or commercial zone requirements.

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced.

d. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

5. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Department of Fish and Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant is encouraged to make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.

B. Development Standards for Shoreline Habitat.

1. The provisions of this subsection B apply to all parcels with shoreline habitat defined in subsection 25.09.020 D6 or its buffer.

2. In addition, the provisions of subsection C below apply to parcels with shoreline habitat or its buffer, except subsection C2 with respect to fish. In the event of an irreconcilable conflict between the provisions of this subsection B and subsection C, the provision most protective of wildlife habitat applies.

3. Development is prohibited in shoreline habitat, except when all of the following criteria are met:

2005 CITY CLERK

a. The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

b. Mitigation is provided for all impacts to the ecological functions of fish habitat on the parcel resulting from any permitted increase in or alteration of existing overwater coverage.

4. Buffers.

a. Shoreline habitat has a one hundred foot (100') buffer from the ordinary high water mark.

b. Bioengineered solutions, such as using plants or other approved natural material, to stabilize the shoreline are allowed in the buffer, provided they are allowed under Title 23, including chapter 23.60, the Shoreline Master Program.

c. Other development for water dependent and water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, the amount of impervious surface is not increased, and no surface that is permeable by water at the time of the application will be covered with an impervious surface so that impervious surface will be closer to the ordinary high water mark; or

(3) if any of the actions described in subsection c(2) above occur and that action impacts the ecologic function of the shoreline, those impacts are mitigated as set out in subsection e below.

2005 CITY CLERK

If the standards in subsections c(1) and (2) are met, then the application is not subject to the application submittal requirements in Section 25.09.330 and the general development standards in Section 25.09.060.

d. Other development for non-water dependent and non-water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) for non-residential uses

(a) the lot was in existence before the effective date of this ordinance; and

(b) the development is twenty five feet (25') or more from the ordinary high water mark unless the development is allowed in the shoreline habitat under Title 23, including chapter 23.60, the Shoreline Master Program; and

(c) (i)no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(ii) if any of the actions described in subsection d(2)(c)(i) above occur, all impacts on the ecological function are mitigated as set out in subsection e below; or

(3) for residential uses the residence is twenty five feet (25') or more from the ordinary high water mark

(a) and no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

SEA CITY CLERK

(b) if any of the actions described in subsection d(3)(a) above occur, all impacts on the ecological function are mitigated as set out in subsection e below.

e. Mitigation.

(1) Mitigation must prevent net loss of ecological function. Mitigation must achieve the equivalent ecologic functions as the conditions existing in the shoreline habitat buffer at the time of development. Mitigation under this section is not intended to duplicate mitigation for the same ecologic function that is required under other City regulations or under state and federal permits. The permit condition most protective of the ecologic function shall be enforced.

(2) For the purpose of this section, mitigation is action that replaces ecological functions lost as a result of a project impact. Depending on the type of lost ecological function these include:

(a) providing habitat, or

(b) creating new pervious ground or

(c) replicates the function of the pervious ground through methods that are engineered and designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

(3) Mitigation for habitat impacts in the buffer shall occur in the following order of preference:

(a) on the parcel within the buffer as close to the ordinary high water mark as possible;

(b) within the buffer as close to the ordinary high water mark as possible on a parcel that abuts the ordinary high watermark within one quarter (¼) mile along the

SEA CITY CLERK

shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred;

(c) farther along the shoreline within the buffer as close to the ordinary high water mark as possible.

(4) The following mitigation ratios are required for habitat impacts in the buffer under subsection 2(a) and 2(b); the first number specifies the area of replacement habitat, and second specifies the area of altered habitat:

(a) 1:1 for areas on the parcel or on a parcel that abuts the ordinary high water mark within one quarter (1/4) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred. If the applicant demonstrates that the ecological function can be replaced at a different ratio, the Director may approve that ratio.

(b) 3:1 farther along the shoreline, provided that if a five (5) year bonded monitoring program is provided that monitors the effectiveness of mitigation measures and provides a means for ensuring the attainment of the goals of the program, the Director may approve a 2:1 ratio.

5. Bulkheads.

a. New bulkheads are prohibited, except when the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use.

b. Major repair of existing bulkheads is prohibited, except when

(1) the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use; or

(2) a bioengineered solution, such as using plants or other approved natural material to stabilize the shore, will not achieve the same level of shoreline stabilization and property protection.

6. Streets.

a. Existing public or private streets are excluded from these buffer regulations, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat and to keep degradation of water quality for habitat to a minimum.

b. New streets are allowed when the following criteria are met:

(1) the street is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, impervious surface is not increased, and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(3) if the actions described in subsection (b)(2) above occur, any impacts on the ecological function are mitigated as set out in subsection 4e above.

7. The following provisions apply to all parcels containing shoreline habitat and buffers to prevent impacts to the habitat and buffer:

a. Any increases in surface runoff from development shall be kept to a minimum, and surface water run off shall be controlled, treated and released so that receiving water quality and any shore properties and features are not adversely affected. Control measures may include, but are not limited to, dikes, catch basins or settling ponds, interceptor drains and planted buffers. Allowable means to achieve this include bioswales, catch basin filters, and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

FILED
CITY
CLERK

b. Pavement in the habitat and buffer shall be kept to a minimum and permeable surfacing, where practicable, shall be used to keep surface water accumulation and runoff into the habitat and buffer to a minimum. Recommended methods are found in Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code. Permeable surfaces include, but are not limited to, porous asphalt, concrete, brick, or pavers; or plastic confinement systems with grass or gravel filler.

c. Best management practices shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water. Direct runoff of these materials is prohibited. Best management practices shall be employed for prompt and effective clean-up of any spills that do occur. A spill prevention and response plan may be required by the Director.

d. Any cleaning or resurfacing operation occurring over water that may result in the entry of debris, such as paint chips, shall employ tarpaulins securely affixed above the water line to prevent material from entering the water. Prior to removing the tarpaulins, the accumulated contents shall be removed by vacuuming or an equivalent method that prevents material from entering the water.

e. No over-water application of paint, preservative treatment, or other chemical compounds is permitted, except in accordance with best management practices.

f. Wooden components that will be in contact with standing water or floodwaters shall not contain polycyclic aromatic hydrocarbons (PAH), creosote, pentachlorophenol, or similar toxic substances. Durable, non-toxic components is the preferred material for in-water and over-water structures. Where treated wood is considered necessary, it shall be applied and used in accordance with the American Wood Preserver Association (AWPA) standards for aquatic use.

g. For projects involving concrete, a concrete truck chute cleanout area shall be established to contain wet concrete. No concrete or clean out shall be allowed to enter the water body. This does not prohibit piers or other concrete structures authorized by a valid permit.

ENS CITY CLERK

h. All inlets and catch basins shall be protected from fresh concrete, paving, paint stripping and other high-risk pollution generating activities during construction.

i. Construction staging areas shall be as far from the ordinary high water mark as practicable.

j. Planting native vegetation may be required to mitigate impacts of development on the shoreline habitat or buffer.

k. If at any time project-related activities cause a fish kill to occur, the permitee shall stop all work relating to the fish kill and immediately notify the Department of Planning and Development, Washington Department of Fish and Wildlife, and the Washington Department of Ecology.

l. In- and over-water structures shall be designed and located to keep impacts from shading of any bank and shallow water habitat to a minimum.

8. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in shoreline habitat or its buffer is prohibited, except as authorized under subsections 1-6 above and section 25.09.320.

C. 1. Development on parcels containing fish and wildlife habitat conservation areas shall comply with any species habitat management plan set out in a Director's Rule. The Director may establish by rule a species habitat management plan to protect any priority species identified by the Washington State Department of Fish and Wildlife or to protect species of local importance.

2. Any person proposing development on a parcel containing fish and wildlife habitat conservation areas shall consult with the Washington State Department of Fish and Wildlife and comply with any requirements of that agency, except as limited in subsections A and B above.

EMS CITY CLERK

D. Based on information provided by a qualified wildlife biologist, the Director may condition development on parcels containing wildlife habitat or corridors defined in subsection 25.09.020 D3 to protect fish or wildlife habitat corridors. Conditions may include, but are not limited to:

1. Establishment of buffer zones;

2. Preservation of important vegetation and habitat features;

3. Limitation of access to habitat areas;

4. Seasonal restriction of construction activities;

5. Preservation of the ability for fish to pass between fish habitat in Type 1-5 waters upstream and downstream of the parcel. The application requirements and general conditions of this chapter, Sections 25.09.330 and 25.09.060, do not apply if the person responsible for development of the parcel has either a Hydraulic Project Approval from the Washington Department of Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

6. Requiring the developer to daylight a pipe or culvert defined in SMC 25.09.020 D3c, when the conditions in subsection 6a below are met. When requiring daylighting, the Director is authorized to modify the conditions set out in subsection 6b below. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

a. The Director may require daylighting under the following conditions:

(1) When the existing pipe or culvert cannot remain in its current location and provide an effective passage for anadromous fish due to the development.

Ems CITY CLERK

(2) Other methods for preserving fish passage such as pipe or culvert placement or site engineering are not feasible.

b. If daylighting is required then the applicant must prepare a plan that demonstrates the following:

(1) The ecological functions of the daylighted waters and resulting new riparian management area are compatible with and protect the functions of pipes and culverts upstream and downstream and the ecological functions of the existing riparian corridor upstream and downstream and do not contribute to flooding.

(2) The ecological functions include preventing erosion, protecting water quality, and providing diverse habitat.

c. The Director determines that daylighting the pipe or culvert and the impacts from the development to fish passage on the parcel are roughly proportionate.

d. When requiring daylighting, the Director is authorized to modify the following conditions:

(1) Yard and/or setback requirements on the property may be reduced to provide sufficient area for daylighting and creating a riparian management area, unless reducing them is injurious to safety.

(2) The riparian corridor watercourse and riparian management area may count toward open space requirements for all multifamily or commercial zone requirements.

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced to the extent needed to provide sufficient area for the plan described in subsection 6a(2) above.

2005 CITY CLERK

E. Designating Species of Local Importance and their Habitat.

1. The Director on an annual basis shall accept and consider nominations for species of wildlife and their habitat to be designated as locally important. The designation of a species of local importance and its habitat shall require an amendment to this chapter.

2. Species or habitat to be designated shall exhibit the following characteristics:

a. Local populations of native species are in danger of extinction based on existing trends:

(1) Local populations of native species that are likely to become endangered; or

(2) Local populations of native species that are vulnerable or declining;

b. The species has recreational, commercial, game, tribal, or other special value;

c. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat;

d. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in Seattle;

e. Areas nominated to protect a particular habitat or species have either high-quality habitat or habitat with a high potential to recover to a suitable quality, and the habitat is limited in quantity, highly vulnerable to alteration, or connects habitats.

3. Species and habitats may be nominated for designation by any person. Nominations shall be in writing, address the characteristics listed in subsection 2, and state whether

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CITY
CLERK

specific habitat features are being nominated (for example, nest sites, breeding areas, and nurseries), or whether the habitat or ecosystem is being nominated in its entirety. Where restoration of habitat is proposed, a specific plan for restoration shall be provided with the application, or the nomination shall include management strategies for the species or habitats. Restoration plans and management strategies shall be supported by the best available science.

4. The Director shall determine whether the nomination proposal is complete, and if complete, shall evaluate it under the criteria in subsection (2) and make a recommendation to the Mayor and Council based on that information. If the nomination is adopted, the Director may establish habitat restoration plans and habitat and species management strategies by rule.

25.09.220 Development standards for abandoned landfills.

A. Regulation of Development on Abandoned Landfills. Development on abandoned landfills ((~~shall be~~)) is subject to Seattle-King County Health Department requirements for the applicant to submit an excavation and development work plan, prepared by a licensed engineer with experience in landfill construction and/or management, and comply with other applicable requirements to prevent damage from methane gas buildup, subsidence, and earthquake induced ground shaking as contained in ((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and regulations pertaining to development on abandoned landfill sites. Technical studies shall be required to indicate whether these areas pose a threat to development on an abandoned landfill site.

B. Areas within One Thousand Feet (1,000') of Methane-producing Landfills. Areas within one thousand feet (1,000') of methane-producing landfills may be susceptible to ((~~methane leakage~~)) accumulations of hazardous levels of methane gas in enclosed spaces. Methane barriers or appropriate ventilation may be required in these areas as specified in((~~SMC~~)) Title 22, Subtitle VIII, Stormwater,

2005 CITY CLERK

Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and Seattle-King County Health Department regulations.

25.09.240 Short subdivisions and subdivisions.

A. This section applies to ((~~A~~))all applications for short subdivisions and subdivisions, excluding unit lot subdivisions, ((~~proposals located in~~)) on parcels containing any part of a riparian corridor, ((~~buffers,~~)) shoreline habitat, shoreline habitat buffers, wetlands, ((~~and~~)) wetland buffers, or ((~~and~~)) steep slope((~~s~~)) areas (((~~over forty percent (40%)) shall comply with the following specified development standards~~)) in addition to the standards ((~~set forth~~)) in ((~~Subtitle III, Platting Requirements, of SMC~~)) Title 23((~~, Land Use Code:~~)).

((~~A~~))B. ((~~New lots shall contain~~)) Parcels shall be divided so that each lot contains ((~~at least one (1)~~)) an area for ((~~building site~~)) the principal structure, all accessory structures, and necessary walkways and for access to ((~~the site~~)) this area that ((~~is~~)) are outside ((~~the identified~~)) all environmentally critical areas and ((~~its required~~)) buffers identified in subsection A above except as follows:

1. The required area and access may be located in the footprint of an existing lawful principal structure used for residential use that encroaches into an environmentally critical area or buffer identified in subsection A, provided it does not further alter or increase the impact to the environmentally critical area or buffer.

2. ((~~that a~~))Access may be provided by a bridge over a riparian corridor ((~~watercourse and buffer as long as~~)) when the Director determines no other access is available and (a) access is provided by ((~~it is~~)) a freestanding structure that maintains the natural channel and floodway of the watercourse and ((~~minimizes~~)) (b) the disturbance of the riparian corridor and any other adjacent environmentally critical area or buffer ((~~to the greatest extent practicable.~~)) is kept to a minimum.

SEAS CITY CLERK

((~~Covenants shall be recorded with the subdivision or short subdivision that restrict development to the areas specified on the approved site plan.~~))

3. Development may encroach into that portion of a steep slope area or its buffer for which the Director has determined that criteria in subsection 25.09.180 B2a, b, or c are met for the particular short subdivision, or subdivision under consideration.

4. Development may encroach into the Shoreline habitat buffer provided that

a. a condition is recorded on the plat restricting the development in the buffer to water dependent or water related uses or to single family residential uses; and

b. for single family residential uses the condition requires each residence to be no further waterward than twenty five feet (25') from the ordinary high water mark; and

c. a condition is recorded on the plat (1) requiring mitigation at the time of development for removal of vegetation, addition of impervious surface, and all other harm to the ecological function of the buffer and habitat resulting from development and (2) setting out on the plat the mitigation standards in subsection 25.09.200 B4e.

C. Lots shall be configured to preserve the environmentally critical areas and their buffers identified in subsection A by:

1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or

2. Establishing non-disturbance areas on individual lots.

D. The environmentally critical areas and buffers identified in subsection A above, except for areas qualifying for development under subsection B1-4, shall be designated non-disturbance areas on the final plat. A notice that these non-disturbance areas are located on the lots, including the definition of "non-disturbance area," shall recorded in the King County Office of Records and Elections

CITY CLERK

along with the final plat in a form approved by the Director. At the same time, a covenant protecting non-disturbance areas shall be recorded as set out in Section 25.09.335.

((~~B. Lots shall be configured to preserve the identified environmentally critical area and its buffer by:~~))

((~~1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or~~))

((~~2. Establishing buffer easements on individual lots.~~))

((~~C~~))E. In computing the number of lots a parcel in a single family zone may contain, the Director shall exclude the following areas:

1. Easements and/or fee simple property used for shared vehicular access to proposed lots that are required under Section 23.53.005. ((~~shall not be counted when calculating minimum lot area requirements.~~))

((~~D~~))2. The area of the ((~~identified~~)) environmentally critical areas and ((~~their required~~)) buffers identified in subsection A, unless they are on a lot that meets one of the following standards: ((~~areas within a proposed subdivision or short subdivision shall receive no development credit for use in calculating the number of lots permitted.~~))

a. the provisions of subsection B; or

b. an Administrative Conditional Use is obtained under Section 25.09.260, if it is not practicable to meet the requirements of subsection B considering the parcel as a whole.

((~~E~~))F. Application Submittal Requirements. All short subdivision and subdivision ((~~proposals~~)) applications, in addition to the application submission requirements included in ((~~SMC~~)) Title 23((~~, Land Use Code,~~)) shall meet the applicable application submittal requirements of this chapter,

2006 CITY CLERK

((~~subsection A of~~))Section 25.09.((~~060~~))330, and shall include the information contained in this subsection and Section 25.09.260, as applicable, on the surveyed site plan.

25.09.260 Environmentally critical areas ((~~A~~))administrative conditional use ((~~permit to recover development credit and permit clustered development on-site in single-family zones~~)).

((~~Up to full development credit on-site (determined by calculating the maximum number of lots allowed based on the underlying single-family zoning and size of the originating property) may be granted by the Director through an administrative conditional use permit, authorized under SMC Section 23.42.042, Conditional uses, in the Land Use Code. Notice of application and review process and procedures for this administrative conditional use and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~

~~B. The Director may approve, condition or deny an application for an administrative conditional use. The Director's decision shall be based on a determination of whether the proposed transfer of development credit within the site meets the criteria for allowing the specific conditional use and whether the use will be materially detrimental to the public welfare or injurious to property in the zone or vicinity in which the property is located.~~

~~C. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions deemed necessary for the protection of other properties in the zone or vicinity in which the property is located.~~

~~D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~

2005 CITY CLERK

~~E. The Director may approve the transfer of development credit if it can be shown that the development would meet the following conditions and findings:~~

~~1. The transfer of development credit shall not result in any significant increase of negative environmental impacts, including erosion, on the identified environmentally critical area and its buffer;~~

~~2. The development shall be reasonably compatible with neighborhood characteristics. This shall include but not be limited to concerns such as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining;~~

~~3. In no case shall development credit be allowed for the area covered by an open water area of a wetland or riparian corridor;~~

~~4. The development shall retain and protect vegetation on designated undisturbed areas on and off site. Significant species or stands of trees shall be protected, and tree removal shall be minimized. Replacement and establishment of trees and vegetation shall be required where it is not possible to save trees;~~

~~5. The ability of natural drainage systems to control the quality and quantity of stormwater runoff shall not be significantly impaired;~~

~~6. The development shall not adversely affect water quality and quantity, erosion potential, drainage, and slope stability of other environmentally critical areas located in the same drainage basin;~~

~~7. The development's site plan shall include measures to minimize potential negative effects of the development on the undeveloped portion of the site, including the provision of natural barriers;~~

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CITY
CLERK

~~8. Adequate infrastructure (streets and utilities) shall be available or will be provided; and~~

~~9. The site design guidelines of Section 25.09.180 C shall be followed for designated steep-slope areas.~~

~~F. Clustering of Additional Dwelling Units. The Director may approve more than one (1) dwelling unit per lot and may approve smaller than required lot sizes and yards to accommodate recovery of development credit, and to encourage larger buffers, reduce impermeable surfaces, and decrease size of affected areas. Where dwelling units are attached, they shall not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone. Full development credit on-site shall not be increased beyond that permitted by the underlying single-family zone.~~

~~G. The Director may require that structures be located on the site in order to preserve or enhance topographical conditions, adjacent uses and the layout of the project and to maintain a compatible scale and design with the surrounding community. In order to approve clustered dwelling units in all environmentally critical areas, the following criteria shall be met:~~

~~1. Clustering of units shall help to protect the following critical areas: riparian corridors, wetlands and steep slopes;~~

~~2. Clustering of units shall require siting of structures to minimize disturbance of the environment;~~

~~3. Clustering of units shall help to protect priority species or stands of mature trees;~~

~~4. Clustering of units shall ensure maximum retention of topographic features;~~

~~5. Clustering of units shall limit location of access and circulation to maximize the protection of an area's natural character and environmental resource;~~

SEATTLE CITY CLERK

~~6. Clustering of units shall help protect the visual continuity of natural greenery, tree canopy, and wildlife habitat;~~

~~7. Clustering of units shall not have an adverse impact on the character, design and scale of the surrounding neighborhood; and~~

~~8. Clustering of units shall promote expansion, restoration or enhancement of a riparian corridor and its buffer, a wetland and its buffer or a steep-slope area and its buffer.~~

~~H. Additional Conditional Use Provisions for Steep Slopes and Steep-slope Buffers.~~

~~1. In steep-slope areas and their buffers, the Director may allow clustering on the steep-slope portions of the site when the site is predominantly characterized by steep slopes. However, the preference shall be to cluster away from steep-slope and buffer areas.~~

~~2. The Director shall require clear and convincing evidence that the clustering criteria and findings of this subchapter are met when a transfer in development credit within a steep-slope area is also characterized by or adjacent to:~~

~~a. A wetland over fifteen hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor; or~~

~~b. A large (over five (5) acres) undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or areas with significant tree cover providing valuable wildlife habitat.~~

~~3. Any development permitted through the conditional use process on steep slopes of forty (40) percent shall be subject to the landslide- prone area provisions of this Chapter, Section 25.09.080.~~))

A. When the applicant demonstrates it is not practicable to comply with the requirements of Section 25.09.240 B considering the parcel as a whole, the applicant may apply for an administrative

ENS CITY CLERK

conditional use permit, authorized under Section 23.42.042, under this section to allow the Director to count environmentally critical areas and their buffers that would otherwise be excluded in calculating the maximum number of lots and units allowed on the parcel under Section 25.09.240 E.

B. Standards. The Director may approve an administrative conditional use for smaller than required lot sizes and yards, and/or more than one (1) dwelling unit per lot if the applicant demonstrates that the proposal meets the following standards:

1. Environmental Impacts on Critical Areas.

a. No development is in a riparian corridor, shoreline habitat, shoreline habitat buffer, wetland, or wetland buffer.

b. No riparian management area, shoreline habitat buffer, or wetland buffer is reduced.

c. No development is on a steep slope area or its buffer unless the property being divided is predominantly characterized by steep slope areas, or unless approved by the Director under Section 25.09.180 B2a, b or c.

(1) The preference is to cluster units away from steep slope areas and buffers.

(2) The Director shall require clear and convincing evidence that the provisions of this subsection B are met when clustering units on steep slope areas and steep slope area buffers with these characteristics:

(a) a wetland over fifteen hundred (1,500) square feet in size or a watercourse designated part of a riparian corridor; or

(b) an undeveloped area over five (5) acres characterized by steep slopes; or

FILED
CITY
CLERK

(c) areas designated by the Washington Department of Fish and Wildlife as urban natural open space habitat areas with significant tree cover providing valuable wildlife habitat.

d. The proposal protects Washington State Department of Fish and Wildlife priority species and maintains wildlife habitat.

e. The open water area of a shoreline habitat, wetland or riparian corridor shall not be counted in determining the permitted number of lots.

f. The proposal does not result in unmitigated negative environmental impacts, including drainage and water quality, erosion, and slope stability on the identified environmentally critical area and its buffer.

g. The proposal promotes expansion, restoration or enhancement of the identified environmentally critical area and buffer.

2. General Environmental Impacts and Site Characteristics.

a. The proposal keeps potential negative effects of the development on the undeveloped portion of the site to a minimum and preserves topographic features.

b. The proposal retains and protects vegetation on designated nondisturbance areas, protects stands of mature trees, keeps tree removal to a minimum, removes noxious weeds and protects the visual continuity of vegetated areas and tree canopy.

3. Neighborhood Compatibility.

a. The total number of lots permitted on-site shall not be increased beyond that permitted by the underlying single-family zone.

b. Where dwelling units are proposed to be attached, they do not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone.

ENS CITY CLERK

c. The development is reasonably compatible with and keeps the negative impact on the surrounding neighborhood to a minimum. This includes, but is not limited to, concerns such as neighborhood character, land use, design, height, bulk, scale, yards, pedestrian environment, and preservation of the tree canopy and other vegetation.

C. Conditions.

1. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions necessary to protect riparian corridors, wetlands and their buffers, shoreline habitats and their buffers, and steep slope areas and their buffers, and to protect other properties in the zone or vicinity in which the property is located.

2. In addition to any conditions imposed under subsection 1, the following conditions apply to all administrative conditional uses approved under this subsection:

a. Replacement and establishment of native vegetation shall be required where it is not possible to save trees or vegetation.

b. Where new lots are created, the provisions of Section 23.22.062, Unit lot subdivisions, or Section 23.24.045, Unit lot subdivisions, apply, regardless of whether the proposal is a unit lot subdivision, so that subsequent development on a single lot does not result in the development standards of this chapter being exceeded for the short subdivision or subdivision as a whole.

D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The process and procedures for notice of decision and appeal of this administrative conditional use shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.280 ((~~Environmentally critical areas--~~))Yard and setback reduction and variance ((~~for existing lots~~)) to preserve ECA buffers and riparian corridor management areas.

Ems CITY CLERK

A. The Director may authorize ((~~A~~)) a twenty-five percent (25%) reduction, up to a maximum of five feet (5'), in yard or setback requirements for front or rear yards on a lot in existence as a legal building site prior to October 31, 1992, ((~~shall be permitted when necessary~~)) in order to maintain the full width of ((~~a~~)) the riparian management area ((~~corridor~~)) and of wetland or steep-slope area buffers.

B. The Director may approve ((~~Any~~)) a yard or setback reduction greater than five feet (5') ((~~that is necessary~~)) in order to maintain the full width of the ((~~a~~)) riparian management area, ((~~corridor~~)) wetland buffer or steep-slope area buffer ((~~shall require approval~~)) through an environmentally critical areas yard or setback reduction variance ((~~: Notice of application and review process and procedures for an environmentally critical areas yard or setback reduction variance and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76. An environmentally critical areas yard reduction variance shall be authorized only~~)) when ((~~all~~)) the following facts and conditions ((~~are found to~~)) exist:

1. The lot has been in existence as a legal building site prior to October 31, 1992.

((~~1~~))2. Because of the location of the subject property in or abutting an environmentally critical area or areas((~~,~~)) and the size and extent of any required environmentally critical areas buffer, the strict application of the applicable yard or setback requirements of ((~~Chapter 25.09~~)) Title 23 would cause unnecessary hardship; and

((~~2~~))3. The requested variance does not go beyond the minimum ((~~necessary to maintain~~)) to stay out of the full width of the riparian management area or required buffer and to afford relief; and

((~~3~~))4. The granting of the variance will not be injurious to safety or to the property or improvements in the zone or vicinity in which the property is located; and

CITY CLERK

((4))5. The yard or setback reduction will not result in a development that is materially detrimental to the character, design and streetscape of the surrounding neighborhood, considering such factors as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining; and

((~~5~~))6. The requested variance would be consistent with the spirit and purpose of the environmentally critical policies and regulations.

C. When an environmentally critical areas variance is authorized, the Director may attach conditions ((~~may be attached~~)) regarding the location, character and other features of a proposed ((~~structure or use~~)) development ((~~as may be deemed necessary~~)) to carry out the spirit and purpose of ((~~SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)) this chapter.

D. The process and procedures of an environmentally critical areas yard or setback reduction variance shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~))

25.09.300 Environmentally critical area exception.

A. An applicant for a City permit to develop real property that ((~~abuts or upon which~~)) is located in an environmentally critical area or buffer may apply to the Director for an exception to ((~~modification of~~)) modify environmentally critical area development standards, provided that an exception cannot be applied for to allow development or to obtain development credit under subsection 25.09.240E or to relocate lot lines under Section 23.28.030. ((~~Notice of application and review process and procedures for an environmentally critical areas exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~)) Before an application for relief under this section will be accepted, the Director must

SEATTLE CITY CLERK

determine that no other applicable ((~~environmentally critical areas administrative~~)) administrative remedies ((~~prescribed~~)) in Chapter 25.09 or Title 23 will provide sufficient relief.

B. 1. An applicant requesting modification shall provide the Director with the following information:

a. Documentation showing that no other applicable administrative remedy in Title 25.09 or Title 23 will provide sufficient relief;

((~~1~~))b. Technical studies and other data that describe the possible injurious effects of the proposed development on occupiers of the land, on other properties, on public resources, and on the environment. Possible injurious effects must be described even when the injurious effect will become significant only in combination with similar effects from other developments; ((~~and~~))

c. Technical studies and other data by qualified persons showing that the proposed development will protect the occupiers of the land, other properties, public resources, and the environment to the same extent as the development standards that are proposed to be modified and explaining how this will occur;

d. Plans showing what can be developed in compliance with all environmentally critical area development standards and standards in Title 23, including the yard and setback standards for front and rear yards;

((~~2~~))e. An explanation with supporting evidence of how and why compliance with ((~~the unmodified~~)) all environmentally critical areas development standards as shown on the plans required in subsection (d) would not permit any reasonable use of the property((~~.~~)), including, but not limited to, submission of the following evidence:

(1) The date the applicant purchased the property or obtained the right to develop or use it;

FILED CITY CLERK

(2) The price the applicant paid for the rights described in subsection (1); and

(3) Restrictions or conditions on use or development in existence when the applicant acquired the rights described in subsection (1).

2. The Director may require the applicant to provide additional information prepared by qualified persons on the topics described in subsection B1.

3. All technical studies and data shall be accompanied by sufficiently detailed information to allow the Director to evaluate it under the standards for scientific information set out in Washington Administrative Code (WAC) 365-195-905.

C. The Director may modify or waive an environmentally critical areas development standard and/or the yard and setback standard for front or rear yards when an applicant demonstrates ((~~to the Director's satisfaction~~)) by clear and convincing evidence that strict application of the development standards would ((~~be unreasonable~~)) not permit any reasonable use of the property and that development undertaken pursuant to the modified or waived standards would not cause significant injury to occupiers of the land, to other properties, and to public resources, or to the environment.

D. The relief granted by reduction, waiver, or other modification of an environmentally critical areas development standard and of the yard and setback standards for front or rear yards shall be the minimum to allow reasonable use of the property. Preference shall be given to modifying or waiving the yard and setback standards for front or rear yards. In modifying a ((~~development standard~~))regulation, the Director may impose reasonable conditions that prevent or mitigate the same harm that the modified or waived regulation was intended to prevent or mitigate. In granting an exception to the development standards in Section 25.09.160, Wetlands, the Director shall apply the avoidance and mitigation standards in subsection 25.09.160 E when imposing any conditions.

Ems CITY CLERK

E. The Director's decision must be consistent with the scientific approach used by the City in developing the environmentally critical area development standard at issue.

F. 1. The process and procedures for notice of decision and appeal of an environmentally critical areas exception shall be provided in the manner prescribed for Type II land use decisions in Chapter 23.76.

((~~E~~))2. ((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions by SMC Section 23.76.022.~~)) The Director's decision ((~~as to whether development pursuant to a modified development standard will cause significant injury~~)) shall be affirmed unless found to be clearly erroneous((~~. The Director's decision as to whether strict application of a development standard is reasonable shall be given no deference~~)), and the burden of proof of justifying the environmentally critical areas exception shall be on the applicant.

25.09.320 ((~~Vegetation and tree removal permit in environmentally critical areas~~))Trees and vegetation.

((~~A. Removal, clearing or any action detrimental to trees or vegetation within wetlands, wetland buffers and riparian corridor buffers is prohibited unless the Director has given prior approval to a restoration plan pursuant to buffer restoration, reduction, exemption, or exception provisions contained in this chapter.~~

~~B. Removal, clearing or any action detrimental to trees (including, but not limited to, tree-topping) or vegetation within land-slide- prone, steep-slope, and fish and wildlife habitat areas shall require a permit from the Director when any of the following thresholds are exceeded:~~

~~1. Any tree of six (6) inch caliper or greater, measured three (3) feet above the ground; or~~

FILED CITY CLERK

~~2. Any combination of trees over one and one-half (1.5) inch caliper, measured three (3) feet above the ground, which total a cross-section area greater than twenty-eight (28) square inches or equivalent to a tree cross-section of six (6) inches; or~~

~~3. Any other combination of trees and other vegetation covering an area of seven hundred and fifty (750) square feet or more.~~

~~C. A vegetation and tree removal permit shall always be required even in cases where an application for a building permit or Master Use Permit has not been submitted. The permit shall only be required for that portion of the site which is designated as environmentally critical as listed in subsection B.~~

~~D. A vegetation and tree removal permit shall not be required when the Director determines there is an emergency that threatens the public health, safety and welfare.~~

~~E. The Director shall consider the following circumstances and conditions in rendering a decision on a vegetation and tree removal permit:~~

~~1. The applicant shall justify the need for tree and/or vegetation removal;~~

~~2. The applicant shall demonstrate that any tree and/or vegetation removal shall not adversely affect stability, erosion potential, existing drainage conditions, and/or fish and wildlife habitat areas on-site, on adjacent sites, or within the drainage basin;~~

~~3. The applicant shall demonstrate that the activity shall not be a precursor of a later development proposal, unless a plan is approved by the Director for public safety reasons and/or except to conduct soil testing subject to DCLU's Director's Rule for Investigative Field Work in Environmentally Critical Areas; and~~

CITY CLERK

~~4. The Director may require a vegetation and tree removal and replacement plan and may otherwise condition the permit to protect the public health and safety and prevent harm to the affected environmentally critical area.~~

~~F. Normal and routine pruning, maintenance and vegetation management and revegetation on private property which does not exceed the thresholds established in subsection B shall be exempt from a vegetation and tree removal permit.~~

~~G. Normal and routine pruning operations, maintenance, and tree and vegetation management and revegetation of public parkland and open spaces by responsible public agencies or departments shall be exempt when undertaken pursuant to best management practices to avoid impacts on environmentally critical areas.~~

~~H. Tree or vegetation removal shown as part of an issued building or grading permit shall not require a separate vegetation or tree removal permit.~~))

A. 1. Removing, clearing, or any action detrimental to habitat, vegetation or trees is prohibited, except as provided below, within the following areas: landslide-prone critical areas, (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers.

2. Tree-topping is prohibited.

3. The vegetation and tree removal and revegetation activities listed in subsections 3a-d are allowed. The application submittal requirements and general development standards in Sections 25.09.330 and 25.09.060 do not apply to actions under subsections 3a, b(1), c(2)(a) or d, provided that no other development is carried out for which a permit is required.

a. Normal and routine pruning and maintenance of:

CITY CLERK

(1) up to seven hundred and fifty (750) square feet of trees and vegetative cover lawfully maintained prior to the effective date of this ordinance;

(2) trees and vegetation approved by permit prior to the effective date of this ordinance, provided the conditions of the permit are complied with;

(3) lawns, paths and landscaping lawfully maintained prior to the effective date of this ordinance that were not in a environmentally critical area or buffer listed in subsection A1 above prior to the effective date of this ordinance, but are in a listed area or buffer under this ordinance;

(4) steep slope areas described in subsection 25.09.180 B2a-c;

(5) other trees and vegetative cover, provided that when the area of work is over seven hundred fifty (750) square feet in area, a plan is filed with the Department that complies with subsections B2 and 3.

b. Removing trees or vegetation as part of an issued building or grading permit consistent with a tree and revegetation plan, provided that

(1) when the area of work is under one thousand five hundred (1,500) square feet in area, a plan is filed with the Department that complies with subsections B1 and 2;or

(2) when the area of work is one thousand five hundred (1,500) square feet or more in area, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

c. Restoring or improving vegetation and trees, including removing non-native vegetation or invasive plants and noxious weeds by hand, to promote maintenance or creation of a naturally functioning condition that prevents erosion, protects water quality, or provides diverse habitat when

SEATTLE CITY CLERK

(1) the restoration or improvement is a condition to obtaining a permit or approval from the Director; or

(2) the restoration or improvement is not already a condition to obtaining a permit or approval from the Director, and

(a) when the area of work is under one thousand five hundred (1,500) square feet in area calculated cumulatively over three (3) years, a plan is filed with the Department that complies with subsections B1 and 2; or

(b) when the area of work is one thousand five hundred (1,500) square feet or more in area calculated cumulatively over three (3) years, or if the removal of invasive plants or noxious weeds is by machine or chemicals, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

d. Removing trees or vegetation when the Director determines the tree or vegetation is a threat to health or safety based on a report prepared by a qualified professional and the removal is performed by or under the direction of a qualified professional.

B. Standards for Plans.

1. Plans prepared under this subsection shall be consistent with the Department's standard tree and vegetation plans.

2. When the area of work exceeds seven hundred fifty (750) square feet in a landslide-prone area, the plan shall be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and

FILED CITY CLERK

vegetation removal on landslide prone areas. These plans shall be consistent with best management practices.

3. Plans prepared under this subsection shall be prepared by a qualified professional with experience related to the type of environmentally critical area or buffer where work will occur. These plans shall be consistent with best management practices.

25.09.330 Application submittal requirements.

All activities identified in Section 25.09.015 and not exempt from permit application requirements under Sections 25.09.045, 25.09.055, 25.09.200 A4, and 25.09.320 A3 shall meet the following application submittal requirements in addition to the application submittal requirements specified in other codes:

A. Topographic Survey. A topographic site plan, prepared and stamped by a State of Washington licensed surveyor, is required for sites that include landslide-prone, flood-prone, riparian corridor, shoreline habitat or its buffer, wetland or its buffer, and steep slope areas or their buffers. The topographic site plan shall include the following existing physical elements:

1. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

2. Terrain and stormwater-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

3. Location of areas with significant amounts of vegetation, and specific location and description of all trees with trunks six inches (6") or greater in diameter measured four feet, six inches (4'6") above the ground, and noting their species;

ENS CITY CLERK

4. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of developmental coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);

5. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands on the site, within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;

6. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and

7. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.

B. Additional Site Plan Information. The following site plan information shall also be required for sites that include landslide-prone, flood-prone, riparian corridor, wetland, and steep slope areas or their buffers. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.

1. Location and boundaries of all critical areas on the site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;

2. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;

ENS CITY CLERK

3. Location and boundaries of non-disturbance areas on the site that have been required by previous approvals.

4. Proposed location and boundaries of all required undisturbed fenced areas and buffers on the site and on adjacent lands within twenty-five feet (25') of the site's property lines;

5. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);

6. Location of all proposed grading activities and all proposed drainage control facilities or systems on the site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

7. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and

8. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of this chapter.

C. Technical Reports. Technical reports and other studies and submittals shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, and other pertinent site information. The reports, studies and submittals shall be used to condition

SEATTLE CITY CLERK

development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.

25.09.335 Posting, Covenants, and Recording Conditions.

A During construction, the Director may require conditions to be posted on the site that are visible from public rights-of-way.

B. The Director shall require a permanent covenant and a survey, if a survey has been prepared, be recorded in the King County Office of Records and Elections that describes and delineates all required non-disturbance areas, that prohibits development on and any disturbance of them, and that prohibits considering them for development credit in future plats or development proposals.

C. 1. The Director shall require the boundaries of the following environmentally critical areas and/or their buffers and any permanent conditions imposed be legibly shown and described in a permanent covenant with the property, which shall be recorded in the King County Office of Records and Elections:

a. Fish and wildlife habitat conservation areas;

b. Wetland critical areas and their buffers; and

c. Steep slope areas and their buffers.

2. The covenant may be combined with the covenant required under subsection B, if that subsection applies. The covenant shall be recorded prior to the issuance of any permit or at the time a plat is recorded.

D. The Director may require placement of small permanent visible markers to delineate the areas described in subsections B and C. The location of the markers shall be legibly shown and described in the permanent covenant.

((~~**SMC 25.09.340 Administration.**~~

ENS CITY CLERK

~~A. The Director, in consultation with the Director of the Seattle Engineering Department, shall review and analyze a permit application to determine whether the proposed development meets the requirements and standards of this chapter. The Director may also consult with other City departments and regional public agencies as necessary to obtain additional technical and environmental review assistance. The Director shall review and approve all nonexempt public projects in public rights-of-way in environmentally critical areas and may institute interdepartmental charges to recover the cost of such review.~~

~~B. Permit applications shall only be approved after the Director is satisfied that the proposed development meets the requirements and development standards of this chapter, does not harm the general public health, safety and welfare, and prevents degradation and harm to the environment. If the general conditions and development standards or exemption and exception provisions contained in this chapter are not met, the Director shall deny the application.~~))

((**~~SMC 25.09.345Permit renewals in landslide-prone areas.~~**

~~A. In addition to satisfying the provisions of SMC Chapter 23.76 and Section 106.9 of the Building Code, an applicant seeking to renew a building permit for new or additional development in a landslide- prone area, as described in SMC Section 25.09.020 B1a, must submit a Letter of Certification (LC) from the current project Engineer of Record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:~~

~~1. In the project engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to DCLU as part of the application for the permit being renewed; or that~~

EDS CITY CLERK

~~2. In the project engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria or the permit, and that in the project engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been submitted.~~

~~The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections A1 or A2 above, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans, but the Director may renew a permit with different conditions or revised plans only if the project as revised is within the scope and intent of the original Master Use Permit.~~

~~B. In the event a Letter of Certification as described in subsection A above is not submitted, the permit shall not be renewed.~~

~~C. An applicant for renewal also must demonstrate that any required bond or insurance still is in effect, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.~~

~~D. From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for renewal of a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section~~

CITY CLERK

~~25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice: In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

((**~~SMC 25.09.350Processing applications in landslide-prone areas.~~**

~~Prior to issuance of a permit, the Director may require an applicant to submit a Letter of Certification as authorized by Section 25.09.345 and to satisfy the standards of that section. The Director's decision to require such a letter shall be based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.~~))

((**~~SMC 25.09.352Issued permits in landslide-prone areas.~~**

~~If the Director has reasonable ground to believe that significant changes in conditions at a project site or in the surrounding area may have occurred since a building permit was issued, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a~~

FILED
CITY CLERK

~~Letter of Certification as authorized by Section 25.09.345 and satisfied the standards of that section for permit renewal.~~))

((**~~SMC 25.09.355 Third-party review.~~**

~~At the Director's discretion, permits for new or additional development in landslide-prone areas, as described in SMC Section 25.09.020 B1a, may be required to undergo third-party review as described in Section 25.09.080 C.~~

~~A. In addition to the criteria in Section 25.09.080 C, the Director's decision to require third-party review shall be based upon, but shall not be limited to, such factors as whether there has been incomplete submittal of data or apparently inadequate design work, whether the project is large scale, or whether the development site is complex.~~

~~B. The Director's discretion as exercised pursuant to this section shall supersede the staged review process as described in Section 25.09.080 B.~~))

((**~~SMC 25.09.356 Acknowledgment of City policy.~~**

~~From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:~~

> ~~In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services~~

ENS CITY CLERK

~~provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

25.09.360 State Environmental Policy Act.

This chapter establishes minimum standards ((~~which are~~)) to be applied to specific land use and platting actions in order to prevent further degradation of environmentally critical areas in the City, and is not intended to limit the application of the State Environmental Policy Act (SEPA). Projects subject to SEPA shall be reviewed and may also be conditioned or denied pursuant to ((~~Seattle Municipal Code~~)) Chapter 25.05.

25.09.380 Compliance with environmentally critical areas regulations.

Notwithstanding the provisions of Chapter 23.76 ((~~, Seattle Municipal Code,~~)) authorizing issuance of Master Use Permits and Council Land Use Decisions upon compliance with the criteria and procedures of that chapter, no permit for a development proposal or for actions described in ((~~Seattle Municipal Code~~)) Section 25.09.((~~040~~))015 shall be issued unless it also complies with the regulations of this chapter.

25.09.400 Violations ((~~and penalties~~)).

((~~A. It shall be a violation of this chapter for any person, firm or corporation to erect, construct, modify, improve, enlarge, repair, move, remove, convert or demolish, occupy or maintain any property, vegetation, building or structure contrary to or in violation of any provision of this chapter. It shall be a violation of the chapter for any person, firm or corporation to knowingly aid and abet, counsel,~~

EMS CITY CLERK

~~encourage, hire, commend, induce or otherwise procure another to violate or fail to comply with this chapter.~~

~~B. Civil Penalties.~~

~~1. Any person, firm or corporation who fails to comply with any provision of this chapter or any notice, decision or order issued by the Director pursuant to this chapter shall be subject to a cumulative civil penalty in the amount of Five Hundred Dollars ($500) per day for each day of noncompliance, measured from the date the violation begins or occurs until the owner, person, firm or corporation complies with the requirements of this chapter. The Director shall notify the City Attorney in writing of the name of any person subject to the penalty, and shall assist the City Attorney in collecting the penalty.~~

~~2. Violations causing significant damage as defined by the following acts shall be assessed penalties at an amount reasonably determined by the Director to be equivalent to the economic benefit that the violator derives from the violation as measured by the greater of the resulting increase in market value of the property or the value received by the violator, or savings of construction costs realized by the violator:~~

~~a. Grading (filling and/or excavation), clearing of vegetation and trees, and draining of riparian corridors, wetlands and their buffers; or~~

~~b. Destruction of trees, including tree-topping detrimental to trees, over twelve (12) inches caliper; or~~

~~c. Any six (6) foot vertical cut or fill within a potential landslide area.~~

~~C. Stop-work Order. Whenever a continuing violation of this chapter will materially impair the Director's ability to secure compliance with this chapter, when the continuing violation threatens the health or safety of the public, or when the continuing violation threatens or harms the environment, the~~

FILED
CITY CLERK

~~Director may issue a stop-work order specifying the violation and prohibiting any work or other activity at the site. The posting of the stop-work order on the site shall be deemed adequate notice of the stop-work order. A failure to comply with a stop-work order shall constitute a violation of this chapter.~~

~~D. Emergency Order. Whenever any use or activity in violation of this chapter threatens the health and safety of the occupants of the premises or property or any member of the public, the Director may issue an emergency order directing that the use or activity be discontinued and the condition causing the threat to the public health and safety or threat and harm to the environment be corrected. The emergency order shall specify the time for compliance and shall be posted in a conspicuous place on the property, if posting is physically possible. A failure to comply with an emergency order shall constitute a violation of this chapter. Any condition described in the emergency order which is not corrected within the time specified is hereby declared to be a public nuisance and the Director is authorized to abate such nuisance summarily by such means as may be available. The cost of such abatement shall be recovered from the owner or person responsible or both in the manner provided by law.~~

~~E. Criminal Penalty.~~

~~1. Anyone violating or failing to comply with any order issued by the Director pursuant to this chapter shall, upon conviction thereof, be punished by a fine of not more than One Thousand Dollars ($1,000.00) or by imprisonment for not more than three hundred sixty (360) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~

~~2. Anyone violating or failing to comply with any of the provisions of this chapter and who within the past five (5) years has had a judgement against them pursuant to subsection B shall upon conviction thereof, be fined in a sum not to exceed Five Hundred Dollars ($500.00) or by~~

CITY CLERK

~~imprisonment for not more than one hundred and eighty (180) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~))

A. It is a violation of this chapter to fail to comply with any provision of this chapter or with any term of any permit condition or approval issued pursuant to this chapter.

B. It is a violation of this chapter to fail to comply with any order issued pursuant to this chapter or to remove or deface any sign, notice, complaint or order required by or posted in accordance with this chapter.

C. It is a violation of this chapter to misrepresent any material fact in any application, on plans, or in any other information submitted to obtain any determination, authorization, permit condition, or approval under this chapter.

D. It is a violation of this chapter to aid and abet, counsel, encourage, hire, command, induce or otherwise procure another to violate or fail to comply with this chapter.

25.09.410 Authority to Enforce.

A. The Director is authorized to enforce this chapter and may call upon other appropriate City departments to assist in enforcement.

B. The Director may, with the consent of the owner or occupier of any land, premises, building, or structure, or pursuant to a lawfully issued inspection warrant, enter at reasonable times any land, watercourse, premises, building, or structure subject to the consent or warrant.

C. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner, occupier, or other person responsible for the condition of the vegetation, land, watercourse, premises, building, or structure within the scope of this chapter.

2006 CITY CLERK

D. No provision of or term used in this chapter is intended to impose any duty upon the City or any of its officers or employees that would subject them to damages in a civil action.

25.09.420 Investigation and Notice of Violation.

A. The Director is authorized to investigate the condition of any vegetation, land, watercourse, premises, building, structure, activity, or use that the Director reasonably believes does not comply with the provisions of this chapter. The Director's investigation and determination that a violation exists is not limited by determinations made by determinations made by other City agencies.

B. If after investigation the Director determines that any provision of this chapter has been violated, the Director may serve a notice of violation upon any person that the Director believes is responsible for the violation. The notice of violation may identify the violation by code section; and may state what corrective action (including restoration), if any, is necessary to comply with the provisions of this chapter, set a reasonable time for compliance; and state the penalty for violating this chapter. The Director may require that the restoration plan be prepared by a qualified professional, at the violator's expense. Wetland mitigation shall be consistent with Section 25.09.160.

C. Any notice issued pursuant to subsection B shall be served upon the owner, occupier or other person responsible for the violation by personal service in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail, addressed to the last known address of such person(s). Service is complete at the time of personal service, or if mailed, three (3) days following the date of mailing. If a notice of violation sent by first class mail is returned as undeliverable, then service of the notice upon such person or persons may be made by posting the notice at a conspicuous place on the property where the violation occurred.

D. If a notice of violation or order is recorded with the King County Department of Records and Elections, a notice of violation or order for the same violation need not be served upon a new owner.

ENS CITY CLERK

If a new notice of violation or order is not issued and served upon a new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner, starting on the date that the conveyance is completed.

E. Nothing in this section shall be deemed to limit or preclude any action or proceeding pursuant to Sections 25.09.430 and 25.09.450 of this chapter, and nothing in this section requires the Director to issue a notice of violation prior to the imposition of civil or criminal penalties.

25.09.430 Stop-Work Order.

A. The Director may issue a stop-work order whenever any use, activity, work or development (1) is being done without a permit, determination, or authorization required by this chapter, (2) is being done contrary to any determination, authorization, permit, or approval of DPD and the use, activity, work or development will immediately impact an environmentally critical area or materially impair the Director's ability to secure compliance with this chapter, or (3) immediately threatens the public health, safety, and welfare with respect to the interests protected under this section.

B. The stop-work order shall describe the violation in writing and be posted on the premises or served on any person responsible for the violation. Except emergency work necessary to stabilize the site that may be required by the Director, it is unlawful for any work on the property to be done after the posting or service of a stop-work order until authorization to proceed is given by the Director.

C. The stop-work order may require that vegetation, land, watercourse, premises, building, structure, or portion thereof, be vacated within a reasonable time, depending on the degree of danger, specified in the order. No person shall occupy the vegetation, land, premises, building, structure, or portion thereof after the date on which it is required to be vacated until the vegetation, land, watercourse, premises, building, structure, or portion thereof, is restored to a safe condition as determined by the Director.

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CITY
CLERK

25.09.450 Review by the Director.

A. Any person significantly affected by a notice of violation or stop-work order issued by the Director pursuant to this chapter may obtain an administrative review of the notice or order by requesting such review in writing to the Director within ten (10) days of the date of the notice or order. When the last day of the period so computed is a Saturday, Sunday, or federal or City holiday, the period shall run until five (5:00) p.m. on the next business day. A request for administrative review is an administrative remedy that must be exhausted before judicial review of the notice or order may be sought.

B. Upon receipt of the request, the Director shall notify by mail any persons served within the notice or order and any person requesting review, advising them of the request for review, of the date of the review, and of the deadline for submitting additional written information for consideration. The deadline for submitting additional written information shall be ten (10) days from the date the notice of administrative review is mailed, unless otherwise agreed to by all persons served with the notice or order. The Director and all persons served with the notice or order may also agree to review the matter within a shorter period or time that shall not be less than three (3) days from the date the notice or order was issued.

C. The Director shall conduct the administrative review and issue a decision on the request for administrative review in the form of an Order of the Director. The Director shall review all written information received by the submission deadline and any additional evidence or information available to DPD staff and placed in the case file. The Director may also request clarification of information received and a site visit. After review of the case file and of the additional written information and/or after a site visit, the Director shall issue an Order of Director that may:

1. Sustain the notice or order;

DNS CITY CLERK

2. Withdraw the notice or order;

3. Continue the review to a date certain for receipt of additional information; or

4. Modify the notice or order, which may include an extension of the compliance date, if any.

D. The Director shall issue the Order of the Director no later than ten (10) days from the deadline for submitting additional information. The Order of the Director is mailed by first class mail to the person or persons named on the notice of violation or order and to any person who requested the administrative review. If the original notice or order was recorded with the King County Department of Records and Elections the Order of the Director shall also be recorded.

25.09.460 Civil Penalty.

A. Any person who violates or fails to comply with any provision of this chapter is subject to a civil penalty in an amount not to exceed Five Hundred Dollars ($500) per day for each violation, and in the event of a continuing violation shall be subject to a cumulative civil penalty of $500 per day for each violation from the time the violation occurs or begins until compliance is achieved. In cases where the Director has issued a notice of violation with a compliance date, the violation is deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation. For removing, clearing, or taking any action detrimental to a tree over six inches in caliper an additional civil penalty of Five Thousand Dollars ($5,000) shall be assessed.

B. Violations causing significant damage may be assessed an additional penalty in an amount reasonably determined to be equivalent to the economic benefit that the violator derived from the violation, measured as the greater of, the resulting increase in market value of the property, the value received by the violator, or the savings of construction costs realized.

2006 CITY CLERK

C. The penalty imposed by this section may be collected by civil action brought in the name of the City. The Director notifies the City Attorney in writing of the name of any person subject to the penalty, and the City Attorney, with the assistance of the Director, takes appropriate action to collect the penalty. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an Order following an administrative review by the Director is not itself evidence that a violation exists.

25.09.470 Alternative Criminal Penalty.

Any person who violates or fails to comply with this chapter shall be guilty of a gross misdemeanor subject to the provisions of Chapters 12A.02 and 12A.04, except that absolute liability shall be imposed for such a violation or failure to comply and none of the mental states described in Section 12A.04.030 need be proved. The Director may request the City Attorney prosecute such violations criminally as an alternative to the civil penalty provision outlined in this chapter. Each day that a person continues to violate or fail to comply with the provisions of this chapter and each occurrence of a prohibited activity constitutes a separate offense.

25.09.480 Additional Relief.

The Director may seek legal or equitable relief to enjoin any acts or practices and abate any condition that constitutes or will constitute a violation of this chapter.

25.09.((~~420~~))520 Definitions.

"Best management practices" ((~~are~~)) means

a. the practices defined in ((~~SMC~~)) Section 22.801.030, Stormwater, Grading and Drainage Control Code((~~.~~)); and

2005 CITY CLERK

b. structural, nonstructural and managerial techniques identified by the Director, or by the director of a City agency when that agency is making determinations under this chapter, as the most effective and practical means in an urban environment to mitigate adverse environmental effects on environmentally critical areas and buffers and their functions.

"Biologist" means a person who has earned a degree in biological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing biologist.

"Buffer" means a designated area adjacent to and/or a part of an environmentally critical area and intended to protect the environmentally critical area.

"City agency" means The City of Seattle or any of its subdivisions, including but not limited to, any City board, commission, committee, officer or department.

"Construction activity area" ((~~refers to~~)) means all areas of land disturbing activity within a site or on adjacent sites or rights-of-way used during construction including, but not limited to, developmental coverage areas and construction access and storage areas.

"Detention" is defined in ((~~SMC~~)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.

"Development" means ((~~and refers to~~)) all components and activities related to construction((~~,~~)) or disturbance ((~~and/or use~~)) of a site, including but not limited to land disturbing activities.

"Development standard" means a regulation establishing a limit on development.

((~~"Developmental coverage" is defined in SMC Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Director" means the Director of the Department of ((~~Construction and Land Use~~))Planning and Development or his or her designee.

2005 CITY CLERK

((~~"Discharge point" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Downtown zones" means all Downtown Office Core, Downtown Retail Core, Downtown Mixed Commercial, Downtown Mixed Residential, Downtown Harbor Front, International District Mixed, International District Residential, Pike Market Mixed, and Pioneer Square Mixed, as defined in Chapter 23.30.

((~~"Drainage control" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control facility" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage control plan" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control system" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage water" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Ecological Function" means the work performed or role played individually or collectively by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the natural environment.

"Exception" refers to the environmentally critical areas exception, Section 25.09.300.

"Exemption" means to release a project either fully or partially from compliance with the environmentally critical areas regulations, or from specific development standards of this chapter, as provided in Section 25.09.045.

CITY CLERK

"Geologist" means a person who has earned a degree in geology from an accredited college or university and has at least five (5) years' experience as a practicing geologist or four (4) years of experience and at least two (2) years of postgraduate study, research or teaching. The practical experience shall include at least three (3) years of work in applied geology and evaluation, in close association with qualified practicing geologists or geotechnical/civil engineers.

"Geotechnical/civil engineer" means a practicing geotechnical/civil engineer licensed as a professional civil engineer by the State of Washington who has at least four (4) years of professional experience as a geotechnical engineer including experience with landslide evaluation.

((~~"Hydrologist" means a person who has earned a degree in hydrological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing hydrologist.~~))

"Impervious surface" is defined in ((~~SMC~~))Section 22.801.100, Stormwater, Grading and Drainage Control Code.

"Improved public road right-of-way" means a right-of-way which either contains utilities or is paved.

"Invasive plants" means the plants listed for Western Washington in Washington State Department of Ecology Publication # 04-06-025.

"Land disturbing activity"((~~is defined in SMC Section 22.801.130, Stormwater, Grading and Drainage Control Code.~~)) means any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land disturbing activities include, but are not limited to, clearing, grubbing, grading, filling, excavation, or addition or replacement of impervious surface.

2005 CITY CLERK

"Lot" means a platted or unplatted parcel or parcels of land abutting upon and accessible from a private or public street sufficiently improved for vehicle travel or abutting upon and accessible from an exclusive, unobstructed permanent access easement. A lot may not be divided by a street or alley.

"Native fish" means a species of fish identified by the United States Fish and Wildlife Service as occurring in the Puget Sound area as part of its indigenous fresh water or marine aquatic fauna.

"Native vegetation" means vegetation, including trees, comprised of plant species ((~~which~~)) that are indigenous and noninvasive, naturalized to the Puget Sound region and ((~~which~~)) that reasonably can be expected to naturally occur on a site. Native vegetation does not include noxious weeds.

"Non-disturbance areas" means areas where development is not to be allowed.

"Normal pruning and maintenance" means for trees, shrubs and other woody plants compliance with American National Standards Institute A300 pruning standards.

"Noxious weeds" means weeds listed by the King County Noxious Weed Control Board.

"Ordinary high water mark" means, on all lakes, streams, and tidal water, that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, or as it may naturally change thereafter or as it may change thereafter in accordance with permits issued by the Director of the Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Parcel means a lot, unplatted property or combination thereof in the City of Seattle.

"Person" means any individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, co-partnership, joint venture, club, company, joint stock company,

CITY CLERK

business trust, municipal corporation, political subdivision of the State of Washington, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, the United States or any instrumentality thereof, and any entity of whatever type.

"Pesticide" means, but is not limited to:

(a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, and any other form of plant or animal life or virus, except virus on or in a living person or other animal which is normally considered to be a pest or which the Director may declare to be a pest;

(b) Any substance or mixture of substances intended to be used as a plant regulator, defoliant or desiccant; and

(c) Any spray adjuvant.

"Provisions of this chapter" means all sections of this chapter.

"Retaining structure" means any improvement built up or composed of parts joined together in some definite manner and affixed to the ground for the purposes of retaining earth or rocks, including but not limited to concrete retaining walls, mechanically stabilized earth systems, soil nails, terracing, or flower bed frames.

"Riparian watercourse" means a channel through which water flows as defined in subsection 25.09.020 D5.

"Shoreline habitat" means Type 1waters defined in WAC 222-16-031 that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

"Short subdivision" means the division or redivision of land into nine (9) or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease, development or financing, and shall include all

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CITY
CLERK

resubdivision of previously platted land and properties divided for the purpose of sale or lease of townhouse units.

"Site" means the unit of land for which an applicant is receiving permission to carry out development.

"Species of local importance" means those species ((~~that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.~~)) of wildlife designated under Section 25.09.200E.

"Stabilize" means to possess permanent characteristics, either naturally or by manmade improvements, which can be shown to have sufficient resistance to forces normally expected to occur, and those forces ((~~which~~)) that may occur as a result of a one (1) in one-hundred (100) year event.

"Steep slopes" means slopes of forty percent (40%) inclination or more within a vertical elevation change of at least ten feet (10'). For the purpose of this definition, a slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten feet (10')of elevation difference. Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five (25) feet.

"Steep slope area" means an area described in subsection 25.09.020 A 3.

FILED
CITY
CLERK

"Street" means a right-of-way which is intended to provide or which provides a roadway for general vehicular circulation, is the principal means of vehicular access to abutting properties and includes space for utilities, pedestrian walkways, sidewalks and drainage.

"Subdivision" means the division or redivision of land into ten (10) or more lots, tracts, parcels, sites, or divisions for the purpose of sale, lease and transfer of ownership.

((~~"Urban natural open space habitat" means and refers to those fish and wildlife habitat areas mapped by the Washington State Department of Wildlife.~~))

"Vegetation" means any and all organic plant life growing on, below, or above the soil surface.

"Watercourse" is defined in Section 22.801.240.

"Wetland Creation" means the creation of a wetland within an upland area.

((~~"Wetland of exceptional value" means and refers to wetlands with the following values:~~

~~1. Rare or unique species listed by the federal or State government as endangered or threatened and needing special protection;~~

~~2. Presence of plants or group of plants that occur infrequently in the Seattle or Puget Sound region;~~

~~3. Habitat diversity;~~

~~4. Sensitivity to disturbance; and~~

~~5. Difficulty in replacement of ecological functions unique to Seattle.~~

~~"Degraded wetland" means and refers to those wetlands which have been altered or damaged by past human activities and/or biologically diminished by invasive, non-native plants so that the natural biofiltration and habitat values have been rendered inefficient or nonfunctional.~~))

SEA CITY CLERK

"Wetland Restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland.

"Wildlife" means ((~~and includes all undomesticated animals~~)) all species of the animal kingdom as defined in RCW 77.08.010.

"Wildlife habitat" means and refers to those areas that support individual or populations of animals defined as wildlife for all or part of an annual cycle.

25.09.((~~440~~))530 Construction.

In any case where the provisions of this chapter conflict with the provisions of the underlying zoning or the Seattle Shoreline Master Program, the provisions of this chapter ((~~shall~~)) apply. For purposes of this chapter, the singular ((~~shall~~)) includes the plural and vice versa, and the masculine gender ((~~shall~~)) includes the feminine and neutral genders.

Section 2. Section 23.28.030 of the Seattle Municipal Code is amended as follows:

SMC 23.28.030 Criteria for approval.

A. The Director shall approve an application for a lot boundary adjustment if it is determined that:

1. No additional lot, tract, parcel, site or division will be created by the proposed adjustment;

2. No lot is created which contains insufficient area and dimensions to meet the minimum requirements for development as calculated under the development standards of the zone in which the lots affected are situated, except as provided in Section 23.44.010, and under any applicable regulations for siting development on parcels with riparian corridors, shoreline habitat, shoreline habitat buffers,

ORIGINAL
CITY CLERK

wetlands, wetland buffers or steep slopes in chapter 25.09. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335;

3. No lot is created which does not have adequate drainage, water supply and sanitary sewage disposal, and access for vehicles, utilities and fire protection;

4. The lot boundary adjustment is consistent with applicable provisions of the Land Use Code, Title 23((~~, and SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

B. An application for a lot boundary adjustment on a parcel containing and environmentally critical area or buffer shall include the information described in Section 25.09.330, unless the Director determines that some of the information listed is not necessary for reviewing the application.

Section 3. Section 23.22.058 of the Seattle Municipal Code is amended as follows:

23.22.058 Environmentally critical areas.

No plat shall be approved by the Hearing Examiner covering any land situated in a riparian corridor ((~~buffer~~)), wetland and wetland buffer, or steep slope and steep slope buffer unless in compliance with the applicable provisions of ((~~SMC~~)) Section 25.09.240, Short subdivisions and subdivisions, in environmentally critical areas.

Section 4. Subsection 23.44.008 G of the Seattle Municipal Code is amended as follows:

23.44.008 Development standards for uses permitted outright.

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EMS CITY CLERK

G. Development standards governing lots ((~~located in~~)) containing an environmentally critical area or buffer may be modified according to the provisions of ((~~SMC~~))Chapter 25.09((~~, Regulations for Environmentally Critical Areas~~)).

Section 5. Subsection 23.44.010 B5 of the Seattle Municipal Code is amended as follows:

23.44.10 Lot requirements.

* * * *

B. Exceptions to Minimum Lot Area. The following exceptions to minimum lot area are subject to the limits of subsection B5. A lot which does not satisfy the minimum lot area requirements of its zone may be developed or redeveloped as a separate building site according to the following:

* * * *

5. Development may occur on a substandard lot containing a riparian corridor ((~~buffer~~)), a shoreline habitat and shoreline habitat buffer, a wetland and wetland buffer, or a steep slope and steep slope buffer pursuant to the provisions of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, if the following conditions apply:

a. The substandard lot is not held in common ownership with an adjacent lot or lots at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, or

b. The substandard lot is held in common ownership with an adjacent lot or lots, or has been held in common ownership at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas,2 but proposed and future development will not intrude upon the environmentally critical area or buffer;

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CITY CLERK

Section 6. Subsection 23.44.014 D15 of the Seattle Municipal Code is amended as follows:

23.44.014 Yards.

* * * *

D. Exceptions from Standard Yard Requirements. No structure shall be placed in a required yard except pursuant to the following subsections:

* * * *

15. Front and rear yards ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of)~~) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 7. Subsections A and C of Section 23.44.024 of the Seattle Municipal Code is amended as follows:

SMC 23.44.024 Clustered housing planned developments.

* * * *

A. Site Requirements.

1. The minimum size of a CHPD shall be two (2) acres. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, and submerged land shall not be used to meet minimum size requirements.

2006 CITY CLERK

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use clustered development provisions under Section 25.09.260 shall apply, superseding the standards of this section.

3. The Director may exclude land from a CHPD if it is separated from the site by topographical conditions, if it has a poor functional relationship with the site, or if inclusion of the land would negatively impact adjacent single-family zoned lots.

* * * *

C. Number of Dwelling Units Permitted.

1. The number of dwelling units permitted in a CHPD shall be calculated by dividing the CHPD land area by the minimum lot size permitted by subsection A of Section 23.44.010 in the single-family zone in which the CHPD is located. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer and submerged land shall be excluded from the land used to calculate density in a CHPD. For CHPDs which include more than one (1) zone, the number of dwelling units shall be calculated based on the proportion of land area in each zone.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use provisions for regaining development credit and clustering under Section 25.09.260 shall apply.

3. One (1) additional detached single-family structure may be permitted if the development includes recreational, meeting and/or day care facilities open to the surrounding community.

2006 CITY CLERK

* * * *

Section 8. Subsection 23.45.014 H of the Seattle Municipal Code is amended as follows:

23.45.014 Setback requirements -- Lowrise zones.

* * * *

H. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to the provisions of ((~~subsection A~~))of Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 9. Subsection 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to ((~~the provisions of subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 10. Subsection 23.45.072 D3 of the Seattle Municipal Code is amended as follows:

2006 CITY CLERK

SMC 23.45.072 Highrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks on lots containing certain ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~))pursuant to the provisions of ((~~subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Subsection 23.53.010 B3 of the Seattle Municipal Code is amended to read:

SMC 23.53.010 Improvement requirements for new streets in all zones

* * * *

B. Required Right-of-way Widths for New Streets.

* * * *

3. Exceptions to Required Right-of-way Widths. The Director, after consulting with the Director of Transportation, may reduce the required right-of-way width for a new street when location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes the required right-of-way width impractical or undesirable.

Section 12. Subsection 23.53.015 D3a of the Seattle Municipal Code is amended to read:

Ems CITY CLERK

SMC 23.53.015 Improvement requirements for existing streets in residential and commercial zones.

* * * *

D. Exceptions.

* * * *

3. Exceptions from Required Street Improvements. The Director may waive or modify the requirements for paving and drainage, dedication, setbacks, grading, no-protest agreements, landscaping and curb and sidewalk installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 13. Subsection 23.53.020 E3a of the Seattle Municipal Code is amended to read:

SMC 23.53.020 Improvement requirements for existing streets in industrial zones.

* * * *

E. Exceptions.

* * * *

3. Exceptions From Required Street Improvement Requirements. The Director may waive or modify the requirements for paving, dedication, setbacks, grading, no-protest agreements,

SEATTLE CITY CLERK

landscaping and sidewalk and pedestrian walkway installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 14. Subsection 23.53.025 H of the Seattle Municipal Code is amended to read:

SMC 23.53.025 Access easement standards.

* * * *

H. Exceptions From Access Easement Standards. The Director, in consultation with the Fire Chief, may modify the requirements for easement width and surfacing for properties located in environmentally critical areas or their buffers when it is determined that:

1. Such modification(s) would reduce adverse effects to identified environmentally critical areas or buffers; and

2. Adequate access and provisions for fire protection can be provided for structures served by the easement.

Section 15. Subsection 23.53.030 G1 of the Seattle Municipal Code is amended to read:

SMC 23.53.030 Alley improvements in all zones.

* * * *

G. Exceptions. The Director, after consulting with the Director of the Department of Transportation, may modify or waive the requirements for dedication, paving and drainage, setbacks,

CITY CLERK

grading and no-protest agreements, if it is determined that one (1) or more of the following conditions are met. The Director may require access to be from a street if alley improvements are also waived.

1. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable;

* * * *

Section 16. Section 23.84.010 of the Seattle Municipal Code is amended to read:

23.84.010 "E"

* * * *

"Environmentally critical area" means those areas ((~~designated by~~)) defined in ((~~the City of Seattle Environmentally Critical Areas Policies and regulated and mapped in~~))SMC Chapter 25.09, Regulations for Environmentally Critical Areas((~~, and other city codes~~)).

* * * *

Section 17. Subsection C of SMC Section 23.90.002 of the Seattle Municipal Code is amended as follows:

23.90.002 Violations

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C. It is a violation of Title 23 to remove or deface any sign, notice, complaint or order required by or posted in accordance with Title 23 ((~~or Title 25~~)).

* * * *

2005 CITY CLERK

Section 18. This ordinance shall take effect and be in force on the later of (a) May 9, 2006, or (b) thirty (30) days from and after its approval by the Mayor, or (c) if not approved and returned by the Mayor within ten (10) days after presentation, on the effective date as provided by Municipal Code Section 1.04.020.

Passed by the City Council the 27th day of March, 2006 and signed by me in open session in authentication of its passage this 27th day of March, 2006

President _____ of the City Council

Approved by me this 5th day of April, 2006

Gregory J. Nickels, Mayor

Filed by me this 5th day of April, 2006

City Clerk

(Seal)

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MAYOR'S RECOMMENDED AMENDMENTS TO ENVIRONMENTALLY CRITICAL AREAS REGULATIONS

I. INTRODUCTION

Why are we updating Critical Areas regulations?

Washington State's response to rapid growth was the 1990 Growth Management Act (GMA), which required the largest and fastest growing counties and their cities to prepare comprehensive plans and development regulations. As part of the GMA's 14 goals, comprehensive plans must provide for efficient public services, and protect natural resources and critical areas. In Seattle "critical areas" include five areas and ecosystems:

- wetlands;
- fish and wildlife habitat conservation areas (including riparian corridors, and shorelines, and other priority habitat and species areas);
- geologic hazard areas (including landslide-prone, steep-slope and liquefaction-prone areas);
- flood-prone areas; and
- abandoned landfills.

In 1995 the Washington State legislature amended the to require that cities and counties update their critical areas regulations to reflect the "best available science" (BAS) in protecting the functions and values of critical areas. In addition, the 1995 revised GMA required jurisdictions to give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries (see WAC 365-195-900 through 365-195-925). Seattle has completed this process and used the best available science as a basis for recommending revisions to its Environmentally Critical Areas (ECA) code and policies.

This proposal represents the first significant revision to Seattle's ECA regulations since they were originally adopted in 1992. This report provides a narrative description of the proposed changes to the regulations and a discussion of their implications for development in critical areas within the city. BAS was considered in the development of all the provisions of the proposed code, with non-scientific information also considered where necessary given other GMA planning goals. The best available science reviewed and considered in drafting the proposed code is found in a separate document entitled *Environmentally Critical Areas: Best Available Science Review*. How non-scientific information has been balanced with the BAS is discussed in Section III of this report, *Assessment of Proposed ECA Code Provisions*.

Public Participation

A public workshop was held in January 2004 to provide an overview of the current code and policies and to solicit ideas and comments on the ECA code and policies. Approximately 60 people attended the workshop and written comments were submitted by a number of people who did not attend. The input from this workshop has been used to develop draft code and policies.

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In December 2004 the Critical Areas Policies where incorporated into the Comprehensive Plan. The Comprehensive Plan update included an exhaustive public involvement process. As a part of this process, the Critical Areas Policies were edited and updated, with consideration given to the BAS. Also reviewed and considered, were the results of previous studies related to the ECA code implementation and suggested improvements.

A DPD staff draft of the code was prepared and released for public review in February 2005. There was a well attend public meeting to present and discuss the proposal and a concurrent public comment period that ended March 17 2005. Based on the comments received the draft and supporting materials, including this report have been revised to represent the Mayor's recommended draft.

Background

In 1978, in response to the State Environmental Policy Act (SEPA), the City produced a map designating areas thought to be environmentally sensitive. The designated areas included steep slopes, landslide-prone areas, floodplains, landfills and certain water bodies. The purpose of these designations was to help insure that the impact of new development on these areas could be assessed and mitigated as part of the required environmental review of new development. Until 1990, these maps and the SEPA review process were the sole mechanism by which jurisdictions controlled the unintended consequences of new development in sensitive areas.

In 1990 the Growth Management Act was adopted by the Washington State Legislature. The GMA required Seattle and other jurisdictions to adopt development regulations that protect ECA's, rather than assuming that only development subject to SEPA impacted critical or sensitive environmental areas. Interim critical areas regulations were enacted to regulate development while permanent critical areas policies and regulations were under development. In 1992 the first ECA policies and code were adopted. Those regulations and policies have remained largely unchanged, subject to limited amendments made in 1995 to the steep slope policies, and in 1997 to the landslide prone areas code provisions.

What Are Environmentally Critical Areas?

Critical areas include wetlands, fish and wildlife habitat conservation areas (including riparian corridors and shorelines, small lakes and other priority habitat and species areas), geologic hazard areas (including landslide-prone, steep-slope and liquefaction-prone areas), flood-prone areas, and abandoned landfills. These areas possess hazards to development owing to the inherent vulnerability associated with unstable soils and steep slopes. These areas also provide opportunities for enhancing the urban environment through protection of areas that possess unique ecological values such as wetlands, wildlife habitat, and stream and shoreline environments, whose health and well-being are valuable indicators of the overall health of the urban environment. The following is a description of these areas as they exist in the City of Seattle:

Wetlands

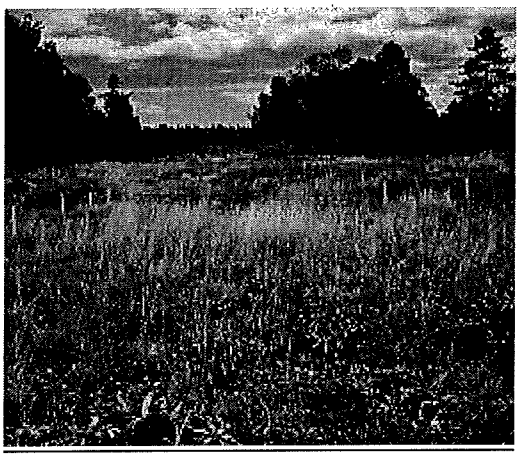
Wetlands are among the most valuable and complex of Seattle's ecosystems. They provide many valuable functions including flood control, ground water recharge and discharge, water quality improvement, shoreline stabilization, and fish and wildlife habitat. In addition, wetlands also provide amenities such as recreational and educational opportunities, and have aesthetic values. Chapter 2 of *Freshwater Wetlands in Washington State Volume 1 - A Synthesis of the Science* provides an excellent overview of wetlands and how they function in western Washington. This publication is available at the Washington Department of Ecology web site http://www.ecy.wa.gov/programs/sea/wetlan.html or can be viewed at the Department of Planning and Development Public Resource Center, 20th floor Seattle Municipal Tower

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or web site
www.seattle.gov/dpd/planning/ECAupdate.

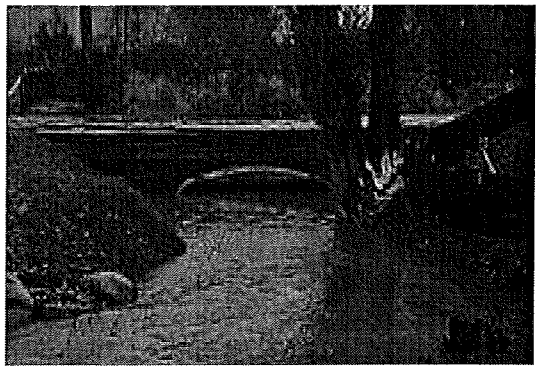
Fish and Wildlife Habitat Conservation Areas (FWHCA's)

The City of Seattle contains a complex array of aquatic habitats and shorelines within its boundaries. These include lotic, lentic, estuarine and marine nearshore habitats. Lotic waters are flowing streams such as rivers and creeks. The city has approximately 45 small streams as well as the lower portion of the Green/Duwamish River. Lentic waters are standing water such as lakes and ponds. The western shorelines of Lake Washington, Lake Union, the Ship Canal, and three smaller lakes (Green, Bitter, and Haller Lakes) are within Seattle. Estuaries are transition areas of variable salinity where freshwater streams and rivers mix with salt water. The Duwamish estuary and Salmon Bay estuary are substantial estuarine waters within the city. Smaller estuaries occur at the mouths of several streams, such as Pipers and Fauntleroy, that discharge directly into Puget Sound. Marine shorelines occur along the city's Puget Sound shorelines (including Elliott Bay and Shilshole Bay). Water bodies and their adjacent shorelines are important for healthy aquatic ecosystems, including salmon.



Creeks

Seattle has a number of creeks. Some streams such as Thornton Creek and Taylor Creek have at least part of their drainage basin outside the City's limits. Thornton, Taylor and several other streams discharge into Lake Washington, contributing a small amount of flow to the discharge through the Ship Canal and Hiram M. Chittenden Locks to Salmon Bay. Others such as Pipers Creek discharge directly into Puget Sound, while Hamm, Puget, and Longfellow Creeks discharge into the estuarine portion of the Duwamish River.



Lakes

Lakes are the basin portions of the landscape that retain water throughout the year. In the city, this includes both lakes that are connected to Puget Sound (Lake Washington-Lake Union-Ship Canal) providing migratory corridors for anadromous fishes, and lakes that are functionally isolated from Puget Sound (Green Lake, Haller Lake, Bitter Lake).

Lake Washington is the largest and most obvious of Seattle's lentic systems. It is important to the region for both the resident species it supports and the functions it serves for anadromous and other migratory species. Lake Washington provides rearing habitat and migratory corridors for anadromous salmonids (Chinook, Coho, Chum, and Sockeye salmon, steelhead, bull trout, cutthroat trout) as well as numerous resident species. These species are a major component of the aquatic biota important to the local region. Lake Washington also provides resting and feeding habitat for a variety of birds. Bald eagles and peregrine falcons forage along the shorelines. Numerous species of waterfowl (e.g. ducks, geese) rest and feed in both the open water and protected portions of Lake Washington during their autumn and winter migrations through the area. Some of

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these waterfowl winter in the Lake Washington habitat.

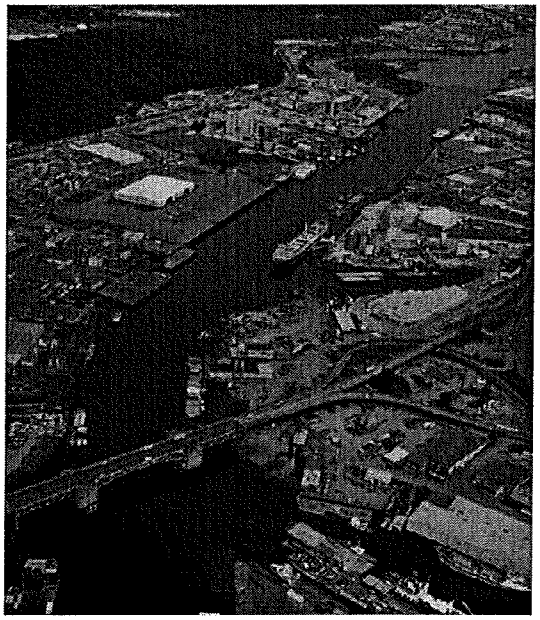
Other lentic habitat is provided by smaller isolated lakes such as Bitter, Haller, and Green Lakes. Pipes and culverts downstream from these small lakes functionally isolate them from Puget Sound. These small lakes connect through man-made drainage systems to Puget Sound.



Shoreline and Estuaries

Seattle has about 33 miles of Puget Sound shorelines forming the western boundary of the city that are a part of the Puget Sound ecosystem. The nearshore environment of Seattle includes intertidal and shallow subtidal areas as well as terrestrial habitats. These shorelines provide a complex physical and biological habitat that is important to both anadromous and marine fish species. The shallow water habitat of these marine shorelines is highly productive with abundant marine algae, kelp, eelgrass, and diatoms providing primary production. A wide variety of invertebrates (worm, clams, sea stars, crabs, etc.) live within and on these shoreline substrates. Many species of marine and anadromous (salmon) fish spend a portion of their life cycle in the shallow waters of the nearshore environment.

Estuaries are the aquatic transition zones between streams and marine waters. Seattle has a rather typical, although highly modified, estuary within the Duwamish River. This estuary extends from the river mouth at the north end of Harbor Island to about river mile 11 south of the City's limit. Within the city, the Duwamish River estuary is primarily a dredged navigation channel commonly referred to as the Duwamish Waterway. Although substantial inter-tidal habitat restoration efforts have taken place in recent years, the shoreline and riparian habitats remain highly modified for commercial, industrial, and flood control purposes.



A second highly modified estuary also exists at Salmon Bay in the area between the Hiram M. Chittenden Locks and Shilshole Bay. Although a small stream historically discharged to an estuary upstream from the present day Locks, the estuary now begins with the discharge at the Locks. Other very small estuaries occur at the mouths of small streams that discharge directly into Puget Sound. Streams such as Pipers Creek and Fauntleroy Creek have very small estuarine areas constrained by urban alterations to the surrounding landscape. Longfellow Creek technically has an estuarine area that occurs within the large culvert that discharges into the Duwamish estuary, rather than natural habitat. Puget Creek has a restored estuary that discharges into the middle portion of the Duwamish estuary.

Other Priority Habitat & Species Areas

In addition to the aquatic areas critical for salmon and other species, Seattle also has terrestrial habitat essential for species including Bald Eagle and Great Blue Heron.

CITY CLERK

Such areas are considered to be critical for the long term viability and proliferation of certain native fish and wildlife species. FWHCA's include all areas identified by the Washington State Department of Fish and Wildlife (WDFW) as priority habitat and species areas, urban natural open space habitat areas and bodies of water that provide migration corridors and habitat for priority species of fish.

Urban wildlife habitats are typically naturally vegetated areas which provide shelter, feeding, breeding and rearing areas necessary for interrelated plant, animal, fish and insect communities to live and grow. Habitat areas provide botanical and biological diversity necessary for sustained, fully functioning ecosystems. Ecological functions such as stormwater management, flood control, improved water quality, and erosion control are secondary benefits of habitat areas.

A habitat area's value to wildlife depends on several attributes. The most significant feature for both wildlife diversity and abundance is the size of area. The next most important quality is plant productivity. Plant productivity is generally highest when nutrients, sunlight, and water are abundant. For this reason, wetlands and riparian corridors are typically the most productive environments and have the greatest diversity and abundance of wildlife. Steep slope areas are also often valuable wildlife habitat areas.

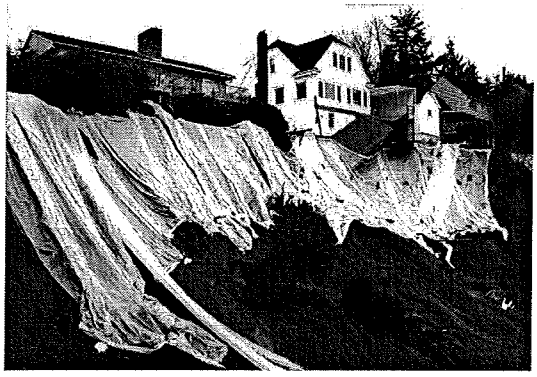


Geologic Hazard Areas & Steep Slopes

Geologic hazard areas in Seattle include potential liquefaction areas and areas that are susceptible to landslides and earth movement due to unfavorable geologic conditions, steep inclination, seismic activity, stream incision, and wave action. These factors exist separately, or in combination, within certain areas of the city.

Landslide Prone Areas

Landslide-prone areas can present a major hazard to people and structures. The identification of these areas is necessary to support grading, building, and foundation design and other land development regulations to reduce the risk of property damage and potential personal injury or death. In many cases, special engineering considerations should be integrated into a structure's design to provide for an acceptable level of risk. In some extreme cases, the level of risk may be so great that a structure should not be constructed in a particular location. Landslides can also block roadways during heavy rains, preventing emergency vehicles from reaching their destination. Additional property damage and injuries often result, as well as other economic losses.

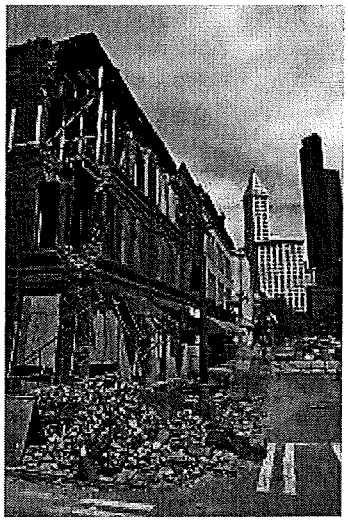


Steep Slope Areas

Steep topography increases the potential for adverse impacts related to development activities, including impacts to adjacent properties, public rights-of-way, water bodies, and public natural

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resources including fish and wildlife habitat.



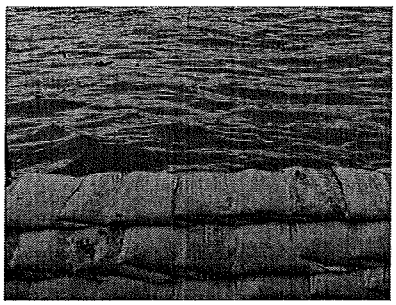
Liquefaction Prone Areas

Liquefaction occurs in relatively loose, cohesionless, saturated soils, when these soils are temporarily transformed into a quicksand-like state, most commonly as a result of earthquake-induced ground shaking. These types of soils are often associated with fill areas. Structures or infrastructure located above or within liquefiable soils can be more susceptible to damage if liquefaction and its associated effects (loss of shear strength, bearing capacity failures, loss of lateral support, ground oscillation, lateral spreading, flow failure, etc.) are not considered in structural design.

Flood Prone Areas

Flood-prone areas are defined as those areas that would likely be covered with or carry water as a result of a 100 year storm, or that would have a 1% or greater chance of being covered with, or carrying water in any given year. Some of these areas are rather obvious and are readily identified, such as the floodplains of existing rivers and streams. Floodplains are the generally flat, low-lying areas adjacent to a river or stream that are periodically flooded during storm events.

Development within waterways or flood-prone areas has the potential for creating flooding problems on-site or on neighboring properties. Lack of careful planning in flood-prone areas and waterways can result in increased public costs to alleviate flood damage, costly litigation, and an increased demand for City emergency response services.



Abandoned Landfills

An abandoned landfill is a site where solid waste was disposed of with or without a permit at some time in the past. Sites identified as abandoned solid waste landfills have been mapped in Interbay, Genesee (Rainier Valley), Montlake (University), Haller Lake (North Aurora), West Seattle, Green Lake, Judkins Park, Washington Park (arboretum), Rainier Sicks Stadium, and Sixth Avenue South. Development on the sites of abandoned solid waste landfills raises concerns about methane gas seepage, ground subsidence and liquefaction.



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II. ANALYSIS & RECOMMENDATIONS

In updating the City's critical areas regulations and policies, the latest scientific studies and recommendations for reducing hazards and preserving the unique ecological conditions of critical areas were taken into account, in accordance with State requirements. In addition valuable experience gained through the implementation of critical areas regulations since 1992 is being used to inform the update.

In the 13 years since the original critical areas ordinance was adopted, considerable knowledge on the location and function of critical areas in Seattle has been acquired. Understanding the ecological role urban creeks play and how best to protect their functions has greatly improved due to work by the City and the scientific community. However, gaps remain in our knowledge and understanding.

Work continues on a variety of projects that will further our understanding of the ecology of Seattle. For example, efforts on the part of the City and regional partners have increased our understanding of salmon habitat and led to measures to protect salmon that use Seattle's waterways. In addition, after the severe landslides of the winter of 1996/1997 the City commissioned the "Seattle Landslide Study" which has greatly improved mapping knowledge of known and potential landslide hazards in Seattle. In 2004, a study was undertaken to map wetlands in Seattle. This study, the first of its kind in the city, is scheduled to be completed in 2005 and will greatly improve our knowledge of the location of wetlands in the city. This information will be useful in gaining a greater understanding of the ecological function that wetlands play and how to maximize this benefit. Throughout 2005 and 2006, DPD and Seattle Public Utilities will be engaged in an effort to determine the ecological characteristics of all Seattle's creeks and streams, further providing the City with more accurate information on the functions and values of our urban streams.

With the knowledge gained through these and other efforts, through the consideration of the current scientific data and study, and through the careful deliberation and thoughtfulness of Seattle's citizens, the following recommendations have been prepared for amending Seattle's critical areas regulations.

The proposed changes to critical areas regulations can be divided into two categories.

1. Clarifications of existing provisions through experience in administering critical areas regulations. This includes reorganizing the code to assist the public and City staff to understand and consistently implement regulations. Furthermore, current code provisions that are ambiguous have been written more affirmatively to clarify what provisions apply and when they are applicable.

2. Amendments are proposed that are based on BAS review, to more adequately protect critical areas. All provisions of the code have been reviewed with consideration of the BAS. In some cases, the BAS findings are balanced with other GMA planning goals as discussed in *Section II: BAS Assessment of the Proposed ECA Code.*

In developing the proposed regulations, the following methodology was used:

1. Review and evaluation of the BAS relative to critical areas regulations and the highly urbanized nature of Seattle. The best available science report is documented in a separate text entitled *Environmentally Critical Areas: Best Available Science Review.* It is available on the DPD web site at www.seattle.gov/dpd/planning/ECAupdate.

DNS CITY CLERK

2. After analysis of the BAS, balancing the science of critical areas with other GMA planning goals (section III of this report).

3. Drafting of regulations to protect critical areas, while allowing for responsible development.

Recommended Provisions

Wetlands

Proposed changes to wetland regulations will strengthen protection for higher quality wetlands. They will protect the important ecological functions that wetlands provide and are in keeping with guidance provided by the Department of Ecology.

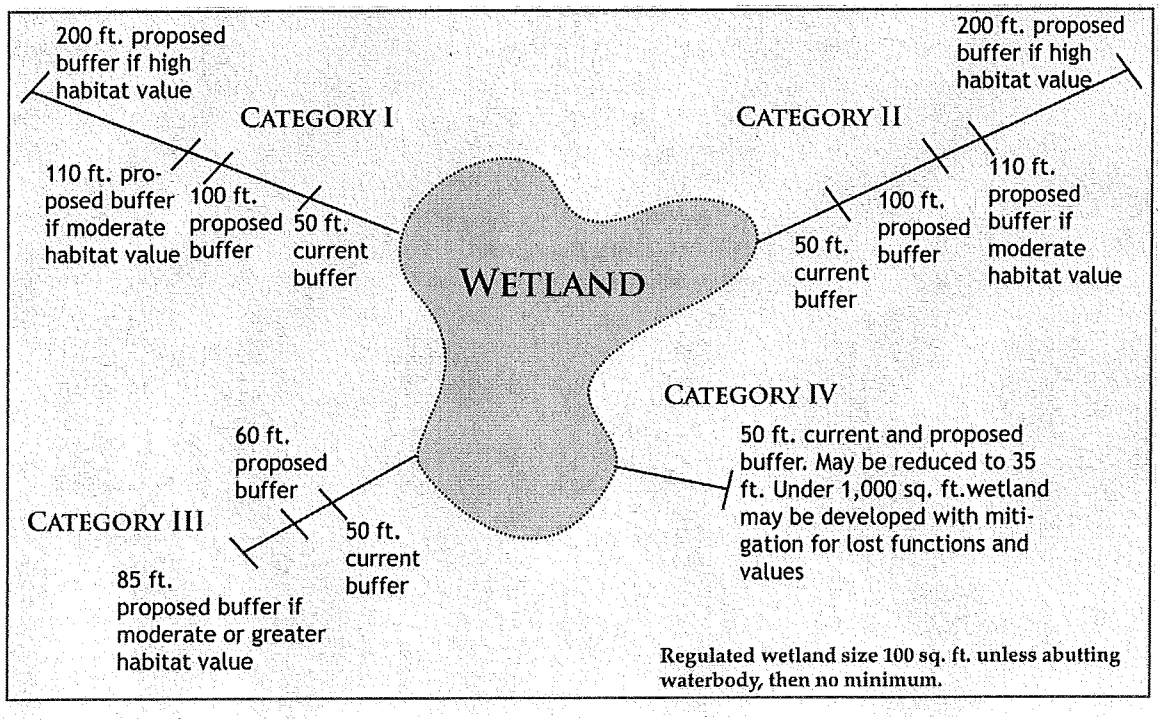
The regulation of very small urban wetlands is a continuing issue for property owners and the City. The proposal will allow for impacts to the smallest, most degraded wetlands. This balances the BAS with urban practicality and the need to allow for infill development, as per other GMA planning goals and the City Comprehensive Plan, while effectively protecting higher quality wetlands.

Regulated Size

All wetlands abutting waterbodies or part of a larger wetland system and all others greater than 100 square feet are recommended to be regulated. This size is practical to be effectively identified on urban sites and to warrant protection in an urban area. Requiring regulation of wetlands smaller than this would create an impractical burden on property owners as well as review and enforcement staff. Wetlands of all sizes abutting waterbodies or part of a larger wetland system are proposed to be regulated regardless of these considerations as they have relatively high ecological value and are easier to identify.

Wetland Categories and Buffers

Wetlands are proposed to be categorized according to the latest Department of Ecology rating system in order to be consistent with the BAS and with other jurisdictions in Western Washington. Category I wetlands are of the highest quality, while category IV wetlands are the lowest. Currently, the required wetland buffer size is 50 feet for all categories of wetlands. Buffers are recommended to be increased to 100 feet for Category I and II wetlands that have low habitat value (a



EDS CITY CLERK

score of 20 or less for habitat function when rated according the latest State Department of Ecology manual). For Category I or II wetlands that have moderate habitat function, the recommended buffer size is 110 feet. If a Category I or II wetland is shown to have a high level of function for habitat, the buffer size is recommended to be 200 feet. Though the City does not know the rating of all the wetlands in Seattle there are very few locations, the Arboretum being the main example, where these very high quality wetlands exist.

Buffer sizes for Category III wetlands are recommended to be increased to 60 feet for wetlands with low habitat function and to 85 feet for wetlands with moderate or greater habitat function.

Category IV wetlands under 1,000 square feet provide little hydrologic, water quality or habitat function. However, the regulation of these wetlands, including the required 50 foot buffer, may greatly reduce the development potential of a property. Therefore this proposal recommends that these wetlands be allowed to be developed as long as all impacts from development are fully mitigated. This will allow for development of sites containing small degraded wetlands, while not reducing overall ecological function and values.

Mapping

Currently, DPD is finalizing work on greatly improved wetland mapping that will help to ensure that wetlands can be identified early in the development process. This will help to alleviate circumstances that property owners have encountered when projects are delayed late in the development process due to the discovery of a wetland. Preliminary findings from DPD's mapping study of the city's wetlands has resulted in the identification of 733 possible wetlands. Based on preliminary assessment, 197 wetlands are estimated to be under 1,000 square feet, but exact information on the categorization of these wetlands is not known.

Mitigation

Whenever possible, it is desirable to limit impacts to wetlands. Recommended mitigation would allow for some wetland functions to be replicated on or off-site. When it is not possible to avoid impacts, then the intent is to minimize and mitigate the unavoidable impacts.



Required mitigation plans will need to be consistent with the latest Department of Ecology guidelines, which require that mitigation actions not result in net loss of wetland function. Mitigation ratios are suggested to be altered to meet the latest guidance from the Department of Ecology. Mitigation monitoring plans will be required for a period of five growing seasons or a period of time sufficient to ensure that the required mitigation is functional.

Buffer Averaging

Buffer averaging is recommended to be allowed when it can be shown that averaging will not reduce wetland functions or values. For example, if the buffer is reduced by 10 feet on one side, it must be increased by an equivalent amount elsewhere. A wetland's buffer width is recommended to never be less than 75 feet for Category I and II wetlands generally and 140 feet for Category I and II wetlands that a have a high habitat value, 40 feet for Category III wetlands generally and 60 feet for Category III wetlands that have a high habitat value, and 35 feet for Category IV wetlands.

Third Party Review

A provision allowing for third party review is proposed. Third party review allows the Director to require review of a wetland rating or delineation by a third-party

CITY CLERK

wetland consultant when the professional opinions of an applicant's representative and the Department cannot be reconciled.

Riparian Corridors (Creeks & Small Lakes)

The regulation of development over and along creeks is proposed to be strengthened to more closely match the recommendations found in the BAS. These areas provide habitat for fish, including salmon, and other wildlife. The riparian corridor contains the watercourse and a riparian management area on either side of the watercourse.

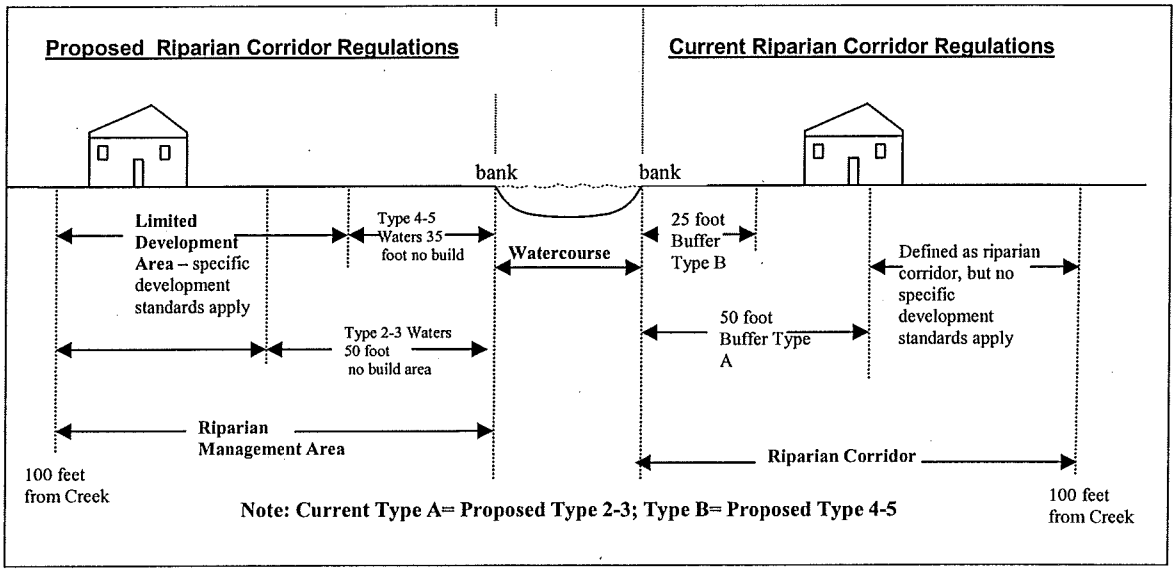
Categorization System

The definition for riparian corridors has been changed to reflect the Washington State Stream Typing System. Using the state typing system provides a scientifically based method for rating streams. The regulatory effect will be negligible as the current Class A riparian corridor definitions (a perennially flowing stream and/or one that supports salmonids) are the same as the parameters for a Type 2-3 stream in the proposed ordinance. Similarly, the current Class B riparian corridor, which is defined as an intermittent stream without salmonids, is comparable to the definition of a Type 4-5 stream in the proposed ordinance.

Corridor Width

The current width of the regulated riparian corridor area is proposed to remain 100 feet with a 50 foot no-build area for perennial and fish bearing creeks. For other creeks the no-build area is recommended to be increased from 25 feet to 35 feet, to be within the range suggested by the BAS for providing adequate protection. The 100 foot riparian corridor with a 50 foot no-build area proposed for fish bearing and perennial creeks is within the range of protection suggested by the BAS, therefore no change is proposed.

Additional development standards are proposed for the limited development areas of a riparian corridor located beyond the no-build area. Currently, no specific standards apply. The proposed development standards are intended to, in part, replicate the protection of ecological functions that are suggested by the BAS. These standards include requiring stormwater control, vegetation, and no more than 35 percent impervious surface. These measures are intended to create a larger effective riparian area by providing higher water quality, flow control and habitat protection. If the applicant can show, through the submittal of a restoration plan, that the proposed restoration will result in greater protection of the riparian corridor, then these standards may be waived. As proposed a



CITY CLERK

monitoring plan is required to ensure that riparian vegetation is successfully established.

Buffers, while important, are only part of what is needed to reduce the impacts of stormwater runoff. In many instances, stormwater pipes connect directly to creeks. This water is often un-treated and can bring a large influx of water into the creek system during significant rain events. High flows can scour the creek bed which impacts fish habitat and rearing areas. The stormwater also carries pollutants which can be harmful to fish and wildlife. Additional actions are necessary to fully protect and restore Seattle's creeks, rivers and lakes. Other regulations and City programs that are intended to address stormwater impacts are discussed in *Section IV, Associated Programs and Regulations*.

Exemptions and Subdivisions

Existing exemptions to allow development in close proximity to creeks are recommended to be tightened or eliminated. This includes the elimination of the provision that allows buffer reductions if development on adjacent lots is already less than 50 feet from the watercourse. Also suggested for elimination is the exemption for buffer restoration when a single lot is located adjacent to properties where natural vegetation has already been removed. In addition, the ability to subdivide land within riparian corridors is recommended to be restricted in order to reduce the cumulative degradation in the function of the riparian corridor, in keeping with the BAS.

Creek Daylighting

Creek daylighting and restoration has become a topic of increasing interest to citizens. Creek daylighting refers to the uncovering of a creek which was previously located in an underground pipe. Originally Seattle had many creeks draining its varied topography. As population densities increased and greater development occurred, many of these creeks, or parts of these creeks, were piped and culverted. In some cases, the purpose of these actions was to protect public health when sewer systems were not well developed and septic systems or sewage ponds leaked into creeks. In other cases, the course of creeks conflicted with desired transportation infrastructure or development patterns. Seattle has come to re-value its creeks as ecologically important and for their contributions to the quality of city life.

The creek restoration development standards and riparian corridor definitions have been updated based on policy and legal review. The development standards are changed so there is no limitation on development over pipes or culverts. Fish passage is regulated by existing state and federal law. This is because the GMA authorizes the protection of existing habitat in critical areas, but not restoration. The proposal does however provide greater incentives, such as modification of the development standards and a reduction in the required parking, for property owners to daylight creeks. In addition to this regulatory approach to encourage daylighting the City will be exploring incentives to encourage daylighting when it represents a fiscally and ecologically sound method to improve aquatic health.

Shorelines

Fish and wildlife habitat conservation areas found in shoreline areas are required by state law to be regulated as ECA's. As nearly the entirety of the Seattle shoreline, including Lake Washington, Lake Union, Elliott Bay and the Duwamish River are migratory corridors for salmonids these areas are to be considered fish and wildlife habitat conservation area critical areas. These areas are also the most heavily urbanized critical area in Seattle which creates a significant regulatory challenge.

Much of Seattle's past, present, and likely future economic and cultural life is tied to the shoreline. The ECA code therefore needs to allow human activity to occur

CITY CLERK

along the shoreline, while doing all that is reasonable to protect fish and wildlife. Therefore specific provisions are proposed to minimize impacts to water quality and to promote quality habitat for fish and wildlife, specifically for anadromous fisheries (salmonids).

Buffer
The proposal is to have a 100 foot buffer landward from the ordinary high water mark (OHWM). The intention of the proposal is to provide protection of existing fish and wildlife habitat in the shoreline environment, while allowing commerce and other activities to continue in these areas. Therefore, for water dependent and water related uses, such as marine industrial and ship borne cargo facilities, development may occur up to the water's edge with mitigation required to offset any impacts to habitat within the 100 foot critical area buffer. If vegetation is removed or impervious surface is increased within the buffer, then mitigation shall be required. When no vegetation is removed or there is no increase in impervious surface, then no mitigation is proposed to be required.

A 100 foot buffer is also proposed for non-water dependent or water related uses. Within this buffer development may occur to within 25 feet of the shoreline edge as long as any impacts to the buffer are mitigated. No further expansion of lot coverage is allowed within 25 feet of the OHWM except when adjacent structures less 100 feet from a proposed residential structure are located closer than this. If this is the case then residential structures may be built in equal proximity to the shoreline as adjacent structures. Existing development is grandfathered and remodels and additions that do not increase the building footprint in this area are allowed. In addition, the small project waiver and ECA exception provisions may allow intrusions into this area.

Mitigation will typically consist of native plantings along the shoreline, but may consist of other actions, such as a decrease in the nearshore overwater coverage, bank softening or actions that offset impacts to the critical area and buffer. Mitigation projects should be located in the following order of preference:
As close to the shoreline edge as possible, on site within the critical area or buffer, or off site within a shoreline critical area.

The ratio (area of impact to the area required to be restored through mitigation) is recommended to be 1:1 on site or within a quarter mile from the location of the development and 3:1 when the mitigation occurs further away. This mitigation ratio may be reduced to 2:1 if a 5 year bonded monitoring program is put in place to ensure that the mitigation will be successful.

Bulkheads and Overwater Coverage
Property owners must mitigate for new overwater coverage either on or off site. New bulkheads are recommended to be allowed only when proven necessary for the continued operation or expansion of a water dependent or water related use. Otherwise a bioengineered solution for stabilizing the bank is proposed to be required. Bioengineered solutions include stabilization techniques that incorporate plant and other natural materials to stabilize the shoreline. These provisions will protect the existing ecological function within the critical areas buffer, while allowing human activity to continue.

It's proposed that major repairs of existing bulkheads be allowed only when it is shown that a bioengineered solution will not achieve the same level of property protection. This is generally in keeping with existing DPD practice.

Subdivisions
It is recommended that, similar to the rules for riparian corridors, each new lot created through a subdivision of land be required to have a building site outside the critical area and buffer. Subdivisions will be conditioned to restrict development in the buffer to water dependent or water related uses or to single family residential uses. For single family residential uses the

SMS CITY CLERK

requirements are aligned with the buffer and setback requirements.

Relationship to Other Codes
The Shoreline Master Program and the Stormwater, Grading and Drainage code also act to protect fish and wildlife habitat conservation areas in shorelines. Provisions in the Shoreline Master Program include measures to reduce the impact of shoreline hardening and promote the softening of the shoreline, allowing natural shoreline processes to take place. The Shoreline Master Program also includes requirements to limit the effect of new development on natural shoreline processes. There are additional stormwater and drainage control requirements for projects within critical areas, as well as stricter grading thresholds for sites within shoreline areas. The Stormwater, Grading and Drainage code is likely to be updated in 2006, and the Shoreline Master Program by 2009.



Priority Habitat & Species Areas

In addition to the riparian corridor and shoreline provisions, which protect priority habitat and species including salmon, specific provisions are added to protect state listed priority species such as Great Blue Heron and Bald Eagles. A Great Blue Heron management plan, developed in conjunction with the State Department of Fish and Wildlife, is proposed to be used to manage and preserve the remaining nesting areas for these birds in Seattle. The proposed plan offers protection for Great Blue Heron by limiting construction activity within 500 feet of known rookeries during their crucial nesting period. If the plan is not acceptable to a property owner, they may contact DPD and the State Department of Fish and Wildlife to develop a site specific management plan detailing how disturbance to the nesting herons would be minimized. The Great Blue Heron management plan will not be adopted as a part of this ordinance, but is being developed concurrently. A management plan is currently being used to protect Bald Eagles.

In addition, a process and criteria are included for citizens to nominate additional species of local importance. This is intended to be used to add protection for species that are not currently listed by state or federal agencies.

Landslide Prone Areas

Landslide prone area development standards have been successful in allowing for safe construction in landslide prone areas of the city. However, several provisions are proposed to be amended.

The current code defines sites with slopes greater than 15% to be landslide prone areas. This definition, in some instances, eliminates review of sites which, based on soils and hydrogeology, as well as slope, would otherwise be considered to be a landslide prone area. The definition for landslide prone areas is proposed to be amended to eliminate the 15 percent slope provision. The result of the proposal would be regulations that are based on all relevant factors (soils, hydrology and topography) in determining what type of review should occur. This may result in a small increase in the number of sites required to be reviewed as landslide prone areas. The definition of landslide prone area is also proposed to be revised in order to reference the latest and most accurate information on location and nature of known and potential landslide areas. In addition, the proposed definition will cite "The Seattle Landslide Study" representing the most accurate information on the location of known and landslide prone areas.

A requirement for public notice of work in landslide prone areas is proposed to be eliminated. This notice requirement was intended to notify the surrounding

DNS CITY CLERK

community of development in a landslide prone area prior to construction. However, it has given the false impression that the development application could be influenced by public comment. Only in rare cases has information about site conditions been provided to DPD which has helped to mitigate hazards and construction impacts.

Code provisions related to permit renewals in landslide prone areas, which were previously located elsewhere in the code, have been consolidated with the other landslide prone areas standards. Code provisions that were added in early 1997 to allow for a moratorium on building in landslide-prone areas in the winter of 1996/1997 are proposed to be repealed. The ordinance that enacted these provisions expired on April 15, 1997.

Steep Slope Areas

Development Standards

The primary regulations applicable to steep slopes are clarified to meet the intent of the City's steep slope policies. Currently, the code states that development "shall be avoided on areas over 40 percent slope whenever possible." When it is not practicable to avoid development, land disturbing activity is limited to 30 percent of the steep slope area.

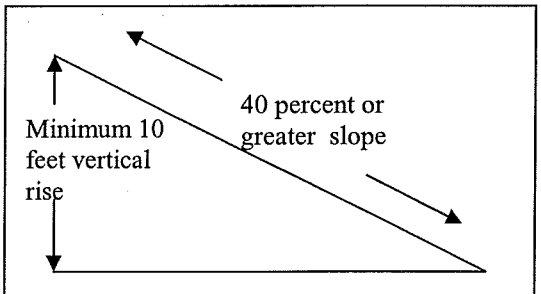
Current code provisions effectively balance environmental protection and reasonable use of property. However, to help ensure that there is equitable and consistent administration of exemptions to steep slope regulations, a variance is proposed to be required to allow a property owner to disturb up to 30 percent of a steep slope area. The variance process will help ensure consistent standards upon which to base decisions to allow steep slope development. This will also require public notification whenever development is proposed in a non-exempt steep slope. The proposal also clarifies that steep slopes are considered landslide prone areas and are also regulated by landslide prone area development standard.

Definition

The definition of steep slopes is proposed to be revised in order to clarify how steep slopes are measured and delineated. In addition, a definition is included for how retaining structures in steep slope erosion hazard areas are to be regulated. A provision is proposed stating that if a retaining structure over 10 feet tall abuts a steep slope area on one side the retaining structure is to be considered a landslide prone area only, not a steep slope. This will help to end misunderstanding over how these structures are regulated.

Steep Slope Exemptions

The code includes exemptions from the steep slope development standards. The counting of land that is exempt from the steep slope development standards is proposed to be allowed for subdivision purposes. As these areas are considered exempt from the development standards, there is little logic to exclude the area for subdivision purposes. Downtown and highrise zoned land are proposed to continue to be exempt, now outright, from steep slope development standards as these areas are typically developed using complete site engineering, are anticipated to accommodate the greatest amount of growth, and have in all cases been previously developed. The exemption for commercially zoned properties in "highly developed areas" is proposed to be eliminated. Because it is ambiguous this provision it is very difficult for the city to administer and for property owners to



Definition of a Regulated Steep Slope

CITY CLERK

understand. The result of the elimination of this exemption is that future development of several commercial properties may have to meet steep slope development standards.

The current exemptions for slopes with a vertical elevation change of up to 20 feet and not part of larger steep-slope system or slopes which have been created through previous legal grading activities are proposed to be modified. The previous legal grading provision is grouped with the exemption for steep slopes resulting from right of way improvements as the basis for allowing these exemptions. The rationale is that if legal grading, which includes right of way improvements, were to create a steep slope, it is not reasonable to then regulate these areas as critical areas.



The "steep slope system" concept has no agreed upon scientific or technical definition and is consequently difficult to administer. Therefore, a numerical standard is proposed to define where one steep slope ends and another begins. This proposed standard, areas that are less than 20 feet in vertical rise and that are 30 feet or more from another steep slope may be exempt, creates a measurable standard that will make the code more understandable and more straightforward to administer. Thirty feet is proposed to define the distance between distinct steep slopes as this represents double the typical 15 foot steep slope buffer. The rationale is that if a steep slope is located further away than a neighboring steep slope's buffer, then the steep slopes are not directly related.

Liquefaction Prone Areas and Other Seismic Hazards

The code is proposed to be amended to more clearly state that liquefaction prone areas are to be regulated primarily through the provisions of the Building Code and the Stormwater, Grading and Drainage Control Ordinance. These codes adequately regulate development in these areas. There is a provision proposed to be added stating that the ECA general development standards do not apply, as these standards are not necessary to protect safety and welfare on liquefaction prone sites.

The Building Code (including Section 1615) adequately addresses other seismic hazard issues. In addition, the Seattle Office of Emergency Management is currently developing a warning system along the waterfront to mitigate impacts from, among other possible manmade and natural disasters, tsunamis.

Flood Prone Areas

Very minor changes are made to the regulations for flood prone areas. The requirement of a drainage control plan for all proposed development is modified, as this is not necessary in all cases. Also, the code is changed to state that development shall be no less than 2 feet above the 100 year flood elevation to align it with SMC 25.06: the Floodplain Ordinance.

Abandoned Landfills

No substantive changes are proposed to the regulations for abandoned landfills.

City Projects

The application of ECA requirements to projects proposed by City departments have been revised to provide greater clarity. Greater responsibility is given to departments for ensuring compliance with the ECA code. Departments are required to maintain records documenting how they have met the provisions of the ECA code. Continuing work will be required on the part of City agencies to ensure that the City is setting a high standard for

DNS CITY CLERK

environmental stewardship and that standard best management practices are used.

Application Requirements and General Development Standards

There are no changes proposed to the application requirements, however they are placed in a separate section from the general development standards. This is proposed to make it more clear what materials and information shall be provided as part of an application and what standards shall be applied as a part of the review.

The general development standards, which are regulations applicable to all critical areas unless otherwise noted, are clarified. Proposed is a standard stating that power lines are not required to be placed under ground by any provision of this code. Also included is a pesticides general development standard that guides when pesticides may be used in critical areas and buffers.

Exemptions

The current ECA code allows for a variety of exemptions that generally relate to the rebuilding or remodeling of existing structures, ameliorating the impact of emergencies, constructing small additions, or building that does not negatively affect ECA's. This includes areas that are proposed to be newly regulated due to increased buffer sizes. While these exemptions are proposed to be modified, none are proposed to be eliminated. For example, the exemption for emergency situations would be modified to make it clear that it applies only to remedying an immediate threat to life and property. Also, no application is proposed to be filed for an exemption when a mapping error has been made.

Small Project Waiver

One exemption that is proposed to be substantially changed is related to structural additions or accessory structures. Currently up to 750 square feet, approximately 36 feet by 21 feet, of building addition or accessory structure may be built adjacent to a creek or wetland or in a steep slope. This allowance is inconsistent with the BAS and does not provide adequate protection of these critical areas.

Flexibility in allowing small additions to houses that are already sited within critical area buffers when it is not practicable to avoid impacts remains an important consideration. Therefore, a small project waiver is proposed to replace the current 750 square foot exemption. The intent is to allow for timely determinations and approvals instead of a more rigorous, costly and time consuming exemption approval process. This small project waiver is proposed to allow disturbances of up to 150 square feet in riparian corridors and wetland buffers, 300 square feet in steep slope areas, and 750 square feet in landslide-prone, liquefaction-prone, flood-prone and abandoned landfill areas. This waiver will be limited to the portion of the site furthest from the critical area, whenever possible.

Mitigation in the form of plantings in the critical area or buffer will be required to offset any impacts from the small project. In addition the Director may require measures to protect the remainder of the ECA and/or buffer. Larger intrusions into an ECA will require an exception to ECA requirements.

These disturbance allowances are cumulative, therefore no further development in the ECA would be allowed under the provision once the square foot maximum has been reached. In flood-prone areas development is regulated through the SMC 25.06 Seattle Floodplain Development Ordinance and this proposed "small project waiver" does not supersede the authority of SMC chapter 25.06. Protective fencing is required to protect the remainder of the critical area. In addition, the Director may require additional measures as appropriate to protect the critical area.

CITY CLERK

Yard and Setback Variance to Preserve ECA Buffers

Provisions allowing for required yards and setbacks to be reduced in order to preserve ECA buffers are largely the same as those currently in the ECA code, with minor points of clarification made.

Subdivisions, Short Subdivisions, Lot Boundary Adjustments

Subdivisions and short subdivisions divide land to create a number of parcels upon which individual structures can be built. The ECA provisions related to subdivision of land are clarified to ensure that impacts to critical areas are minimized as a result of a land subdivision, and that non-disturbance areas are clearly identified on a property.

Lot boundary adjustments are recommended to be included in these provisions as they may also create an impact on critical areas. Lot boundary adjustments do not create new parcels, but rather move property lines to reconfigure existing parcels. Also clarified is that unit lot subdivisions are to be excluded from review under these criteria.

Administrative Conditional Use (ACU) Criteria to Regain Development Credit

These criteria are not changed in substance, but are simplified and clarified to make them easier to understand and use.

Trees & Vegetation

Overall, there is greater emphasis on the use of plants native to the Pacific Northwest and on the removal of non-native or invasive plant species in ECA's, whenever possible. The tree and vegetation removal permit is recommended to be eliminated for disturbance less than 1,500 square feet. In its place, removal of vegetation in certain ECA's is prohibited unless the removal is for:

- Normal and routine pruning and maintenance of up 750 square feet of trees and vegetation lawfully maintained prior the adoption of the ordinance. Also lawns, paths and landscaping lawfully maintained in areas that were not a regulated critical area or buffer prior to the adoption of the ordinance.
- Normal and routine pruning and maintenance performed by or under the direction of a qualified professional pursuant to a tree and revegetation plan.
- Part of an issued building or grading permit consistent with a tree and vegetation plan.
- Restoration, including removing non-native or invasive plant species, to promote maintenance or creation of a naturally functioning condition.

The submittal of a tree and revegetation plan will be used to ensure that the proposed action will minimize ECA disturbance and create a better functioning natural condition of the property. Above 1,500 square feet of disturbance a greater level of review will be required if plan and SEPA review is triggered.

The proposal removes a regulatory impediment to allowing small voluntary restoration efforts by eliminating the need to pay for a permit which requires a costly environmental (SEPA) review.

Violations and Enforcement

These sections of the code are proposed to be modified to assist staff and the City Attorney's office in the enforcement of this ordinance. To deter unlawful tree cutting, a $5000 penalty is proposed to be assessed for the illegal removal of any tree over six inches in caliper size within critical areas and buffers.

CITY CLERK

BAS ASSESSMENT of the PROPOSED ECA CODE

The following document (Included as Section III of this report) presents an assessment of how the proposed code has included the best available science and how this has been balanced with other Growth Management Act (GMA) planning goals.

CITY CLERK

III. ASSESSMENT OF THE PROPOSED ECA CODE

Critical Areas Protection & Growth Management Act (GMA) Planning Goals

Concentrating new development within urban villages and centers, while maintaining the existing character of neighborhoods is a centerpiece of Seattle's growth management strategy. Seattle must accept the challenge of growth management in order to maintain a robust economy while protecting its natural heritage for current and future generations. Protection of critical areas is a key part of maintaining Seattle's quality of life. This section of the report addresses how the ECA code balances the GMA requirement that critical areas be protected with other GMA and City goals. Also discussed is how best available science (BAS) has been used in developing the proposed amendments to ECA regulations.

Overall, the proposed ECA regulations balance critical area protection while allowing reasonable development opportunities that will not unduly compromise natural systems or subject the public to hazardous conditions. The BAS has been considered and special consideration given to the protection of anadromous fisheries in the development of all provisions of the proposed code.

Growth and Development Impacts

In addition to protecting critical areas, Seattle must consider other GMA requirements and planning goals, such as accommodating urban growth, providing affordable housing, supporting economic development, and protecting private property rights. For example, in order to comply with the GMA, Seattle is required to accommodate its share of the region's anticipated growth, equal to 47,000 new households and 84,000 new jobs between 2004 and 2024. Eighty-five percent of this growth is estimated to be accommodated in urban villages and centers, with 15 percent, or 7,000 households, in the remainder of the city. This proposal will not have any substantial effect on the ability of the City to reach these targets.

A minor amount, approximately 2 percent, of land within urban villages and centers is currently mapped as ECA's, where development restrictions apply (riparian corridor, steep slope or wetland). Development potential therefore is not significantly impacted by the ECA code as the urban villages and centers are where most development is planned to occur. As this proposal is only marginally increasing the amount of land regulated by the current ECA code, it will affect a small quantity of parcels in urban villages, centers and other areas of the city.

Single family zoned land outside of urban centers and villages supply important opportunities for housing development and contain a greater amount of critical areas. However, on parcels that contain critical areas the majority or all of the density allowed under zoning is typically achievable. Generally, this is allowed through the clustering provisions which allow higher density on portions of parcels that are outside of a critical area. In addition, reasonable use must always be allowed on any parcel, irrespective of whether an ECA exists. As such, any minor effect on the growth capacity of a particular parcel will not affect the ability of the City as a whole to accommodate growth.

Wetlands

The recommended wetland classification system and development standards have been guided by information and recommendations provided by the State Department of Ecology.

Wetland Classification

The recommended wetland classification system to be employed by the City of

DNS CITY CLERK

Seattle is the *Washington State Wetland Rating System for Western Washington: Ecology Publication #04-06-25.* This recently revised rating system is a product of the State Department of Ecology review of the BAS. Seattle has considered this publication in drafting the recommended wetland development standards. Seattle has also taken into consideration additional information from qualified scientists.

Regulated Wetland Size

Wetlands greater than 100 square feet, or wetlands of any size if they are adjacent to a Type 1-5 water or part of a larger wetland system, are recommended to be regulated as this size is practical to be effectively identified on urban sites and to warrant protection in an urban area. Requiring regulation of wetlands smaller than this, except where noted above, would create an impractical burden on property owners as well as review and enforcement staff, and therefore this represents a reasonable balancing of critical area protection and other considerations.

Wetland Buffers

The BAS states that buffers are effective in protecting the functions and values of wetlands. Recommended buffers recognize that in the majority of instances wetlands in Seattle play a significant water quality and hydrologic role in the ecological health of the city and are less critical in providing habitat for wildlife. This is based on the assessment of City environmental specialists. The buffer recommendations were guided by the state Department of Ecology (DOE) publication *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands.*

Category I and II Wetlands

The recommended 100 foot wetland buffer for Category I and II wetlands that rate low for habitat function is consistent with the BAS as the buffer acts to protect the functions and values of these wetlands. Additional measures to minimize other impacts such as limitations on toxic runoff and placement of protective fencing is also proposed to be required. These measures are implemented through the application of the wetland development standards, the general development standards of the ECA code and the Seattle Stormwater, Grading and Drainage Code (SMC 22.800).

For Category I and II wetlands that have a high level of function for water quality and a low level for habitat, the BAS suggests that 100 foot buffers provide adequate protection. For Category I and II wetlands that have moderate habitat function, additional protection is proposed to be achieved through a maximum 110 foot buffer. For the extremely rare Category I and II wetlands that have high habitat function, additional protection may be achieved through increased buffer width, to a maximum of 200 feet. Additionally, the implementation of the recommended fish and wildlife habitat conservation areas development standards may provide additional protection for high habitat wetlands.

Category III Wetlands

The recommended 60 foot buffers for Category III wetlands will protect the functions typical of these wetlands in Seattle when coupled with additional protective measures, according to the BAS. These measures are implemented through the application of the wetland development standards, the general development standards of ECA code and the Stormwater, Grading and Drainage code. There are few category III wetlands that have high habitat functions, but in those rare circumstances an increased buffer size to a maximum of 85 feet will provide necessary additional protection. Furthermore, depending on the type of habitat provided, additional protection may be achieved through the implementation of the recommended fish and wildlife habitat conservation areas development standards.

Category IV Wetlands

The recommended 50 foot buffer for category IV wetlands protects the functions

DNS CITY CLERK

and values of this category of wetlands, according to the BAS.

Category IV wetlands under 1,000 square feet are recommended to be allowed to be disturbed as long as mitigation is provided that fully off-sets impacts to ecological functions. This is based on the fact that these wetlands provide very limited ecological function and their preservation can severely restrict development capacity on some parcels. Under the BAS, ideally no wetlands would be allowed to be impacted. However, the proposal represents a legitimate balancing of the BAS with the need to accommodate growth. The provision does not allow disturbance of these types of wetlands if they are part of a larger wetland system or abut any Type 1-5 water. This provides protection to keep wetland and riparian ecological systems intact even if portions of the system are rated as Category IV under 1,000 square feet.

Reduction of Category IV Wetland Buffers

Reductions of Category IV wetland buffers is recommended to be allowed only when necessary to relieve a property-related hardship while still providing protection in keeping with BAS. A variance is proposed to be required before allowing these reductions and a minimum buffer width of 35 feet must remain.

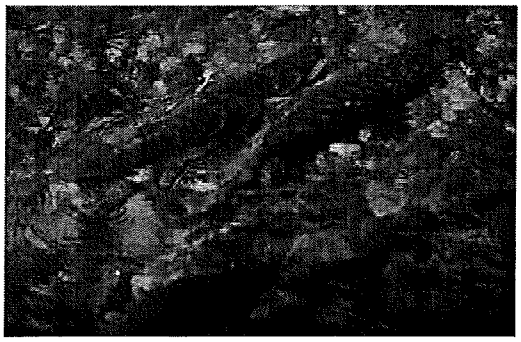
The following sequence is proposed to be followed in order to protect the ECA and buffer to the maximum extent possible, while relieving hardship:

1. reduce non-ECA required yards or setbacks (SMC Chapter 23),
2. apply the buffer averaging provisions,
3. reduce the wetland buffer to the minimum necessary to relieve the hardship or to require 35 feet, whichever is less.

Wetland Mitigation

Mitigation means sequentially avoiding impacts, minimizing impacts, and compensating for remaining unavoidable impacts. The proposed provisions governing wetlands provide mitigation replacement and enhancement ratios that are consistent with the BAS. The mitigation provisions protect critical areas because they require that equivalent or greater wetland functions be replicated either on or off site. Mitigation may only be used to off-set impacts in limited situations. These situations are when is a result of development allowed through a reasonable use exception, for development allowed on category IV wetlands under1000 square feet or for development allowed through a small project waiver. Use of mitigation is limited because mitigating for lost wetland acreage has been shown to be difficult and risky. BAS indicates that mitigated wetlands have not yet succeeded in replacing lost acreage or functions with any predictability. Consequently the risk to replacement of wetland acreage and their functions and values remains high. Proper monitoring can help to offset these risks.

Fish and Wildlife Habitat Conservations Areas



Riparian Corridors

As defined by the state typing system, type 2-5 waters are the creeks and small lakes (Haller and Bitter Lakes) found in the city. Given Seattle's importance as the primary urban center in the state and development patterns that have emerged over the past century, many riparian areas are already influenced heavily by existing

CITY CLERK

development. To reduce future impacts to these areas, lots created after the adoption of this ordinance would be required to have a building area that is completely outside the riparian management area.

Existing single family parcels in Seattle are small, with a median size of 5,716 square feet, and are not typically deep. Many structures are already built within 50 feet of the creeks, and many more within 100 feet, with little additional land outside of the riparian corridor to build upon. Requiring larger no build riparian areas would result in more applications for reasonable use exceptions from the development standards (through 25.09.300) without providing a benefit to the ecological health of waterbodies.

There is no agreement in the scientific literature as to the optimum widths of undisturbed vegetation needed to protect each function or sufficient to accommodate protection of all functions of a riparian corridor. There is, however, agreement in the literature that undisturbed vegetated areas of some width are protective of functions and values.

Type 2-3 Waters

Type 2 and 3 waters are generally streams, small lakes or ponds. Seattle has several Type 3 streams including portions of Longfellow, Thornton and Pipers creeks. The development standards for Type 2-3 waters (perennially flowing and fish bearing) include a 100 foot riparian management area measured landward from each bank, as suggested by the BAS. Within the first 50 feet adjacent to the waterbody, no building would be allowed under the proposal. The 50 foot remainder is a limited development area where measures to minimize the impact of development on the watercourse are required.

The provisions allow for development while minimizing impacts to the watercourse and remainder of the riparian management area. The application of higher stormwater flow control and treatment standards is consistent with the BAS as it will reduce peak flows entering waterbodies while helping to maintain good water quality. These provisions encourage the use of bioswales and other source control measures to achieve a high degree of sediment and pollution removal. The limitation on impervious surface coverage will also help to limit pollution and reduce high water flows. Requirements for vegetation in these areas will further act to inhibit runoff into streams, improve water quality and provide wildlife habitat.

If an applicant proposes an alternate plan that creates better functioning ecological conditions than by following the limited development area standards, then compliance with these standards would not be required. Possible ways to achieve this include enhanced vegetation restoration in the no-build area and other habitat restoration efforts.

The combination of the recommended no build riparian area and the development restrictions within the remainder of the corridor, provide protection that is within the range of BAS recommendations including: buffers for shade, water temperature and erosion control, removal of sediment and pollution, maintenance of benthic communities and large woody debris recruitment.

The recommended riparian corridor is sufficient to provide habitat for a variety of bird species and other small urban animals and, if fully implemented, should provide for a well functioning riparian environment. Additional code provisions are included to provide protection for Washington state priority species and habitat. The riparian corridor regulations are adequate to protect salmonids.

Type 4-5 Waters

The riparian corridor protection standards for these perennial and intermittent non-fish bearing streams include a 100 foot riparian corridor designation measured landward from both banks. Within the riparian corridor is a 35 foot no-build

DNS CITY CLERK

riparian area nearest the watercourse, with the remainder of the corridor designated as a limited development area subject to standards described above under Type 2-3 waters. The 35 foot no-build area is within the range of undisturbed vegetated areas suggested by the BAS as adequate to support the removal of pollutants and provide vegetation for urban wildlife.

These standards will act to protect the critical area in keeping with the BAS as discussed in the Type 2-3 waters section above. The recommended riparian corridor standards are intended to permit development while minimizing the impact on the watercourse and riparian area.

The recommended riparian areas corridor provisions strike the necessary balance of the goals of critical area and property rights protection.

Shoreline Habitat Areas (Type 1 Waters)

Type 1 waters are "shorelines of the state", which in Seattle includes Lake Washington, Lake Union, the Duwamish River, Elliott Bay and other marine shorelines. The BAS identifies migrating salmonids (Washington State Fish and Wildlife priority species) as using all of these areas, therefore they are all considered shoreline habitat fish and wildlife habitat conservation areas under this proposal. Fish and wildlife in Type 1 waters are proposed to be protected through a buffer requirement and provisions that reduce the use of toxic substances, require control and treatment of stormwater entering the waterbody, require reductions in impervious surface and erosion impacts during construction, and that minimize the impact of overwater structures.

The recommended buffer and the required mitigation for actions within this buffer, provide protection that is within the range of BAS recommendations including: buffers for shade, water temperature and erosion control, removal of sediment and pollution, maintenance of benthic communities and large woody debris recruitment.

Mitigation will typically consist of plantings in proximity to the shoreline edge. The required mitigation for any action detrimental to habitat within the buffer will ensure that there is no net loss of ecological function in Seattle and that the critical area is protected. In some portions of the shoreline, primarily in the industrial areas, there is no room on the site to accommodate acceptable mitigation and to allow permitted uses to continue. Therefore off-site mitigation is allowed with a greater amount of mitigation required (3:1 ratio) to off-set impacts from conducting the project mitigation farther off site. Though there is no direct BAS related to shoreline mitigation ratios, experience with wetland mitigation projects dictates that increased mitigation be required off-site to help ensure success.

Almost all of the Seattle shoreline is developed and is where much of Seattle's economic and cultural life occurs. To impose restrictions that do not recognize existing conditions and the competing interests along the shoreline is not reasonable. Therefore the science recommendations for shoreline fish and wildlife habitat protection must be considered in the light of other Growth Management Act and Shoreline Master Act planning goals. The need to provide protection is appropriately balanced with the need to continue to allow a full range of uses along the Seattle shoreline.

The proposal allows development in the critical area buffer on sites with water dependent and water related uses. The proposal also allows development in the critical area buffer on sites where adjacent houses are sited next to the water's edge. As this will be allowed only when all impacts to existing habitat are fully mitigated this proposal is an appropriate balancing of the protection of ecological function and human economic and cultural values. This proposal will allow businesses to continue to function and will maintain

CITY CLERK

the use of residential waterfront property, while requiring mitigation to off-set any potential impacts to the ecological functions of the critical area.

Allowing impacts to existing habitat when impacts are fully mitigated is an appropriate balancing of the protection of ecological function and economic and cultural values. This proposal will allow businesses to continue to function and grow, while off setting any potential impacts to the ecological function. The required mitigation is proposed to increase for sites further away.

Proposed provisions related to bulkheads and overwater coverage represent a reasonable balance of critical area protection while allowing human activity to continue.

The Shoreline Master Program and the Stormwater, Grading and Drainage Control Code, also include provisions intended to protect fish and wildlife habitat in Type 1 waters. The Shoreline Master Program includes provisions to restrict overwater coverage, to reduce shoreline armoring, to promote the softening of the shoreline, and to allow natural shoreline processes to occur. The Stormwater, Grading and Drainage code provides additional stormwater and drainage control requirements for projects within critical areas, as well as stricter grading thresholds for sites within shoreline areas. Other measures to protect and enhance aquatic habitat in the shoreline environment will be considered as part of upcoming updates to the City's Stormwater, Grading and Drainage code and Shoreline Master Program.

Other Priority Habitat & Species Areas

Recommended provisions will protect terrestrial habitat fish and wildlife habitat conservation areas. Recommended regulations provide for mitigation and protection of Washington State Department of Fish and Wildlife designated priority species and habitat areas.

Geologic Hazard Areas

Landslide Prone Areas

The definitions and development standards for landslide prone areas include the BAS for soils, geologic, hydrographic, and topographic factors.

By requiring complete site stabilization and safely sited and constructed development, the recommended development standards are intended to effectively protect the public health and safety. Accurate information on the location of landslide prone areas is currently available so these provisions can be effectively implemented citywide to maximize the safety and stability of development in landslide-prone areas.



Steep Slope Areas

The definitions and development standards are sufficient to minimize erosion and development impacts on steep slope areas. Slopes greater than 40 percent are considered to pose a significant erosion hazard, as well as landslide hazard. Due to greater risk, these areas are recommended to receive greater protection in addition to the recommended development standards that apply in landslide prone areas.

Minimizing erosion in these areas also helps to protect the City's creeks and stormwater and drainage systems from siltation. By limiting the area disturbed by construction on steep slopes, the probability of significant impact from erosion during construction is reduced,

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thereby aiding the City in its efforts to meet the requirements of its National Pollutant Discharge Elimination System (NPDES) permit. The Stormwater, Grading and Drainage Code the primary vehicle for achieving NPDES permit compliance, has been approved by federal and state agencies.

Impacts on Steep Slope Areas

Topography is one of the main, but not the only factor that contributes to an area being particularly susceptible to erosion and landslides. An inclination of 40 percent is the approximate angle of repose for loose, dry sandy soil. The presence of root systems within such a soil mass increases the tensile reinforcement to enhance stability and resist erosion. Loose soil conditions on sloping topography result from natural weathering processes as well as human-induced disturbances. Therefore, a 40 percent inclination of an at least 10 foot slope are the factors used to define a steep slope critical area.

Maintaining vegetative cover and minimizing disturbance on steep slope areas protects aquatic ecological health and reduces landslide hazards, according to the BAS. The proposed regulations allow for new development to be located where development currently exists as long as impacts to the critical area are not increased, which is consistent with the requirements of the GMA. The public health, safety and welfare are protected through the application of the landslide-prone areas development standards.

Development in a steep slope area that was created as a result of legal grading activities is exempt from the steep slope development standards. There are many areas in Seattle where activities such as the grading of roads has resulted in the creation of steep slopes. Because these areas have been created legally, development potential should not be constrained by applying the steep slope areas development standards. Construction safety considerations are handled through the application of the landslide-prone areas development standards.

A regulatory method for determining where a steep slope ends and another begins is included. Though no clear guidance was found in the BAS to delineate where one area of steep slope begins and another ends, the proposal provides a logical approach. A 30 foot horizontal distance between areas of steep slope creates an effective buffer in order to isolate impacts and avoid the cumulative impacts of development. This provision provides a standard methodology that will help to ensure a consistent regulatory process to delineate and regulate steep slope critical areas.

Development in Steep Slope Areas and Buffers

Policy concerns, such as allowing reasonable use of property on small lots, necessitate allowing for some intrusion or disturbance on a steep slope and in a buffer. Many of the remaining undeveloped legal building sites in the city contain steep slopes and this was a factor in determining appropriate regulatory flexibility. Proposed regulations will allow intrusions into a steep slope or steep slope buffer only through a variance process when necessary to allow reasonable use of a property and when there is a hardship that cannot be alleviated by reducing other non-ECA setbacks.

The following sequence of allowed disturbance is proposed to be required to protect the ECA and buffer to the maximum extent possible, while relieving hardship:

1. reduce non-ECA required yards or setbacks (SMC Chapter 23),

2. reduce or eliminate the steep slope ECA buffer,

3. intrude into a steep slope to a maximum of 30 percent of the steep slope area.

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Allowing up to 30 percent disturbance of a steep slope area on a site typically provides for reasonable use of these parcels. In all situations, site engineering practices and sedimentation and erosion control measures will be required to, in part, mitigate the loss of vegetative cover and addition of impervious surface.

Steep Slope Buffers
There is little direct BAS related to buffer size in steep slope areas. A variable buffer size is believed appropriate as it allows site-specific conditions to be considered. The proposed regulations provide for a variable, but generally 15 foot, buffer and protect functions presented in the BAS. The BAS supports vegetated buffers to reduce stormwater flows over the steep slope area, reducing erosion and protecting the root system of vegetation on the slope. The buffer also limits the impact of grading and development in close proximity to the steep slope which can effect slope stability.

Vegetation Removal and Replanting
The proposal to maintain vegetation and minimize disturbance of the steep slope is consistent with the BAS. Maintaining vegetation on slopes is supported in the BAS as critical to reduce the potential for erosion and sedimentation impacts. Avoiding the need for permanent irrigation is intended to minimize erosion problems.

Downtown & High Rise Zones
Downtown and highrise multifamily zones are intended to provide for the highest density development and have the highest amount of development capacity in the City. It is therefore not recommended that steep slope development standards be applicable to sites in these zones. Parcels in these zones are either former development sites or are currently developed and are therefore eligible to be exempt from the steep slope development standards. Building and construction safety concerns are addressed through the application of the landslide-prone areas development standards and other construction codes. Construction-related erosion issues are regulated through the application of the Stormwater, Grading and Drainage code.

Liquefaction-Prone Areas

The recommended ECA regulations for liquefaction-prone areas are consistent with the BAS. The review of the BAS for liquefaction-prone areas is included in the Geologic Hazard Areas section of the BAS report. The code is proposed to be amended to more clearly state that these areas are to be regulated primarily through the provisions of the Building Code and the Stormwater, Grading and Drainage Control Code. These codes adequately regulate development in these areas. There is a provision added stating that ECA general development standards do not apply, as these standards are not necessary to protect public safety and welfare on liquefaction prone sites.

Flood-Prone Areas

Recommended provisions for flood-prone areas are consistent with the BAS. Code provisions prohibit development in a floodway. Seattle's Floodplain Development Ordinance (SMC 25.06) requires that the lowest floor elevation of any structure be above the 100 year flood elevation.

Abandoned Landfills

The proposed ECA regulations for abandoned landfills areas are consistent with the BAS. The public's health, safety and welfare is protected by the requirement for methane barriers to be used to avoid the accumulation of hazardous levels of methane gas in enclosed spaces. The City's construction codes address building in problematic soil conditions.

Proposed code provisions are consistent with Title 10 of the King County Board of Health solid waste regulations. Sections 10.09.040 through 10.09.060 of Title 10 outline provisions for managing abandoned landfills. Issues of concern that are identified in these regulations are surface maintenance, methane monitoring and

CITY CLERK

control, surface water and groundwater monitoring, and leachate control. With regard to methane, SMC 10.09.060, requires that enclosed structures built within the one thousand foot (1,000') landfill zone must be protected from potential methane migration.

General Development Standards

The proposed general development standards apply to all development that is regulated by the ECA code. These provisions are consistent with the BAS and are intended to effectively minimize impacts to critical areas.

Exemptions & Exceptions

General Exemption Provisions

The Director determines when actions are exempt from critical areas requirements and standards. If a proposed development is determined to be exempt by virtue of having no discernable impact on a critical area or buffer, the ECA development standards do not apply, except as specifically provided. However, best management practices to help ensure that there are no adverse impacts to a critical area or buffer remain applicable. The Director is also authorized to impose additional conditions when they are believed to be necessary to protect an ECA.

Development Outside of a Critical Area
This proposed exemption is consistent with the BAS and allows reasonable use because the critical area is protected if actions are outside the critical area and have no impact on the critical area.

Work to End an Emergency Situation
This proposed provision allows for actions in the ECA and buffer necessary to end immediate threats to public health, safety and welfare. The ECA is protected by limiting the exemption to the minimum actions required to end the emergency and by requiring that the development standards be followed to the extent possible, in addition to following best management practices. The provision requires that once the emergency situation has been resolved, all subsequent work must comply with critical areas provisions and all prior work is subject to further review.

Maintenance, Repair, Renovation, Or Structural Alteration of an Existing Structure
This proposed provision exempts these activities when they do not alter, increase the impact to, or encroach further into a critical area or buffer. This provision is consistent with the GMA requirement to protect ECA's and does not allow any further intrusion or increased impact to the ECA.

Rebuilding or Replacing Structures that are Destroyed by an Act of Nature
In allowing rebuilding of structures within an ECA or buffer, no further impact is allowed and thus the ECA is protected. Many structures are currently located within ECA buffers and allowing rebuilding of structures in the same location would minimize burdens on the property owner(s) and unnecessarily limit housing capacity.

Public/City Projects
All public agencies are subject to the requirements of the ECA code. Where actions are exempt from general and specific development standards, the public agency must follow best management practices consistent with the BAS. Such situations include the development of recreational trails through ECAs or activities for educational purposes, where the public interest is served by allowing intrusions into ECA's and buffers. In addition, utility and public facility work may be necessary within a critical area. To ensure that critical areas are protected to the greatest extent possible, alternatives that do not impact the critical area must be considered, impacts to critical areas must be minimized, and best management practices must be employed. The use of best management practices for City projects acts to protect critical areas, while not creating unnecessary oversight of the work of other City departments by the Department of Planning and Development.

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Small Project Waiver

A small project waiver is recommended to allow property owners to build small additions or small accessory structures in a critical area or buffer on lots that were created prior to the 1992 adoption of the current ECA code without being subject to variance or critical areas exception approval processes. This small project waiver is proposed to be allowed where it is not practical to build outside of an ECA or buffer.

Mitigation is recommended to be required to off-set impacts to the critical area or buffer from these small projects. This mitigation will consist of an area of native vegetation to be planted and invasive species removed, if any exist in the area to be planted, in an amount equal or greater to the area impacted by the small project.

The proposal for a small project waiver is a reduction for most critical areas from the cumulative 750 square foot intrusion currently allowed under the ECA code. The reduction in the amount of disturbance allowed and the mitigation requirement is intended to more fully protect critical areas.

Given the many existing structures within critical areas and buffers and the reasonable interest of property owners to moderately add on to these structures the proposed small project waiver is believed to be appropriate in Seattle.

ECA Exceptions

The Growth Management Act requires protection of property rights as well as protection of critical areas. The City protects property rights through equitable and appropriate ECA regulations, and where application of these regulations would prevent the reasonable use of property, exceptions may be granted. Exceptions to critical area regulations are designed to allow property to be used to an extent allowed by law, while protecting the critical areas and the public.

The proposed provisions require that the Director's decision be consistent with the scientific approach used by the City in developing the ECA development standards, so that the exception process is not a tool for changing policies underlying the critical areas standards. In addition, all studies submitted to support the exception request must include sufficient information to allow the Director to evaluate the provisions under the Washington Administrative Code provisions for what constitutes BAS.

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IV. ASSOCIATED PROGRAMS AND REGULATIONS

The ECA code is only one of the regulatory mechanisms for protecting the City's natural areas and systems. The City administers and promotes a variety of other regulations and programs which act to safeguard these areas. In addition, efforts such as the Mayor's Restore Our Waters strategy, act to coordinate and prioritize how Seattle can create better conditions in our water bodies. Several of these efforts, regulations, and incentives are described below:

Regulations & Incentives

Recent or planned updates to regulatory programs that help to protect environmental quality in Seattle include:

2004 Comprehensive Plan Update and Annual Amendments - The City's Comprehensive Plan establishes policies defining the City's growth management strategy and articulates the City's interest and intent in protecting and enhancing aquatic areas and geologic hazard areas. This update was approved by the City Council in December 2004.

2004 Comprehensive Drainage Plan Update - This plan advances the City's objectives to reduce stormwater runoff impacts on creeks, as well as addresses stormwater pollution in creeks and receiving water bodies.

Stormwater, Grading and Drainage Code Update - Update of the City's Stormwater Grading and Drainage Code will identify options to increase flow and water quality related controls in creek drainages and encourage stormwater related retrofits of existing developments. The Stormwater, Grading and Drainage Code applies to all grading, drainage, and erosion control; all new or replaced impervious surfaces, and land disturbing activities; all discharges directly or indirectly to a public drainage control system; and all new and existing land uses. These regulations have a direct impact on riparian corridors and wetlands, as well as landslide prone and steep slope areas.

Seattle is continuously working to improve the effectiveness of the City's Stormwater Control regulations in order to protect the environment and meet National Pollution Discharge Elimination System (NPDES) permit requirements. As a part of enforcing these requirements, Seattle Public Utilities Surface Water Quality Team conducts many stormwater pollution prevention inspections of local businesses that are located on the storm water system. The team also responded to 299 surface water quality complaint calls generated by citizens and other agencies. The inspectors respond by evaluating the situation and offering education and/or technical assistance to the responsible party.

The following are examples of current Stormwater, Grading and Drainage Code provisions that directly act to protect critical areas.

- From October 1 to April 30, no soils are to remain un-stabilized for more than two days.
- Drainage control review is required for any land disturbing activity encompassing an area of 750 or greater.
- A permit is also required for any grading within ten feet of the line of mean higher high tide adjoining saltwater or the line of mean high water adjoining fresh water and for any grading of lands covered by water.
- A grading permit is required for any amount of grading within wetlands and their buffers or riparian corridor buffers or for grading activity that increases the potential for risk in steep slope or landslide hazard areas

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2005-6 Comprehensive Wastewater Plan- This Plan will set priorities related to wastewater system impacts on aquatic resources.

2009 Shoreline Master Program Update - The update of the City's Shoreline Master Program will revise and enhance policies and regulations protecting and restoring shoreline habitat and shoreline public access in accordance with new state Department of Ecology rules. The Shoreline Master Program currently contains many provisions that act to protect the ecological health of Seattle's shoreline environment.

Non-Regulatory Programs & Incentives

Restore Our Water Strategy

The Mayor's strategy identifies 40 priority capital investments for the City to make in restoring Seattle's creeks and shorelines over the next 10 years. These priority investments are based upon scientific guidelines and, as a result, focus primarily upon improving water quality, slowing high impact creek flows, and restoring critical shoreline habitats. Some of the projects affirm work that is already underway. Others represent new projects identified here as a priority for future funding. They include:

- Seven water quality improvement projects targeting Lake Washington, Lake Union, Puget Sound, and the City's inland lakes that will make Seattle's waters more hospitable to fish and other aquatic organisms, and provide the citizens of Seattle with cleaner lake, creeks, and marine waters.
- Two major sediment remediation projects for the Duwamish River and Gasworks Park, which will remove hazardous materials from lake and river sediment.
- Four natural drainage system projects (Longfellow, Pipers, and Thornton Creek) that will provide neighborhoods with flood control and dramatically reduce destructive high flows in these creeks.
- Comprehensive flow control strategies (assessing natural drainage systems, detention ponds, by-pass options, etc) to reduce flows in high impact drainages on Longfellow, Pipers, Taylor, Thornton Creeks.
- Studies to assess and facilitate channel widening efforts on targeted sections of Fauntleroy, Longfellow, Pipers, Taylor and Thornton Creeks
- Fourteen shoreline habitat restoration projects along Lake Washington, Lake Union, the Ship Canal, and Puget Sound to improve habitat opportunities for migrating chinook salmon, shoreline birds, and other wildlife, and to provide public access for people.
- Green Seattle Initiative riparian reforestation projects on creeks and key shorelines.

To build further partnerships, the Mayor's strategy also prioritizes City efforts to reduce regulatory disincentives. This will include work to identify and significantly lessen barriers for private property owners in undertaking restorative actions. Actions to focus on include, but are not limited to, the following:

- Work with the State to modify the 200-foot shoreline delineation for shoreline restoration projects and/or removing obstacles discouraging habitat restoration.
- Establish standard/pre-approved 'habitat friendly' plans for restoration of creek and shoreline areas.
- Offer technical assistance and habitat friendly construction guidelines for creek and shoreline restoration plans.

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- Reduce the cost and time associated with the permit process when property owners propose to voluntarily restore shoreline and creek habitat. This is being accomplished in part through the proposed changes to the ECA code.

- Encourage the use of shared docks, design of habitat friendly docks, and proposals to reduce over water coverage.

- Facilitate preservation of feeder bluffs as a source of new beach sand and gravel.

The Restore Our Waters strategy also will provide financial incentives for actions that provide direct benefits to the City by, among other things, reducing the total amount of stormwater entering the City's drainage system and flowing to the City's streams, lakes and the Sound. These include:

- "Rainwise" stormwater mitigation partnerships program. Encourage installation of rainwater cisterns, green roofs, rain gardens, reduced impervious surfaces and disconnection of downspouts where appropriate. This partnerships program will be guided by analysis and policy direction established in the 2005 Stormwater, Drainage and Grading Control Code Update. The incentive for these efforts will come in the form of technical assistance, materials and a possible reduction in drainage rates.

- Natural Drainage System Local Improvement Districts (LIDs). Partner with property owners to establish LIDs for natural drainage system improvements. These self-imposed special taxing districts will be used to pay for amenities, such as sidewalks, that are ancillary to the function of natural drainage systems.

- Plants Plus Program. Enter into agreements to provide property owners, who undertake a City approved habitat restoration effort, with appropriate native plants at low or no cost.

- Habitat Restoration Grant and Technical Assistance Program. Matching funds for community driven channel widening, flow control, water quality, fish barrier removal and creek habitat restoration efforts are being setting aside for this purpose. This grant and technical assistance program is being administered by Seattle Public Utilities (SPU) is in addition to existing NMF grants.

- Habitat Related Property Tax Relief. Undertake a coordinated effort to enroll property owners in King County's Public Benefit Rating System in exchange for long term habitat restoration and protection, thereby providing the property owner with a property tax reduction and advancing City objectives for habitat restoration.

- Conservation Easements Program. Work with non-profit groups and private property owners to place newly restored or currently pristine shorelines and creek properties into conservation easements.

Natural Drainage Systems

SPU is using a variety of innovative techniques to control stormwater. The Seattle Street Edge Alternative (SEA) streets project manages stormwater and improves water quality drainage on individual blocks of low-traffic streets. The specific objectives of this program are to:

- Decrease runoff peak flow and volume
- Minimize impervious area
- Improve water quality
- Document effects of alternative design
- Minimize maintenance through design and stewardship
- Design watershed and neighborhood friendly streets
- Change the traditional view that curbs, gutters and sidewalks are necessary.

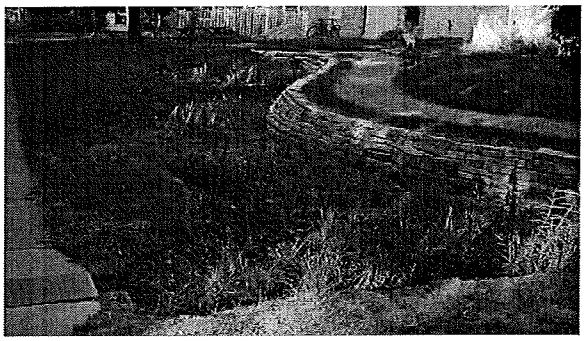
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The SEA street project began as a retrofit of an urban block in the Broadview neighborhood of Seattle, within the Pipers Creek watershed. The street was reconfigured with plantings and swales used on both sides of the street. This approach is being applied on a much larger scale as a part of the High Point re-development project.

Another innovative stormwater technique being applied in the city is the Cascade Prototype to be used on steep, residential streets with high stormwater runoff from watersheds of 5 to 50 acres. The primary objectives of this program are to:

- Reduce the velocity of stormwater flows.
- Improve water quality.
- Decrease runoff peak flow and volume.
- Provide additional tree and vegetative cover.

SPU is moving forward with applying both of these techniques on a number of sites in Seattle, including a large scale application as part of the High Point redevelopment in south west Seattle.



Pesticide Reduction

The city adopted a pesticide use reduction strategy in 1999 and the most potentially hazardous herbicides and insecticides have been phased out. In addition, the City had a goal of reducing overall pesticide use by 30 percent, and then achieved a 46 percent reduction. Now 14 parks across the city are being designated pesticide-free.

Regional Salmon Recovery

Seattle is a key participant in salmon recovery watershed (WRIA 8/9) planning efforts. To date, this effort has led to property acquisition, identified key locations for restoration, and created a framework for achieving recovery of salmon populations through the development of the *Proposed WRIA 8 Chinook Salmon Conservation Plan.* This is a science-based plan that recommends actions to restore and protect salmon habitat, laying out an approach to implement these actions over the next ten years.

Property Acquisition

When funds are available, the City will actively pursue the purchase of property that is key to the ecological health of our creeks, rivers and lakes. The use of Pro Parks levy funds has resulted in the purchase of several key parcels along Thornton and Longfellow Creeks. In addition, a considerable number of steep slope parcels have been purchased by the City over the past fifteen years.

Green Building

The City is recognized as a national leader in achieving green building standards on City-funded facilities and promoting green building in the community. The City's green building projects feature a variety of strategies that reduce stormwater impacts and improve water quality including: green roofs, rainwater harvesting, natural landscaping, natural drainage and on-site infiltration, and porous pavement systems. DPD is encouraging green building in the private sector through education and outreach and by demonstrating the business case or financial benefits. DPD is working to remove regulatory barriers to green building and create development incentives by proposing updates to the Land Use and Building Codes and identifying process improvements to facilitate the permit process.

Community Information & Educational Assistance

Since the last major landslide season in the winter of 1996/1997, the City has conducted annual neighborhood workshops

CITY CLERK

to discuss how to manage land in ways that minimizes landslides.

Urban Creek Legacy Program

Seattle Public Utilities has established this program to restore creek habitat, improve drainage and water quality, sustain creek systems through long-term stewardship and education, and celebrate the role of our urban creeks in our natural and created environments. Part of this is the Creek Steward Program which trains and organizes community members to care for Seattle's creeks. This includes providing training and workshops on native plants and invasive weeds, salmon friendly gardening, creekside living workshops, and stream steward training.

Urban Creeks Capital Projects & Operational Improvements

This strategy advances a number of projects to improve the quality of Seattle's urban creeks. Among the most critical are four natural drainage system projects that will help improve water quality and reduce peak flow stormwater runoff to Thornton, Longfellow and Pipers Creeks. Additionally, the Mayor is recommending that the City undertake a watershed based flow control investigation that will identify high impact drainages in each of Seattle's five salmon-bearing creeks, and suggest flow control measures the City can undertake to reduce flows.

Additionally, the City will begin to assess and facilitate channel widening and related habitat restoration options at select locations along creek corridors. Because large reaches of Seattle's creeks are on or adjacent to private property, these projects would likely be undertaken by private property owners. Overall, these areas will benefit from City research into water quality investigations and targeted source control strategies. They will also benefit from water quality BMP pilots related to targeting street sweeping and drainage and CSO infrastructure maintenance. The City will also undertake a BMP pilot to work with community members to reduce fecal contamination of creeks - this will involve outreach, monitoring, public education, and providing the public with waste collection bags and containers at targeted locations. The City will also continue working on coho salmon pre-spawn mortality investigation and water quality monitoring on creeks that run through the City's municipal golf courses.

This strategy also proposes several fish passage barrier removal projects. Additionally, as part of the Mayor's Green Seattle Initiative, City Departments are committed to work with other partners to reforest riparian and forest areas in the City.

Shoreline Alternative Mitigation Plan

Currently, on-site shoreline mitigation and public access requirements limit the development potential of industrial sites and reduce potential shoreline and open space benefits. Industrial development is limited due to reduced development potential of shoreline properties and a sometimes lengthy permitting timeline. Potential shoreline and open space benefits are reduced because specific mitigation projects are spread throughout the planning area rather than concentrated for greater benefit or placed in locations offering the best opportunity for restoration. The goals of this planning effort are to:

- Promote the vitality of water dependent industrial uses by providing expansion opportunities and a predictable and timely permitting process;
- Protect and restore shoreline aquatic habitat by identifying key restoration projects and leveraging public and private resources to implement these projects;
- Provide and enhance public access opportunities.

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V. Conclusion

The proposed critical areas regulations effectively protect critical areas, while allowing reasonable development in a major urban area. In addition to the requirement to protect critical areas, the Growth Management Act requires that Seattle accommodate its share of the region's growth and that it allow for an adequate supply of housing, economic development opportunities and the protection of property rights. The recommended provisions strike the necessary balance among these goals. Therefore, DPD recommends that the proposed amendments to the Environmentally Critical Area Code be adopted.

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AUGUST 2005



ENVIRONMENTALLY CRITICAL AREAS

Best Available Science Review

City of Seattle
Greg Nickels, Mayor
Department of Planning and Development
Diane Sugimura, Director

Attachment B to the ECA Fiscal Note

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Department of Planning & Development

Environmentally Critical Areas Code Update: **Best Available Science Review**

August 2005

CITY CLERK

Table of Contents

Purpose & Background	**Section 1-1**
Wetlands	**Section 2-1**
Fish & Wildlife Habitat Conservation Areas: Aquatic Habitat Creeks Lakes Nearshore	**Section 3-1**
Fish & Wildlife Habitat Conservations Areas: Birds & Reptiles Priority Species and Habitat	**Section 4-1**
Geologic Hazard Areas Landslide-Prone Areas Steep Slope Areas Liquefaction-Prone Areas	**Section 5-1**
Flood-Prone Areas	**Section 6-1**
Abandoned Landfills	**Section 7-1**
Critical Aquifer Recharge Areas	**Section 8-1**
Appendix A. State Best Available Science Rule (WAC 365-195-905 through WAC 365-195-925)	**Appendix 1**

ENS CITY CLERK

Purpose & Background

The purpose of this report is to provide a compilation and review of the best available scientific information that is applicable to Seattle. This scientific information was selected to meet the Washington Administrative Code requirements given in WAC 365-195-900 to 925. The companion report, *Assessment of Proposed ECA Code Provisions*, also included in the Director's Report for the ECA amendment ordinance, discusses how the best available science has been considered in developing the environmentally critical areas regulations and how the State requirement that environmentally critical areas be protected is balanced with the other planning goals of the Growth Management Act.

Washington State's response to rapid growth was the 1990 Growth Management Act (GMA), which required the largest and fastest growing counties and their cities to prepare comprehensive plans and development regulations. As part of GMA's 14 goals there is a requirement that comprehensive plans must manage growth to provide for the efficient provision of public services, and to protect natural resources, and critical areas. As defined in RCW 36.70A.030(5): "Critical areas" include five areas and ecosystems. These state defined critical areas have been further defined into seven critical areas in the proposed Environmentally Critical Area ordinance.

Information for this review of the literature was selected, to the extent possible, on its relevance to the natural conditions found in Seattle. It should be understood that it is possible that applicable and relevant work was overlooked because of the immense volume of available information. An exhaustive review of all relevant and applicable scientific information is beyond the scope of this project and literally would take years to complete.

CITY CLERK

Wetlands

Wetlands are among the most valuable and complex ecosystems on earth. They provide many valuable functions including flood control, ground water recharge and discharge, water quality improvement, shoreline stabilization, fish and wildlife habitat. In addition, to these functions wetlands also provide societal amenities such as recreational and educational opportunities, and aesthetic values (Smardon, 1978; Williams and Dodd, 1978; Adamus and Stockwell, 1983; Roman and Good, 1983; Brown, 1985).

It has been estimated that prior to European settlement, the total wetland acreage was more than 220 million acres in the lower 48 states, and by 1997 total wetland acreage was 105.5 million acres (Zinn and Copeland, 2000). Between 1970 and 1990 the total net loss of wetlands in the United States was 2.6 million acres (Frayer, 1991). In the past, wetland losses could be attributed to a perception by many that wetlands were nothing more than wastelands with little or no practical value.

It is estimated that 53 percent of the wetlands within the United States have been destroyed and more than 58,000 acres of wetlands continue to be lost to development each year. Of the estimated losses in wetlands 30 percent have been attributed to urban development (Ducks Unlimited, 2002). While, the amount of wetlands that have been lost in Seattle is not known but is thought to be substantial. Kusler (1998) estimated that only 10-15% of the wetlands originally located in urban areas now remain. The US Department of Agriculture has found that urbanization has resulted in as much as 58 percent of the total wetland loss (Ehrenfeld, 2000).

There is presently a national policy of "no net wetland loss". This policy, along with state and local regulations, such as the implementation of the Washington State Growth Management Act through Environmentally Critical Areas Regulations, has slowed wetland losses over the past decade. Unfortunately, wetlands and wetland functions continue to be lost both nationally and locally.

The Washington State Departments of Ecology and Fish and Wildlife in conjunction with wetlands scientist across the state, have prepared an exhaustive study entitled *Freshwater Wetlands in Washington State. Volume 1: A Synthesis of the Science (August 2003 draft Ecology publication #03-06-16) and Volume 2: Managing and Protecting Wetlands.* As suggested by the title, the volume provides a synthesis of the best available science for wetlands in western Washington. Volume 1 contains a synthesis of the literature pertaining to:

- Freshwater wetlands in Washington and how they function.
- The effects of human activities on freshwater wetlands and their functions.
- The tools used to protect and manage freshwater wetlands and their functions.
- The tools include the science regarding buffers, rating, compensatory mitigation, and non-regulatory options. Volume 1 also explains the methods used to obtain and synthesize the literature.

Volume 2 contains options and recommendations for managing and protecting wetlands based on the synthesis of the science presented in Volume 1. This includes the western Washington wetland rating system and guidance on buffer and ratios for compensatory mitigation. These documents are adopted as the best available science for wetlands in Seattle. Copies are available on the City of Seattle Department of Planning and Development (DPD) web site or may be viewed at the DPD offices on the 19th floor of the Seattle Municipal Tower.

CITY CLERK

Fish & Wildlife Habitat Conservation Areas:
Aquatic Areas

TABLE OF CONTENTS

SUMMARY 3- 3

INTRODUCTION 3- 3

AQUATIC HABITAT AND SHORELINE TYPES WITHIN CITY 3- 4

- Streams (Lotic Systems) 3-6
- Lakes (Lentic Systems) 3-22
- Estuaries 3-27
- Nearshore Environment 3-29
- Anadromous Fishes 3-32

GLOSSARY 3-42

REFERENCES 3-46

TABLES

1. Riparian Corridor Widths and Functions 3-16
2. Anadromous Fish Species Present or Potentially Present in Seattle Aquatic Environment 3-32
3. Anadromous species currently regulated as game and/or food fish by WDFW 3-33
4. Salmonid Freshwater Life Histories and Habitat Requirements
5. Prey report for juvenile Chinook stomach contents 3-42
6. Juvenile Salmon Freshwater Life History - Summary and Conclusion. 3-38

FIGURES

1. Abiotic Stream Factors that Influence Egg-to-Fry Fitness and Survival. 3-34

CITY CLERK

Fish and Wildlife Habitat Conservation Areas: **Aquatic Areas**

Fish and Wildlife Habitat Conservation Areas: Aquatic Areas Lead Author: Don E. Weitkamp, Parametrix, Inc. City of Seattle: Margaret Glowacki, Julie Hall

SUMMARY

This review of recent literature provides the City of Seattle (City) with pertinent information developed in recent years that identifies the effects of urban development on the aquatic habitat and those actions appropriate to protect and restore natural functions to this habitat. The review deals with literature pertinent to the urban environment of Seattle, but also incorporates relevant information obtained from investigations in rural and forested environments. The report is organized by basic habitat type proceeding from the small fresh-water streams to the estuarine and Puget Sound shoreline habitats.

The City has reviewed the BAS regarding the aquatic environment that includes lakes, estuaries, rivers, streams, and the nearshore environment, and we have included an evaluation of the functions of these aquatic environments including in-water habitat and riparian buffers. Additionally, WAC 365-195-925 states that measures to conserve and protect anadromous fisheries should protect habitat for all life stages of anadromous fish. This review of BAS includes identifying information describing the habitat requirements of anadromous fishes in these aquatic environments and the way the fish use the habitats in order to devise appropriate conservation and protection measures. Our evaluation of conservation and protection measures attempts to address each of the distinct life stages of Pacific salmon that are likely to occur in the various waters within the City.

INTRODUCTION

The aquatic areas affected by Seattle's ECA regulations include streams, lakes, estuaries and shallow marine areas and the associated riparian areas. Riparian areas are the transition zones between aquatic and terrestrial ecosystems. These areas commonly have substantial gradients in biological and physical conditions, as well as in ecological processes. Riparian areas have been demonstrated by numerous investigations to play a major role in the maintenance and dynamics of aquatic habitat natural functions.

Essentially all of Seattle's shorelines have been highly modified by urban development within the city. Forest were removed and replaced with human development over nearly all the city's landscape in the late 19th and early 20th century. Narrow riparian areas with natural vegetation and slope characteristics remain along some of the City's streams. However, nearly all the shorelines of the lakes, estuaries, and many streams have been highly modified by residential, commercial or industrial development. Major historic changes have taken place in the Lake Washington watershed. Early in the 1900s the Lake Washington Ship Canal (Ship Canal) was constructed and the elevation of Lake Washington lowered by nine feet. At the same time the Cedar River was channelized and re-routed from the Green River basin into Lake Washington with discharge through the Ship Canal and Salmon Bay. The combined alterations produced irrevocable changes to the landscape that are major influences in the current functions of the shoreline conditions. Therefore, this BAS includes scientific information that applies to such highly modified environments. However, information from naturally forested and unaltered areas is incorporated in this review because this information identifies the habitat functions and characteristics desired for the urban aquatic areas.

This document provides a review of reports and information currently available that represent BAS pertinent to management and regulation of the City of Seattle's aquatic habitats. We have also evaluated the use and habitat requirements of anadromous fish in these aquatic environments in order to devise appropriate conservation and protection measures. Washington State's administrative code (WAC 365-195-925) states that measures to

conserve and protect anadromous fisheries should protect habitat for all life stages of anadromous fish. This evaluation of conservation and protection measures attempts to address the BAS identifying the habitat characteristics supporting each distinct life stage of Pacific salmon including:

- upstream migration,
- spawning,
- egg incubation,
- fry emergence,
- freshwater juvenile rearing,
- juvenile migration,
- estuarine juvenile rearing, and
- marine rearing.

Within the City, the Green/Duwamish River, Lake Washington, and the Ship Canal, provide important habitat for two federally listed fish species, Chinook salmon and bull trout (City of Seattle Salmon Team, 2001). Aquatic habitats within the City provide important support for several populations of the Puget Sound Chinook Evolutionarily Significant Unit (ESU), which was listed as threatened under the Endangered Species Act (ESA) in March of 1999. Other anadromous salmonids, such as chum, coho, sockeye, and steelhead/rainbow and cutthroat trout are also found in the water bodies within Seattle.

This report is organized by basic habitat type, proceeding from the small freshwater streams to the estuarine and Puget Sound shoreline habitats. A brief glossary is appended at the end of this report to provide definitions of some of the more technical terms commonly used in literature dealing with the subjects covered by the BAS report.

AQUATIC HABITAT TYPES WITHIN CITY

The City of Seattle contains a complex array of aquatic habitats and shorelines within the city boundaries. These include lotic, lentic, estuarine and marine nearshore habitats. Lotic waters are flowing streams such as rivers and creeks (Goldman and Horne 1983). The city has approximately 45 small streams as well as the lower portion of the Green/Duwamish River. Lentic waters are standing water such as lakes and ponds. The western shorelines of Lake Washington, Lake Union, the Ship Canal, and three smaller lakes (Green, Bitter, and Haller Lakes) are within Seattle. Estuaries are transition areas of variable salinity where freshwater streams and rivers mix with salt water. The Duwamish estuary and Salmon Bay estuary are the substantial estuarine waters within the city. Smaller estuaries occur at the mouths of the several streams, such as Pipers and Fauntleroy that discharge directly to Puget Sound. Marine shorelines occur along the city's Puget Sound shorelines (including Elliott Bay and Shilshole Bay). Each of the water bodies and their adjacent shorelines are important for healthy aquatic ecosystems including salmon. Gende et al. (2002) recently reviewed the literature discussing the role of aquatic and terrestrial ecosystems in supporting anadromous salmonids.

The following are brief descriptions of the aquatic environments that occur within the City of Seattle with maps showing their general extent.

Lotic Systems (running water/rivers and streams)

Seattle has approximately 45 streams or creeks. Some of the creeks have been sufficiently modified by development of their small drainage basins that they are confined in pipes or ditches and difficult to recognize as streams. Some streams such as Thornton and Taylor

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Creeks have at least part of their drainage basin outside the city limits. Thornton, Taylor and several other streams discharge to Lake Washington, contributing a small amount of flow to the discharge through the Ship Canal and Hiram M. Chittenden Locks to Salmon Bay. Other creeks such as Pipers and Fauntleroy discharge directly to Puget Sound, while Hamm, Puget, and Longfellow Creeks discharge to the estuarine portion of the Duwamish River. Thornton, Piper's, Taylor, Longfellow and Fauntleroy creeks are the five current salmon bearing stream systems in Seattle.

A key concept in the protection and restoration of streams is the "river continuum concept" described by Vannote et al. (1980). The river continuum concept describes aquatic systems with physical variables present in a continuous gradient from headwaters to mouth. Recent literature has well established the naturally dynamic characters of streams that are a product of their entire landscape, including hydrologic, geomorphic, and vegetation characteristics, as well as climate, geology, and topography (Kondolf 2000, Booth et al. 2002, Buffington et al, 2003, Collins et al. 2003, Montgomery and Bolton 2003, Wissmar et al. 2003). Prior to human modification the rivers that typically incised Holocene valleys through Pleistocene glacial sediments had an anastomosing pattern with multiple channels, floodplain sloughs, and frequent channel-switching avulsions due largely to wood jams (Collins et al. 2003). Smaller streams had many of the same characteristics. Biota and ecological processes also have variable gradients within this continuum that correspond to the physical gradients.

Thus, streams are naturally dynamic, continually changing over time and area. It is important to recognize this natural aspect of the lotic systems in formulating regulations to deal with subsequent changes to these aquatic systems and restoration of this habitat. Most of the recent literature follows this landscape approach (Garcia et al. 2003) for assessing and suggesting restoration strategies for aquatic systems. Although the river continuum concept deals primarily with the geomorphologic processes and dynamic physical conditions of river channels, it is consistent with the current emphasis on the connection of aquatic, riparian, and terrestrial ecosystems within a river basin that interact with and influence the channels physical conditions.

Lentic Systems (lakes and ponds)

Lakes are the basin portions of the landscape that retain water throughout the year (Goldman and Horne 1983). In the city this includes both lakes that are directly connected to Puget Sound (Lake Washington-Lake Union-Ship Canal) providing migratory corridors for anadromous fishes, and lakes that are functionally isolated from Puget Sound (Green Lake, Haller Lake, Bitter Lake). As described by Schindler and Scheuerell (2002), lakes are functionally part of a larger ecosystem with habitat coupling in the system playing an important role in complex nutrient cycling, predator-prey interactions, and food-web structure and stability.

Lake Washington is the largest and most obvious of Seattle's lentic systems. It is important to the region because of the resident biota it supports and the functions it serves for anadromous and other migratory species. Lake Washington provides rearing habitat and migratory corridors for anadromous salmonids (Chinook, coho, chum, and sockeye salmon, steelhead, bull trout, cutthroat trout) as well as numerous resident species. These species are a major component of the aquatic biota important to the local region. Lake Washington also provides resting and feeding habitat for a variety of birds. Bald eagles, osprey and peregrine falcons forage along the shorelines. Numerous species of waterfowl (e.g. ducks, geese) rest and feed in both the open water and protected portions of Lake Washington during their autumn and winter migrations through the area. Some of these waterfowl winter in the Lake Washington habitat.

Within the city smaller isolated lakes such as Bitter, Haller, and Green Lakes provide lentic habitat. Pipes and culverts downstream from these small lakes functionally isolate them from Puget Sound. These small lakes connect through man-made drainage systems to Puget Sound.

Estuaries

Estuaries are the aquatic transition zones between streams and marine waters. They commonly have variable salinity that ranges from fresh water to high salinity approaching that of marine waters. These salinity gradients extend from fresh water at the upstream end to high salinities at the estuary mouths. Vertical salinity gradients also commonly occur with lower salinity at the surface and higher salinity at the bottom. Estuaries are tidally influenced with extreme ranges of about 18 ft at the mouth to less than one foot at the upstream end. The tidal force together with variability in stream flow produce variations in salinity at any location within the estuary over short periods of hours, requiring many species either to adapt to a substantial salinity range or move vertically or horizontally with the variable salinity.

Seattle has a rather typical, although highly modified, estuary within the Duwamish River. This estuary extends from the river mouth at the north end of Harbor Island to about river mile (RM) 11 south of the city Limit. Within the city, the Duwamish River estuary is a dredged navigation channel commonly referred to as the Duwamish Waterway. Although substantial intertidal habitat restoration efforts have been conducted in recent years (Cordell et al. 2001), the shoreline and riparian habitats, remain highly modified for commercial, residential, and flood control purposes. The estuary is restrained within a dredged channel having hardened shorelines and numerous piers over much of the steepened shorelines. Little riparian vegetation remains other than at the habitat restoration sites. The natural tideflat and saltmarsh habitat that historically supported rearing and migration of juvenile salmon produced in the Green/Duwamish River system have been reduced to small remnants. Side channels and marsh sloughs that were a part of the natural estuary are no longer present to provide quiet water rearing areas for juvenile Chinook and other salmon.

A second highly modified estuary also exists at Salmon Bay in the area between the Hiram M. Chittenden Locks and Shilshole Bay. Although a small stream historically discharged to an estuary upstream from the present day Locks, the estuary now begins with the discharge at the Locks. This existing estuary is highly saline with a reduced salinity surface layer provided by the freshwater discharge from Lake Washington through the Locks. The Locks are located within the tidal zone eliminating the shallow low salinity portion of a natural estuary, other than along the intertidal shorelines of Salmon Bay. Other very small estuaries occur at the mouths of small streams that discharge directly to Puget Sound. Streams such as Pipers Creek and Fauntleroy Creek have very small estuarine areas constrained by human alterations to the surrounding landscape. Longfellow Creek technically has an estuarine area that occurs within the large culvert that discharges to the Duwamish estuary, rather than natural habitat. Puget Creek has a restored estuary that discharges to the middle portion of the Duwamish estuary.

Nearshore Environment

Seattle has about 33 miles of Puget Sound shorelines along the western side of the city that are a portion of the Puget Sound ecosystem. The nearshore environment of Seattle includes intertidal and shallow subtidal areas and terrestrial habitats. These shorelines provide a complex physical and biological habitat that is important to both anadromous and marine fish species. The shallow water habitat of these marine shorelines is highly productive with abundant marine algae, eelgrass, and diatoms providing primary production. A wide variety of invertebrates (worm, clams, sea stars, crabs, etc.) live within and on these shoreline

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substrates. Many species of marine and anadromous fish spend a portion of their life cycle in the shallow waters of the nearshore environment.

The natural nearshore environment is dependent on shore processes that erode and transport terrestrial soils to maintain substrate conditions commonly present in shallow water. Wave and current energy continually transports and modifies the shoreline sediments in a manner that produces apparently stable (short term), but clearly dynamic (long-term) conditions that are a major factor in maintaining the natural environment. Basic habitat modifications such as bulkheads, seawalls, shoreline armoring, etc. interfere with the natural erosion and transport processes along most of the city's nearshore environment. These man-made structures isolate the source of shoreline materials and interrupt the transport of sediment already present in the intertidal portion of the nearshore environment (Downing 1983).

CHARACTERISTICS OF HABITAT TYPES

This section describes the general characteristics of the habitat types that occur within the City of Seattle and recent literature describing the characteristics of these habitats. Although the shorelines of these various habitat types in the city are often highly modified, natural characteristics are discussed to identify those characteristics that historically provided the biological functions appropriate to maintain naturally functioning ecosystems. Aquatic habitats and shorelines are the result of dynamic landscape processes influenced by supply, storage, and transport of water, sediment, and wood (Benda et al. 1998). The natural disturbance process continually alters these habitats, but not in the same manner as urban development. Management of the urban areas relies heavily on information obtained from investigations conducted in forested landscapes, which provides information on the natural landscape processes. However, aquatic areas and shorelines that are highly modified by urban development require different management than harvested forest landscapes (Naiman et el. 2000, Seattle 2003, Appendix A). Knutson and Naef (1997) provide a review of riparian management recommendations from literature compiled to that date and discussed below.

Streams (Lotic Systems)

Streams (creeks and rivers) form a substantial portion of the shoreline habitat present within the City of Seattle (Seattle 2003, Appendix A). During the last 20 years, there has been a substantial amount of research dealing with streams, the processes that form and change them and their relationship to other aspects of the landscape within a watershed. This research has continued to expand our understanding of the dynamics, functions and relationships involved in natural landscapes as well as those landscapes highly altered by urban development such as the City of Seattle. The following sections identify both the natural conditions desired for streams and the highly altered conditions of Seattle's approximate 45 streams.

While the basic characteristic of streams are incompletely understood (Pess et al 2003), they are clearly dynamic systems (Bilby et al. 2003, Collins et al. 2003) continually changing over time and distance. Streams naturally change from their headwater origin to their estuarine or freshwater terminus. Streams naturally change over time as physical and biological forces modify their structure. The following describes the general conditions of natural streams. Limiting factors, data gaps and priority actions for the specific conditions of Seattle's streams and the factors limiting production within the aquatic habitats within the City of Seattle are provided by Seattle (2003) (Appendix A).

Physical Structure of Streams

The dominant feature of streams (lotic environment) is the swift unidirectional flowing water. The discharge rate (volume per time) and current (distance per time) interact with the

bottom, shorelines, and floodplain of the stream or river and determines the substrate composition of the streambed (cobble, gravel, mud, detritus etc.) (Ziemen and Lisle 1998). The current, depth, and discharge rate also tends to maintain the oxygenated water throughout the stream. A series of physical structures, that have regular vertical and horizontal periodicity, make up streams and rivers (Leopold 1994). These structures are defined as meanders, pools, riffles and glides. Water seeking the path of least resistance or requiring the least energy produces the horizontal meanders, which occur in the flatter portions of the watercourses. Meanders tend to produce areas of deeper, swifter flows with erosion at the outer edge of the meander and shallow, gradual slopes on the inner side of curves (Leopold 1994). Riffles, pools and glides are a part of the physical structure of the streams and rivers that are formed by a combination of boulders, large woody debris, water depth, and the current of the water. Deeper pools of relatively slow moving water are separated by riffles, which are areas of shallow turbulent water passing through or over stones or gravel of a fairly uniform size. Intermediate areas of moderate current often found in larger streams are termed runs or glides. It is important to recognize that stream structure is dynamic (Bilby et al. 2003).

The physical processes that incorporate and transport sediment, wood, nutrients, etc. vary with location along streams as a result of geology, landform, riparian vegetation, disturbance regimes, etc.(Fox 2001, Gomi et al. 2001, Montgomery and Bolton 2003). These dynamic physical structures of the streams provide an abundance of specialized and dynamic biological niches. For example, certain benthic invertebrates will be associated with areas of fast current on the upstream face of a rock whereas different invertebrate species will be found behind the same rock in the eddy where little downstream flow occurs (Johnson et al. 2003). The different habitat beneath the rock provides refuge for small animals from their predators, while the upper surface provides a well-lighted site for attached algal growth (Johnson et al. 2003, Roni 2003). Riffles tend to contain more of a stream's benthic invertebrates than pools.

An often overlooked aspect of stream ecosystems is the hyporheic zone. The hyporheic zone is the volume of saturated sediment under and along the sides of the stream where groundwater and surface water intermix (Edwards 1998). Hyporheic zones occur in portions of streams with depositional floodplains that provide porous sediment. Processing of nutrients within the hyporheic zone can equal the amount that occurs in the open channel.

Biological Structure of Streams

The biological structure of streams is dependent on the physical structure of the stream as well as the spatial patterns of drift (living benthic invertebrates and algae which have released or lost their attachment to the substrate) and detritus (dead organic fragments coated with bacteria and fungi) (Goldman and Horne 1983, Hershey and Lamberti 1998, Milner et al. 2000, Johnson et al. 2003). The primary nutrient source for streams is allochthonous organic matter produced by photosynthesis within the riparian areas (Suberkropp 1998). Fungi and bacteria in flowing water break down particulate and dissolved organic matter from decomposition of leaves and wood. Invertebrates process nutrients from bacteria, fungi and leaf litter into the aquatic food web. Particulate organic material and insects drift downstream to be consumed by other invertebrates and fish (Siler et al. 2001, Goldman and Horne 1983). Benthic algae and macrophytes within the streams provide additional primary production (Murphy 1998).

The relationship of detritus and invertebrate drift in streams is discussed by Siler et al. (2001) who observed that excluding leaf litter from a treatment stream resulted in a significantly lower invertebrate abundance, but did not alter the biomass present. These biological

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components provide further structure to the stream ecosystem because of their distribution in relation to current speed, substrate, and food supply (Goldman and Horne 1983, Hershey and Lamberti 1998).

Stream Riparian Corridor Functions

Riparian corridor, riparian ecosystem, riparian buffer, riparian zone, riparian area, stream corridor, and stream buffer are the various terms used by the authors of the scientific literature reviewed for this document. Essentially, these terms have the same meaning and refer to the upland area adjacent to a water body, although some authors also include the water body in their definition.

According to Naiman et al. 1998, riparian refers to the biotic communities and the environment on the shores of the streams, rivers, ponds, lakes and some wetlands. The stream corridor, riparian corridor or riparian ecosystem is defined as the area of transition between the aquatic zone and the upland zone (Budd 1987, Johnson and Ryba 1992, Desbonnet 1994, Furfey et al. 1999, Naiman et al 2000, National Academy of Science 2002, May 2003). These stream corridors contain elements of both aquatic and terrestrial ecosystems.

Riparian corridors are the most biologically diverse components of Pacific Northwest ecosystems (Pollock 1998). The degree to which the riparian ecosystem is fully vegetated with no breaks in the vegetation affects the natural character and water quality of streams (Haberstock et al. 2000).

Pollock (1998) and Budd et al. (1987) found wildlife to be most abundant along stream corridors because of the proximity of the riparian zone to water. Approximately 29% of the wildlife occurring in Northwest riparian forests are species that depend upon riparian and aquatic resources (Relsey and West 1998). Factors affecting biodiversity include disturbances such as flooding, debris flows, channel migration, beaver modifications and vegetation removal (Pollock 1998). For these reasons, it is important to consider the impacts of changes in riparian corridor conditions, on fisheries and wildlife habitat.

Bottom et al. (1983) concluded that riparian vegetation affects the physical composition of stream habitat as well as the biological communities of which salmonids are a part. Anthropogenic alterations to riparian corridors have negatively impacted the streams in the Pacific Northwest and Seattle (Budd et al. 1987, Knutson and Naef 1997, Naiman et al. 2000). Small streams have been affected most by pollution such as excessive nutrients because the dilution factor is lowest (Budd et al. 1987). The major fish habitat elements influenced by riparian corridor conditions and correlated with riparian corridor widths are:

- water temperature,
- food supply and allochthonous input,
- stream structure/LWD,
- hydrology/stormwater management
- sedimentation control, storage and transport; and
- nutrient input.

Additionally the riparian corridors provide wildlife habitat for terrestrial species.

Water Temperature

Water temperature in a stream is largely influenced by the initial temperature of the stream's source (surface flow, spring, and reservoir), the rate of stream discharge or flow,

the elevation of the stream, and the amount of shade provided by the riparian corridor (Budd et al. 1987, Ebersole et al. 2001, May 2003). Other stream channel characteristics that affect water temperature are groundwater discharge, undercut embankments, organic debris, surface area, depth and stream velocity. Water temperature is of concern both because of its potential lethal effects for cold water fishes such as salmonids, but also because of its potential effect on general growth and fish health. Water temperatures both too warm and too cool can reduce survival and growth. Alcorn et al. (2002) recently reported juvenile sockeye reared at temperatures of 12°C had a greater immune response to disease organisms than juveniles raised at 8°C. Complex temperature conditions in streams resulting from cool subsurface discharge can increase trout production and Chinook abundance (Ebersole et al. 2001). They concluded that the effectiveness of cold-water patches as thermal refuges is determined by physiognomy, distribution, and connectivity that were associated with channel bed form and riparian features. In Cascade coastal streams, geomorphic controls on hyporheic (subsurface) exchange can be different for various streams and will influence stream temperature (Kasahara 2000, Kasahara and Wondzell 2003).

Riparian corridors act as reservoirs restraining the flow of precipitation by temporarily storing runoff in vegetation, soil spaces and wetlands. This characteristic minimizes fluctuations in stream flow and maintains lower water temperatures during summer periods as cool stored water is discharged to the stream. Recent literature has demonstrated that riparian vegetation of sufficient width can produce a microclimate (Chen 1991, Johnson and Ryba 1992, Chen et al. 1995, Blann et al. 2003) that helps maintain a more constant temperature minimizing the extreme high and low temperatures. The vegetation canopy adjacent to streams shields the water from direct sunlight, which moderates extreme temperature fluctuations during summer. This canopy can be grasses and shrubs for smaller streams, as well as trees and shrubs for larger streams.

The impacts of forest management practices on stream temperature have been documented by many recent studies (Brown and Krygier 1970, Spence et al. 1996, Kauffman et al. 2001, Blann et al. 2003, May 2003). Harvested watersheds with buffer strips exhibit no increase in temperature attributable to tree harvest demonstrating that riparian buffers effectively regulate temperature in small streams (Brazier and Brown 1973). However, clearcut watersheds have shown monthly mean maximum increases of 2-8°C in some cases. According to Montgomery (1976) the peak daily maximum rise in these clearcut streams may reach 25.5°C during low flows experienced in late summer, but buffer strips have been effective in controlling temperature changes resulting from removal of timber. However, Mellina et al. (2002) observed only modest changes (0.05-1.1°C) in summer daily maximum and minimum temperatures, diurnal fluctuations, and stream cooling in clearcut logging areas on Vancouver Island. Their survey of multiple streams originating from small lakes or swamps indicated water from these sources tended to cool as the water moved downstream, while water from headwater streams warmed with and without logging. Urban areas such as the City of Seattle tend to have conditions similar to harvested forest areas indicating that riparian buffers will influence stream temperature.

The effect of riparian buffers on stream temperatures is dependent on the size of the stream because the area, volume, and flow of water is greater in larger streams (Budd et al. 1987). For example, large trees would have little effect on the temperature of rivers the size of Duwamish because even large trees cannot provide shade in the middle portion of the river. However, most of Seattle's streams are small with narrow channel widths (1-2 m) where even tall grasses can provide substantial shading. Water temperature control requires shading of about 60% to 80% of a stream's surface. Shading of 60-80% of the stream area can be achieved with 11-24.3 m (35-80ft) of buffer width (Brasier and Brown 1973) and 23-38 m (75-

CITY CLERK

125 ft) (Steinblums et al. 1984, Budd et al 1987). Brazier and Brown (1973) concluded the maximum shading capability of the average strip was reached within a riparian buffer width of 25 m (80 ft) and 90 % of the maximum occurred with a 17 m (55 ft) wide buffer. Brazier and Brown (1973) concluded the effectiveness of the buffer strips in controlling temperature changes is independent of timber volume.

Blann et al. (2003) used the U.S. Fish and Wildlife Service's Stream Network Temperature Model to evaluate the role of riparian buffer type in mediating summer stream temperatures. The simulations indicated that grasses and forbs (successional buffers) provide as much shade as wooded buffers in small streams less than 2.5 m wide. With constant discharge and low width-depth ratio, grasses and forbs mediated mean temperatures as well as wooded buffers. Grazed and successional buffers had a significantly lower percentage of shade than wooded buffers.

The shading requirement for the maintenance of fisheries habitat is dependent on stream size whereby the vegetation in the riparian corridors influences stream temperature greater in small streams than in large streams and rivers. Daily temperature variations in undisturbed streams were approximately 2.2°C (4°F) or more while temperature variation increased to 5.6°C (10°F) or more when all shade along the stream was removed (Montgomery 1976). This effect is mitigated by stream size with larger streams having less temperature variation than small streams due to their larger volume relative to the surface area exposed to sunlight. Orientation of the stream and buffer also is a factor with vegetation on southern banks providing more shade than vegetation on northern banks (Bren 1995).

Water temperature also has a direct effect on oxygen level, with cooler water holding higher levels of dissolved oxygen than warm water (Lamb, 1985). One of the most influential water quality parameters on stream biota, including salmonid fish, is dissolved oxygen (Lamb, 1985). Although salmon are able to survive dissolved oxygen levels of less than 3 parts per million (ppm), levels below 5 or 6 ppm may result in behavioral changes and increased stress in adults or rearing juveniles (Pauley et. al., 1986). Water turbulence and biochemical demand also affect amounts of available oxygen. Biochemical demand can stem from the decomposition of organic materials including pollution (animal waste, sewage etc.), and algal respiration (Lamb 1985).

Beschta et al. (1987) suggests that direct fish mortality is probably not a major concern when shading over a stream has been removed, but that temperature changes can influence rates of fish egg development, rearing success, and species competition resulting in biological changes. However, several investigations have reported a detrimental effect on coho embryo and juvenile survival following removal of riparian forest cover (Martin et al. 1986, Cederholm and Reid 1987, Hartman et al. 1987). No recent literature was found that addresses these issues.

Allochthonous Input/Nutrient Cycling/Terrestrial Insect Input/Food Supply

It has been well estimated that 99% of the energy and hydrocarbon in aquatic food webs originates in the adjacent riparian and terrestrial components of the ecosystem (Bormann et al. 1968, Bormann et al. 1969, Likens et al.1970). Allochthonous organic matter from riparian areas is the primary nutrient source for streams (Suberkropp 1998). Dissolved and particulate organic matter from decomposition of leaf litter and wood is broken down in streams by fungi (hypomycetes) and bacteria. Invertebrates consume the bacteria, fungi and leaf litter to incorporate the nutrient sources into the aquatic food web. Particulate organic material and insects drift downstream to be consumed by other invertebrates and fish (Goldman and Horne 1983, Bisson and Bilby 1998).

Light within forested streams is commonly limited to as little as 5% of full sunlight, limiting photosynthesis. Benthic algae and macrophytes within these streams provide additional primary production (Murphy 1998). The results of this is that small streams commonly provide only a small portion of primary production, while large rivers produce about 80% of instream primary production for a major watershed (Murphy 1998).

Peterson et al. (2001) determined that the most rapid uptake and transformation of inorganic nitrogen occurs in the smallest streams and that ammonium entering these streams was removed from the water within 30 meters to hundreds of meters. During seasons of high biological activity less than half of the dissolved inorganic nitrogen input from watersheds to headwater streams is exported to downstream areas.

Habitat Structure/LWD Recruitment

Large woody debris (LWD) is an important structural component of Seattle and Washington's coastal streams that provides salmonid habitat (Bisson et al 1987). The critical functions of LWD in forested lowland streams include dissipation of flow energy, protection of stream banks, stream channel and pool formation, storage of sediment and it provides instream cover and habitat diversity (Gurnell et al. 2002, Gregory et al. 1991, Masser et al. 1988, Bisson et al. 1987). The influence of LWD may change over time both functionally and spatially, but its overall importance to salmonid habitat is significant and persistent (Collins et al. 2002, Guyette et al. 2002, May 1998).

The source and role of LWD in stream habitats has been the subject of numerous investigations in recent years (Bisson et al. 1987, Murphy and Koski, 1989, Van Sickle and Gregory 1990, McDade et al. 1990, McKinley, 1997, Beechie et al. 2001, Fox 2001, Wallace et al. 2001, Collins et al. 2002, Jackson and Sturm 2002, and many others). Instream LWD affects channel structure (Collins et al. 2002, Gurnell et al. 2002, Jackson and Sturm 2002); it produces pools and habitat diversity, provides cover, adds roughness (to slow water), and traps sediment (Bisson et al. 1987). Fundamental changes in the morphology, dynamics, and habitat abundance and characteristics of lowland rivers have occurred related to changes in wood abundance (Collins et al. 2002) such as have occurred with urban development. However, while the quantity and quality of LWD are negatively affected by urbanization even many of the natural undeveloped streams lacked LWD. Several studies (Gregory et al. 1991, May 1998, Masser et al. 1988) have found that intact and mature riparian areas are necessary to maintain instream LWD. The lack of functional quantities of LWD in Puget Sound lowland streams is significantly influenced by the major reduction in riparian habitat along urbanized streams.

Both large and small woody debris interact with water and sediment to produce localized sediment scouring and deposition. This action results in more complex and often more stable habitat than would occur in the absence of woody debris (Jackson and Sturm 2002, Ulrike and Peter 2002, Montgomery and Buffington 1998, Beechie and Sibley 1997, Ralph et al 1994, Sedell and Beschta 1991 White 1991, Heede 1985). Generally LWD provides the key pieces in log jams that are major dynamic forces in stream structure formation and alteration (Collins et al. 2002). In streams, wood pools and riffles generated by debris provide habitat for migration, spawning, rearing, and refuge from periodic disturbances (such as major storms or landslides).

Wood jams are now rare in many coastal streams because of the lack of very large wood that functions as key pieces, together with low rates of wood recruitment (Collins et al. 2002). The contribution of woody debris to stream structure is believed to be derived from within 31

EHS CITY CLERK

m (100-ft) of the banks of a stream (Bottom et al. 1983). Wood jams are now rare in many coastal streams because low recruitment rates and the lack of large wood that functions as key pieces in log jams (Collins et al. 2002). Removal of large wood from streams and riparian areas greatly reduces the supply of new wood to streams (Gonor et al. 1988, Collins et al. 2003). Wood jams are now rare in Seattle's streams because urban development has eliminated the source of most LWD that forms the key pieces in wood jams. Thus, wood jams are rare in Seattle's streams because of the lack of very large wood in riparian areas providing wood recruitment and key jam-forming pieces.

The duration of wood within streams has been an issue in evaluation of stream processes forming aquatic habitat. Both short life species such as red alder (*Alnus rubra*) and long-life species such as Douglas fir (*Pseudotsuga menziesii*) provide key LWD pieces producing channel forming actions (Beechie et al. 2000). Immersion in water leads to deterioration of the wood. Bilby et al. (1999) found that the diameter loss of wood ranged from 10.6 mm in five years for western hemlock to 21.8 mm for big leaf maple. Standards for properly functioning amounts of LWD in western Washington streams are 80 pieces per mile or greater (NMFS 1996). However, Jackson and Sturm (2001) found that the role of woody debris in habitat formation that has been documented for larger streams does not apply to headwater streams. They concluded that the major step-forming agent in the small streams is small wood (10-40 cm diameter), inorganic material, and organic debris (<10 cm diameter), while LWD (>40 cm diameter) produced less than 10% of the steps. Wood quantity, volume, and mean piece size increased with channel size due to the increased proclivity for fluvial transport and spatial accretion, along with greater lateral area for wood to accumulate (Fox 2001). Thus, relatively small wood pieces play a substantial role in most of Seattle's streams because of their relatively small channel width as headwater streams (first and second order streams, see glossary for definition).

Wood size as related to the size of the stream rather than absolute sizes is important in determining the role of LWD (Gurnell et al. 2002). Wood pieces that are large in comparison to small streams tend to remain near the point of delivery and provide important structures that control, rather than respond to hydrological and sediment transfer characteristics of smaller streams. In "medium" streams the combination of wood length and form becomes critical to the stability of wood within the channel. Key pieces of larger wood produce accumulations of smaller pieces. Flow regime and buoyancy of the wood govern wood transport, with even large pieces requiring partial burial to give them stability. In "large" rivers wood dynamics vary with channel geometry (slope, channel pattern), which controls delivery, mobility, and breakage of wood, as well as with riparian zone characteristics. Wood retention depends on the channel pattern and distribution of flow velocities. Wood tends to be stored at the channel margins in larger rivers and greater contact between the active channel and the riparian areas in these larger rivers produces greater quantity of stored wood.

There are a variety of models available to evaluate the dynamics of large wood in streams (Gregory et al. 2003). Meleason et al. (2003) provides a model for the dynamics of stream wood including tree entry, breakage, movement and decomposition. STREAMWOOD is an individual-based stochastic model operating at a reach scale on an annual time step.

Each of the salmonid species occurring in the Pacific Northwest is commonly found in debris-rich environments characteristic of unmanaged coniferous forest streams, at least in coastal streams. They have developed adaptations that allow them to maximize production in hydraulically complex channels where debris is abundant (Bisson et al. 1987). Roni and Quinn (2001) found that the densities of juvenile coho salmon were 1.8 and 3.2 times greater in

LWD treated reaches in summer and winter respectively than in reference reaches of Washington streams. Response of coho populations was correlated with the number of pieces of LWD forming pools during the summer and the total pool area during the winter. Cutthroat trout and steelhead trout densities for age 1+ fish did not differ between treatment and reference reaches during the summer and were negatively correlated with increased pool area. Roni and Quinn (2001) also observed the density of trout fry was negatively correlated with pool area during the winter. Harvey et al. (1999) observed that retention of cutthroat trout appeared to be greater in pools with LWD; however its presence in pools did not influence immigration or growth of cutthroat trout.

Large woody debris plays a role in providing prey for rearing juvenile salmonids. Johnson et al. (2003) concluded that LWD provides habitat and flow refugia for stream invertebrates, and biofilm production that provides food for grazing invertebrates. These invertebrates rapidly colonize logs added to streams resulting in changes in community composition and processes. Wipfli (1997) found that rearing salmonids preyed equally on terrestrially derived and aquatically derived insects in both old growth and alder-dominated young forested areas.

Jeanes and Hilgert (2001) found that young Chinook salmon in the Green River used areas of the thalweg associated with scour pools downstream from boulders and large wood mats. Mean water column velocities were less than 2 ft/sec in these areas. Yearling coho salmon and cutthroat trout tend to occur in off channel habitats that contain complex woody debris structure. Attached root systems and accumulated mats of small wood were used by young salmonids, apparently providing visual isolation from fish and bird predators. Rainbow trout were found more often in mainstem than off channel habitats. Ulrike and Peter (2002) found that whole trees placed in a stream increased brown trout and rainbow trout abundance and biomass. The trees also affected physical habitat features, and provided additional trout habitat.

Large woody debris may also play a role in habitat formation for non-salmonid fishes and amphibians. Roni and Quinn (2001) examined the effect of LWD placement in streams on juvenile lampreys (*Entosphenus tridentatus*, *Lampetra* spp.), reticulate sculpins (*Cottus perplexus*), torrent sculpins (*C. rhotheus*), and giant salamanders (*Dicamptodon* spp.) in 29 small streams. Densities and mean lengths of giant salamanders, reticulate sculpins, torrent sculpins, and lampreys did not differ significantly between treatment and reference reaches. Lamprey densities and length of age-1 and older reticulate sculpins positively correlated with LWD in the wetted stream channel. Lamprey length also positively correlated with the percentage of pool area. These results indicate that artificial placement of LWD in northwest streams may benefit lampreys and age-1 and older reticulate sculpins (species that prefer pools), but have little effect on other non-salmonid species.

Stormwater Management (Quantity and Quality)

Riparian areas play a role in maintaining stream water quality by removing nutrients and sediment from stormwater. Biofiltration or the removal of nutrients and sediment from stormwater during its flow through riparian buffers is an effective means of treating overland flow of stormwater in urban areas (Horner and Mar 1982, Vought et al. 1984, Dillaha et al. 1989, Osborne and Kovacic 1993, Horner 1996, Kauffman et al. 2001, McDowell and Sharpley 2003). Both forested and grass riparian vegetation can remove 40-90% of nitrate-nitrogen and total phosphorus concentrations from water (Osborne and Kovacic 1993). Excessive phosphorus is typically a problem in urban watersheds because it leads to nuisance plant growth in urban streams. Plant decay in turn, consumes oxygen and reduces the quality of available aquatic habitat (Arnold and Gibbons, 1996). Nutrient removal efficiency is dependent on vegetation type, buffer width, and water flow rate.

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Sediment control can be achieved by stable stream banks that minimize instream erosion and riparian buffers to control overland erosion and remove sediment from stormwater (Simon and Collison 2002, Naiman et al. 2000). Erman et al. (1977) found 30-m buffer widths protected aquatic insect communities from increased sedimentation. Some forest surface soils have been found to have a percolation rate exceeding 250 inches per hour (Broderson, 1973). This high filtration rate along with other factors such as rough terrain, exposed rocks, logs, brush and micro-variations in surface relief tends to impede and detain overland flows, preventing storm water from directly entering streams (Brown, 1972 in Broderson, 1973; Pierce, 1965). Broderson (1973) found that sediment reached channel bottoms through a 2.5 m (8 ft) undisturbed buffer strip, but not through a strip more than 10 m (30 ft) wide. This study was done on forest lands, thus it cannot be assumed that denser, more compacted urban soils will absorb water at the same rate. Urban environments, such as Seattle have highly compacted urban soils and considerable impervious surface area near streams that greatly increases the rate of stormwater runoff as well as degrades its quality (May 1998a and 1998b). Riparian areas can have buffers that effectively provide long-term removal of sediment (Lowrance et al. 1988). Prevention of high levels of nutrients and sediment from entering salmon bearing streams in short periods of time maintains oxygen levels and sediment characteristics thereby maintaining salmon spawning and rearing habitat and aquatic health.

Maintaining clean gravel is necessary for salmon reproduction. The fine sediment particles commonly carried by stormwater have the potential to clog spawning gravel resulting in smothering of developing embryos. Tagart (1976) showed that survival of alevin to emergence from redds was positively correlated with gravel sizes > 3.35 mm and < 26.9 mm. In such gravel beds, water is able to percolate through the redd. Healey (1991) suggests that 87% of Chinook fry emerged successfully from large gravel with adequate sub-gravel flows. Upland disturbances, which cause erosional sedimentation flows into small streams, can potentially clog gravel beds leading to a decrease in spawning success. Sandercock (1991) notes that if gravel is heavily compacted or loaded with fine sediment and sand, fry will not be able to emerge from the redds. Shaw and Maga, (1943); Wickett, (1954); Shelton and Pollock, (1966 as cited in Sandercock, 1991) have shown that percolation is affected by siltation and that siltation in spawning beds can cause high mortality in eggs and alevins.

Toxic substances enter a stream from point and non-point sources. Common urban pollutants include: phosphorus and nitrogen from fertilizers, pesticides, bacteria and several other groups including PCBs and heavy metals including copper and zinc, which are harmful to aquatic species including salmonids. Impervious surfaces collect and concentrate pollutants, delivering them to streams during heavy storm events (May et. al. 1997a). May (1998) found that conductivity was strongly related to the level of basin development under base flow conditions. These findings indicate that the water quality of urban streams is generally not significantly degraded in areas with low amounts of impervious surface, but may be substantially degraded in streams draining highly urbanized watersheds with high levels of impervious surface area. Both the concentrated pollutants and short, intense peaks in storm flows degrade salmon habitat in areas with high levels of impervious surface area.

Wildlife Habitat

Riparian areas are important to wildlife, fish, invertebrates and amphibians. Riparian corridors are diverse parts of the ecosystems that support more amphibian, bird, and mammal species than adjacent terrestrial areas (Kauffnman et al. 2001). Carothers et al. (1974) found that alteration of wetland and riparian zone habitat has significant effects on fish and wildlife populations. A majority of North American wildlife is dependent upon riparian habitats for

their survival (Hubbard 1977). Riparian habitat provides access to water, food, and shelter (Knutson and Naef 1997), particularly in urban areas where resources supporting wildlife are commonly very limited. Riparian habitat also provides migratory corridors used by many wildlife populations (Palone and Todd 1998). Knutson and Naef (1997) concluded that 85% of Washington's terrestrial wildlife use the riparian habitat during at least some portion of their life. Tabor (1976) found as many as 1,500 birds per 100 acres of riparian forests along the Columbia River, which was greater than that found in adjacent non riparian habitat areas. Carothers (1976)) found that the number of breeding birds in riparian corridors that had been thinned to 25 trees per hectare (ha) was 54 % of the number found in a nearby undisturbed riparian corridor that had 116 trees per ha.

Stream Riparian Corridor Widths

Effective riparian areas are only those portions of the vegetated landscape that are within a short distance of a stream. The riparian area must be of sufficient width and density to effectively support the ecological functions described above. The appropriate width of riparian areas to be ecologically effective has not been clearly defined, however, a number of investigations have addressed this issue. Generally recommended riparian area widths are in the range of 50-200 ft to maintain stream water quality for salmonid habitat. Some authors have recommended substantially wider riparian areas to support additional functions such as birds and pollution and sediment removal (Jones et al. 1988, Knutson and Naef (1997), May 2000). Table 1 lists information on riparian functions and required widths to protect these functions as identified in existing literature.

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Table 1. Riparian Corridor Widths and Functions

Function	Width (ft)	Reference	Finding
Over All	50	Budd et al. 1987	Found that many reaches of the Bear-Evans Creek had a 50' riparian corridor. Authors suggest evaluating streams on a case by case basis using a technique based on field surveys and ecological analysis.
Sediment Removal	53	Jacobs and Gilliam 1985	Most sediment removal
	26 - 600	May 2000	80% sediment removal
	100-125	Knutson and Naef (1997)	Erosion control
	100	Castelle and Johnson 2000	Approaches 100% particulate organic matter production
	100	Lynch et al. 1985	75-80% removal
	100	Wong and McCuen 1982	90% removal
	26-300	Karr and Schlosser 1977	75% removal
	100 - 125	Knutson and Naef (1997)	Sediment filtration
	200	Wong and McCuen 1982	95% removal
	200	Horner and Mar 1982	80% removal in grassy swale
	200	Broderson 1973	Controls overland flows of sediment on forest lands under almost all conditions
	290	Gilliam and Skaggs 1986	50% deposition
	295 - 400	Wilson 1967	Clay

Fish and Wildlife Habitat Conservation Areas:
Aquatic Areas

Function	Width (ft)	Reference	Finding
Pollutant Removal	13	Doyle et al. 1979	Grass Buffers
	13 - 600	Knutson and Naef (1997)	Pollutant removal
	13 - 860	May 2000	80% nutrient removal
	15	Madison et al. 1992	90% removal of ammonia, nitrate and phosphorous
	33	Peterson et al. 1992	Minimum for nutrient reduction
	50	Castelle et al. 1992	80% pollutant removal
	100	Terrell and Perfetti 1989	Nutrient pollution in forested riparian areas
	100	Lynch et al. 1985	75-80% pollutant removal
	100	Grismaer 1981	Reduced fecal coli form bacteria by 60%
	100 - 140	Jones et al. 1988	Nutrient reduction
	120	Young et al. 1980	Minimum for nutrient reduction
	200	Terrell and Perfetti 1989	Removes pesticides and animal waste
	300	Vanderholm and Dickey 1978	80% removal on a 0.5% slope
	860	Vanderholm and Dickey 1978	80% removal on a 4% slope
Large Woody Debris Recruitment	16 - 33	Castelle and Johnson 2000	40-60% LWD input
	33	McDade et al. 1990	<50% of naturally occurring LWD
	33-328	May 2000	1 site potential tree height (SPTH)based on long-term natural levels
	50	McDade et al. 1990	60-90% of all LWD
	55	Thomas et al. 1993	Minimum for 80% LWD input
	65 - 100	Castelle and Johnson 2000	80-100% LWD input
	65	Murphy and Koski 1989	95% of LWD
	100	McDade et al. 1990	85% of natural occurring LWD

CITY CLERK

	Width (ft)	Reference	Finding
Large Woody Debris Recruitment	100	May et al. 1997	Recommended minimum
	100	Bottom et al. 1983	Minimum to supply LWD
	150	Harmon et al. 1986	Supply most LWD
	150	Robison and Beschta 1990	Supply most LWD
	165	Van Sickle and Gregory 1990	Minimum for LWD input
	330	May et al. 1997	Sensitive streams
Stream Temperature Maintenance	35 - 80	Brazier and Brown 1977	60-80% shade
	36-141	May 2000	Based on adequate shade
	40	Corbett and Lynch 1985	Control stream temperature fluctuations
	50 low canopy 200 high canopy	Broderson 1973	Buffer widths should be set on a case by case basis - using a canopy densiometer
	55	Steinblums et al. 1984	Maximum angular canopy density
	55	Moring 1975	Maintain stream temperature if in forested conditions
	75 - 90	Steinblums et al. 1984	60-80% shade
	> 124	Steinblums et al. 1984	100% natural shading in Western Cascades
	100	Beschta et al. 1987	Minimum shade to level of old growth forest
	100	Lynch et al. 1985	Maintain stream temperatures that are within 1°C of areas that are fully forested
	100 - 150	Jones et al. 1988	Maintain temperature similar to fully forested areas

Fish and Wildlife Habitat Conservation Areas:
Aquatic Areas

Function	Width (ft)	Reference	Finding
Maintenance of Benthic Communities	33	Culp and Davies 1983	Minimum for healthy communities
	100	Roby et al. 1977	Maintain benthic communities similar to streams in fully forested areas
	100	Newbold et al.1980	Maintain healthy benthic communities
	100	Castelle and Johnson 2000	Minimum for healthy benthic communities
	100	Erman et al. 1977	Maintain macroinvertebrate diversity
	> 100	May et al. 1997	B-IBI high in streams with > 70% upstream buffer intact
	100	Gregory et al. 1987	Macroinvertebrate diversity
	>100	May et al. 1997	Macroinvertebrate populations
Salmon Habitat	65-200	Knutson and Naef 1997	Salmonid production
	100-200	Castelle et al. 1992	Salmon production
Wildlife Habitat	33	Petersen et al. 1992	Minimum for wildlife species
	36-141	May 2000	
	25-984	Knutson and Naef 1997	
	75	Mudd 1975	Pheasant, quail and deer use
	100 - 165	Dickson 1989	Range of amphibian, reptile requirement
	100 - 300	Castelle et al. 1992	Range for most wildlife species
	100 - 310	Rudolph and Dickson 1990	Reptiles and amphibians
	100 - 330	Allen 1983	Beaver
	105	Groffman et al. 1990	Forested buffer for minimizing noise impacts to wildlife
	220 - 305	Jones et al. 1988	Small mammals
	246 - 656	Jones et al. 1988	Birds

Buffer widths of less than 33 ft (10 m) are generally considered functionally ineffective (Casetelle et al. 1994). Fragmented and asymmetrical buffers need to be wider than continuous buffers to perform the natural functions (May 1998). Riparian vegetation in

CITY CLERK

floodplains and along stream banks tends to mitigate the impacts of urbanization in adjacent areas (Finkenbine et al., 2000).

Impacts of Urban Development on Streams

Many studies have shown that development can have serious impacts on stream and riparian environments (Budd et al. 1987, Booth 1991, Booth and Jackson 1997, May 1998). The City has recently reviewed impacts of the urban environment to aquatic habitats within the City in the Limiting Factors Data Gaps and Priority Actions for Aquatic Habitat document prepared by Seattle Public Utilities (Seattle 2003). Limiting factors identified are: altered hydrology, degraded water quality, loss of floodplains, loss of connectivity, limited coarse gravel, increased sedimentation, lost channel-shoreline complexity, and lack of riparian vegetation. The exiting conditions of each of the City's streams and receiving water bodies are discussed in the City's limiting factors analysis (Seattle 2003). Changes in land use produce problems of reduced water quality and open space, along with a reduction in the quality of riparian zones through vegetation loss, soil erosion, increased stormwater runoff and reduced species diversity (May 1998, Booth and Jackson 1997, Booth 1991, Budd et al., 1987). Sediment, toxic wastes, erosion, fecal pollution, decreased dissolved oxygen, higher water temperatures, increased flows, and algae blooms all reduce water quality and seriously impact anadromous fish and other aquatic species (Budd et. al. 1987). Because Seattle's streams, other than the Duwamish-Green River, are entirely within the highly developed urban area of Seattle and adjacent municipalities, they are affected by these changes throughout their length.

General Impacts

Urban land use appears to be an influential variable in predicting biological community metrics (species present, diversity, abundance, life stage functions, etc.) (Booth 1991, Booth and Jackson 1997, Mensing, et al. 1998, and May 1998). Mensing et al. (1998) showed that of the 13 highly correlated models, urban land use was used in the majority of the models to predict aquatic health.

Small streams in urban environments are highly altered by development upon most of the land within each watershed (Schueler and Holland 2003). Altered development in urban areas includes channelization, bank hardening, removal of riparian vegetation, placing streams in culverts and increasing the amount of impervious surface in the creek's watershed, which leads to altered hydrology. In Seattle, the majority of each stream's watershed has urban development.

Thornton Creek is one of Seattle's larger streams that provides a classic example of urban alteration of natural habitat. It is a third order stream primarily within Seattle's city limits that flows into Lake Washington. Lucchetti and Fuerstenburg (1993) analyzed the drainage network of Thornton Creek between 1893 and 1977. They concluded that urban development has caused the loss of all major wetlands and 60% of the open channel network, including all first-order tributaries in the Thornton Creek watershed. The remaining stream system was constrained by loss of riparian vegetation, stream bank armoring, and an extensive series of culverts and underground pipes.

Typical urban effects include increased overland flow and storm runoff volume, increased peak flows, decreased groundwater flow resulting in low summer flows, increased suspended particulates and sedimentation of fine particles, increased channel erosion and increased inputs of nutrients and toxic substances (Hession et al. 2000). In highly disturbed watersheds, additional improvements including stormwater and/or water quality management may be required before stream ecosystems can be successfully restored (Hession et al. 2000).

Fish and Wildlife Habitat Conservation Areas:
Aquatic Areas

Modifications of the land surface during urbanization produce changes in the type and the magnitude of runoff processes (Booth and Jackson 1997). These changes result from vegetation clearing, soil compaction, ditching and draining and finally covering the land surface with impervious roofs and roads (Booth and Jackson 1997). The infiltration capacity of these covered areas is lowered to zero and much of the remaining soil-covered area is trampled to a near impervious state (Booth and Jackson 1997).

Besides changing the hydrologic flow regime, urbanization affects other elements of the drainage system (Booth and Jackson 1997). Gutters, drains and storm sewers are laid in the urbanized area to convey runoff rapidly to stream channels by passing any infiltration that could occur in the riparian corridor (Booth and Jackson 1997). Natural channels are often straightened, deepened, or lined with concrete to make them hydraulically smoother increasing the flow of the water (Booth and Jackson 1997). Each of these changes increases the efficiency of the channel, transmitting the flood wave downstream faster (Booth and Jackson 1997).

Even if flow durations are matched precisely in pre- and post- developed cases, the change from a subsurface to a surface flow regime renders the entire design analysis irrelevant and can lead to severe, entirely unanticipated, channel incision (Booth 1990 as cited in Booth and Jackson 1997).

According to (Booth and Jackson 1997) many of the changes to the landscape imposed by urbanization are probably beyond our best efforts to fully correct them, and so some downstream loss of aquatic system function is most likely inevitable at the present level of understanding (as of 1997) . The need to develop a more precise, process based understanding of how altered landscapes produce degraded stream channels is needed so that genuine protection of streams can be achieved (Booth and Jackson 1997). Limiting the extent of development has been shown to be the only effective way to protect streams thus far (Booth and Jackson 1997).

The portions of natural ecosystems most directly affected by urbanization are small streams and associated wetlands (May 1998). These ecosystems are critical spawning and rearing habitat for several species of native salmonids (both resident and anadromous), including cutthroat trout, steelhead trout, and coho, chum, Chinook, pink and sockeye salmon (May 1998).

Over the past century, salmon have disappeared from about 40% of their historical range, and many of the remaining populations (especially in urbanizing areas) are severely depressed (Nehlsen et al. 1991 as cited in May 1998). There is no one reason for this decline. The cumulative effects of land-use practices, including timber harvesting, agriculture, and urbanization have all contributed significantly to this widely publicized "salmon crisis." (May 1998 and NRC 1996).

The cumulative effects of watershed urbanization including extensive changes in the hydrologic regime of the basin, changes in channel morphology, and changes in physiochemical water quality has produced an instream habitat that is significantly different from that in which salmonids and associated fauna have evolved (May 1998). Additionally, development has had negative impacts on riparian buffers and wetlands, which are essential to natural stream functions (May 1998). May (1998) studied third order and smaller streams, ranging in basin area from 3 to 90 km squared, with headwater elevations less than 150 m. In May's (1998) study, stream gradients were less than 3.5% and most were less than 2%. One of May's (1998) conclusion is that urbanization effects watershed drainage density.

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Salmonid Habitat Impacts

Salmon spawn, rear, and migrate in streams within the City of Seattle. Each of these functions relies on different habitat characteristics (Waldichuk 1993). Spawning tends to require clean, well oxygenated, cool water within areas of clean gravel. Juvenile rearing requires variable conditions depending on the age/size of the juvenile. Juveniles tend to rear in shallow water where benthic insect production provides their food supply and riparian vegetation provides cover from predators.

Spawning gravel is critical habitat for salmonid egg incubation and embryo development (May 1998, Waldichuk 1993) and can be greatly modified by urban development. Stream gravel also provides habitat for benthic macroinvertebrates (May 1998) that provide the prey for rearing juvenile salmon. Deposition of fine sediment and streambed instability due to increased stormwater flows affects the quality of the streambed and degrades the habitat condition by filling the interstitial spaces between the gravel and disturbing the gravel (May 1998). Although the redistribution of streambed substrate is a natural process, extreme stormflows often cause excessive scour and aggradations (May 1998) degrading salmon habitat. High stream flows can cause scour in spawning areas resulting in loss of salmon embryos (Nawa and Frissell 1993, DeVries 1997). However, salmon commonly bury their embryos sufficiently deep to avoid scour except under extreme flow conditions. Urbanization leads to drainage basin changes that result in an increase in number and magnitude of extreme flows that can increase redd scour. Erosion is related to stream power, which is proportional to discharge and slope (May 1998). Therefore, because flows tend to increase with urbanization, stream power is likely to increase as urbanization increases resulting in increased erosion. Cooper (1996) and May (1998) found this to be true for the Puget Sound lowland steams. Additionally, sheer stress is dependent on slope, flow velocity and streambed roughness and it is the critical basal stress that determines the onset of streambed particle motion and the magnitude of scour and/ or aggradation (May 1998).

May (1998) determined urban streams in the Puget Sound Lowlands with gradients greater than 2% and lacking LWD are more susceptible to scour than natural streams. The amount and distribution of LWD is another aspect of stream habitat that is altered by urban development. May (1998) found with increasing basin urbanization both the prevalence and quantity of LWD declined. Concurrently, measures of salmonid rearing habitat including percentage of pool area, pool size, and pool frequency were strongly linked to the quantity and quality of LWD in Puget Sound lowland streams (May 1998).

Streambank stability and erosion are factors influenced by the condition of the riparian vegetation (May 1998). High levels of erosion produce high levels of fine sediment in the substrate that clog spawning gravel and adversely affects production of invertebrates that provide salmon prey. Streambank stability rating is strongly related to the width of the riparian area and inversely related to the number of breaks in the riparian corridor (May 1998). Increased amounts of fine sediment are a characteristic of urban development that degrades streambed habitat (May 1998). In urban areas the levels of fine sediment (percent fines) can be related to upstream urban development, but the variability, even in undeveloped reaches, can be quite high (Wydzga, 1997). May (1998) found fines did not exceed 15% until total impervious area (TIA) exceeded 20%. In the highly urbanized basins with TIA > 45% the fine sediment was consistently >20% except in higher gradient reaches, where the sediment was <20% and presumably flushed down stream by high storm flows.

While not completely responsible for the level of streambank erosion, basin urbanization and loss of riparian vegetation contribute to the instability of stream banks (May 1998). Stream

bank stability is also affected by other stream corridor characteristics, such as soil type and hill slope gradient.

Urban development has eliminated the source of most LWD that forms the key pieces in wood jams. Thus, wood jams are now rare in Seattle's streams because of the lack of very large wood in riparian areas providing wood recruitment and key jam-forming pieces. Wood jams are now rare in many coastal streams because low recruitment rates and the lack of large wood that functions as key pieces in log jams (Collins et al. 2002).

Pool habitat that supports salmon is also commonly reduced by urbanization. Pool habitat provides holding areas during the spawning season. In all but the most pristine Puget Sound lowland streams (TIA<5%) significantly less than 50% of the stream habitat area is pool habitat (May 1998). Even in reference streams pool habitat is generally below the target level of 50% recommended (Peterson et al 1992). This reduction in pool habitat appears to be due to the effects of past land-use practices that have removed timber and the lack of instream LWD (May 1998). The riparian cover over pools has also decreased in proportion to sub-basin development. As a result, instream habitat complexity in urban streams is substantially below that necessary to support a diverse and abundant salmonid community (May 1998). Riffle habitat is important for providing adequate spawning substrates and invertebrate production. Increase in sediment supply through stormwater runoff leads to a decrease in the quality of habitat in riffles because the sediment fills the interstitial spaces and fills in the pool habitat resulting in a decrease in quantity and quality of in stream habitat.

Strategies to Protect the Lotic Environment

Protection and restoration of natural functions for streams is closely tied to maintenance or restoration of riparian areas and natural channel forming processes. These processes require near natural flow regimes, natural channel structure that can erode and accrete, natural amounts of large woody debris, and sometimes reconstruction of natural features. As described above, maintaining riparian buffer widths of 50-100 ft or wider along most or all of a stream corridor is desirable to provide natural functions for fish and wildlife. Most of the scientific efforts to prescribe appropriate buffer conditions have focused on forested portions of watersheds (Castelle et al. 1994, Naiman et al. 2000, Roni et al. 2002, Collins et al. 2003) rather than urban areas. Formation of stream channels with natural habitat characteristics is provided by the interaction of hydrology, sediment, and vegetation (Montgomery and Buffington 1998). The recent literature emphasizes that aquatic habitat restoration strategies should be based on a landscape perspective. Ward and Tockner (2001) outline the broad concept of restoring biodiversity that encompasses special and temporal heterogeneity, functional processes and species diversity as themes for ecological restoration. They advocate re-establishing functional diversity across the active corridor to support aquatic and riparian biota.

Strategies that restore or protect riparian corridors, even if the width is limited, along substantial reaches of Seattle's urban streams will provide some of the desirable habitat forming functions. Booth et al. (2002) provides information on restoration of flow regime, habitat structure, water quality, energy sources, and biotic integrity for urban streams. They suggest restoration strategies begin by first analyzing causes of degradation and develop rehabilitation of selected elements where complete recovery is not feasible. They also suggest education and outreach is crucial for restoration strategies in highly developed watersheds such as the City of Seattle.

Control of stormwater discharge to prevent extreme flows that disrupt stream habitat can be accomplished to some degree within the urban environment. Booth et al. (2002) describes

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the impacts of urban effects resulting from stormwater discharges as well as the means to avoid extreme flows that disrupt stream habitat. However, most of these recommendations are for developing areas rather than previously developed areas such as the City of Seattle.

The City of Seattle has developed and published strategies for improving aquatic and riparian habitats of the streams within the City (Seattle 2003, Appendix A). These strategies will restore riparian habitat and stream processes gradually where opportunities are available. Hydrology, fish access, habitat connections, and floodplain reconnection are common priorities in these strategies.

There is a need to make strategy and restoration decisions that incorporate information gathering tools to deal with our incomplete understanding of ecosystem processes (Pess et al. 2003). Restoration strategies should recognize the major sources of uncertainty, inadequate knowledge, and natural variability. Strategies should deal with these substantial levels of uncertainty by using adaptive management (Anderson et al. 2003).

In addition to the above measures to protect and restore urban streams, the City of Seattle has developed an incentive program to encourage daylighting the portions of streams that are currently located in underground culverts.

Lakes (Lentic Systems)

Lake Washington and Lake Union provide habitat supporting anadromous salmonids and numerous resident species. Although the shorelines of these and other lakes within the city are highly modified by shoreline development, it is important to consider the characteristics of such lakes in their natural condition to understand the nature of the habitat in which the native populations developed. Little recent literature has dealt with the history of these lentic habitats, although substantial research has been conducted in recent years to provide information on Chinook rearing and migration in the Lake Washington watershed. The 2004 Greater Lake Washington Chinook Workshop, February 2, 2004, sponsored by Seattle Public Utilities provided a recent informal update on this research and will be discussed below.

Physical Structure of Lakes

Because lakes have hydraulic conditions that tend to retain whatever enters the body of water, hydraulic retention time is an important physical characteristic and influences the quality of both the water and habitat. Hydraulic retention time is the term used to describe the amount of time that it takes for all water in the lake to pass through the outflow (Goldman and Horne 1983). This is an important parameter in determining the impacts of pollution and nutrient dynamics.

Lakes are divided into zones, which consist of the littoral, photic/euphotic, sublittoral, aphotic, profundal, and pelagic zones (Goldman and Horne 1983). The littoral zone extends from the shore to a depth where the light is barely sufficient for rooted aquatic plants to grow. The photic/euphotic zone extends beyond the influence of waves and shore from the surface water area down to where light is about 1 percent of that at the surface. The aphotic zone extends below the littoral and photic zones to the bottom of the lake. Light levels in the aphotic zone are too low for photosynthesis. Respiration, however, proceeds at all depths, so that the aphotic zone is a region of oxygen consumption and can become anaerobic because of this. The sublittoral zone is the deepest area where plants can grow and the profundal zone is the area of deep water at the bottom of a lake below effective penetration of light. Many shallow lakes with relatively transparent water have no sublittoral or profundal zones. In deep lakes the area beyond influence of the shore or bottom is termed the pelagic or

limnetic zone. The organisms inhabiting this area are adapted to swimming, suspension, or floating. Large and small woody debris along the littoral area increases the amount, diversity and quality of cover for resting, foraging, and predator avoidance.

Biological Structures of Lakes

The aquatic species that inhabit the different zones of the lake are specifically adapted to the zones in which they live. Some species such as pelagic (free swimming) fish are able to move between the different zones. Different types of plant species are adapted to grow in different water depths; therefore, the species of plants that are found at the water's edge would not be found at the water depths of 0.6 m and 0.9 m (2 ft and 3 ft).

Juvenile Chinook rearing in Lake Washington tend to remain in very shallow water (<3 ft deep) gradually moving into deeper water as they grow (Tabor and Piaskowski 2002, Tabor et al. 2004). The Chinook fry and fingerlings tend to rear in sandy gravel beach areas with gentle slopes and no bulkhead below ordinary high water. Tributary creek mouths were also more utilized than index sites in Lake Washington pointing to the potential importance of these areas (Tabor et al. 2004). Chinook fry and fingerlings appear to rest near the bottom at night and move within a small area during the daylight hours. The young salmon move into fine woody debris (tree branches, brush) when threatened by avian predators. They appear to treat Eurasian milfoil beds as a substrate moving along the edge or above this vegetation. Juvenile Chinook also use tributary creek mouths as rearing areas.

Lake Washington shorelines also support substantial beach spawning by sockeye salmon (WDFW, unpublished data in department files). Many sockeye also spawn in the mainstem Cedar River as well as its side channels (Hall and Wissmar). Juvenile sockeye rear for a year or more in the open waters of Lake Washington before migrating to the ocean through the Hiram M. Chittenden Locks (Burgner 1991, Ballantyne et al. 2003).

Young Chinook migrate from Lake Washington to Puget Sound through the Ship Canal and Lake Union. Recent research (Tabor and Piaskowski 2002, Tabor et al. 2004) has shown that juvenile Chinook migrate and rear along the shorelines in very shallow water. Some young Chinook may enter the Ship Canal and Lake Union early in the spring to rear along the shorelines as they do in Lake Washington. Recent sampling of salmon predators in Lake Union found juvenile Chinook salmon were eaten as prey in the southern portion of Lake Union (Tabor et al. 2004). Data is still very limited, but migrating juveniles appear to follow the shoreline as they apparently do in Lake Washington. They may also move across open water rather than migrating along a narrow path through the Ship Canal.

The timing of smolt migration through the Chittenden locks has been evaluated since 1997. In 1997, Chinook smolts were present throughout the sampling period, from mid-May to early June, but peak migration occurred during late May (Goetz et al. 1998). In 1998, peak migration occurred in early June, but sampling terminated during the highest Chinook catch of the season (Johnson et al. 1999). Although peak emigration appears to be in June, juvenile Chinook are present in the system through at least July (Kurt Fresh, WDFW, personal communication). Timing of Chinook migration is later than that of sockeye salmon, the most abundant salmonid migrating through the locks. Comparison of migration timing at the locks and in Cedar River suggests some of the juvenile Chinook may spend as much as 4-6 months rearing in Lake Washington, leaving the system with the later migrants from the Cedar River (Tabor et al. 2004).

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Riparian Area Functions

The riparian area surrounding lakes provides similar functions to those provided for streams, although a much smaller portion of the water body is affected in lakes, particularly large lakes such as Lake Washington. Vegetation provides some shading and stormwater benefits and LWD at the shoreline serves to dampen erosive wave energy, caused by wind and fetch, along lake shorelines (Maser et al. 1988). Additionally, the allochthonous input from the vegetation contributes organic matter, including invertebrates, into the lake system.

The riparian buffer along lake shorelines can be particularly important to species that reside primarily in very shallow water such as Chinook and coho salmon fry. These very small fish (30-50 mm) seek water less than 1 m deep often with some natural brush or tree cover extending into the water (Tabor and Piaskowski 2002, Tabor et al. 2004). Trees, shrubs and grasses of shorelines provide potential cover for young salmonids rearing along lake shorelines (Tabor and Piaskowski 2002, Tabor et al. 2004). Trees falling into the shoreline water provide refuge habitat for the rearing salmonids. And terrestrial vegetation provides a food source in the form of terrestrial insects that drop into the water (Johnson and Ryba 1992, Constanz 1998, Kahler 2001, Koehler 2002). Juvenile fish are most often observed over sand-gravel substrates (Tabor et al. 2004).

Impacts of Urban Development on Lake Washington/Lake Union

Seattle's Lake Washington and Lake Union shorelines are currently highly altered habitat (Weitkamp and Ruggerone 2000). In 1916 a major alteration of the shorelines occurred with the lowering of the lake level by 9 ft resulting from construction of the Ship Canal and Locks (Chrzastowski 1981). Historically Lake Washington drained to the south through the Black River to the Duwamish River and to Puget Sound. Construction of the Ship Canal moved the lake's outlet to Shilshole Bay. Seasonal shoreline flooding in Lake Washington was eliminated, along with approximately 1,300 acres of shoreline wetlands. In 1912, the Cedar River was diverted into the lake and currently comprises over half the inflow to the lake. These changes moved the migratory corridor for Cedar River Chinook from the Duwamish River to Lake Washington. The Cedar River is now the major tributary contributing flow to Lake Washington. Under existing conditions, the Lake flushes at a rate of approximately 0.43 times per year (Weitkamp and Ruggerone 2000).

The recent survey of the City's shorelines (Parametrix and NRC 1999) demonstrates a high degree of development that has eliminated or altered most shallow water shoreline habitat. The shoreline development has substantially altered rearing habitat for juvenile Chinook and other salmon. The Lake Washington shoreline is primarily bordered by private residences having landscaped yards, and several over-water condominiums. Whereas Lake Union and the Ship Canal shorelines are primarily developed with industrial, commercial, and floating home uses. The City's parks provide the only substantial exception to this highly modified shoreline condition. Park shorelines are relatively natural, although light riprap is typically present. City parks bordering Lake Washington and Lake Union include Seward Park together with Lake Washington Boulevard, as well as Leschi, Madison, Magnuson, Matthews Beach, Gas Works and South Lake Union Parks. City park ownership accounts for approximately 35% of shoreline use. Sand Point, Seward Park, Union Bay and the Arboretum provide substantial expanses of shallow water habitat in relatively natural condition.

Generally shoreline development results in less large woody debris (coarse woody debris) and macrophyte densities along a lake's shoreline in the littoral fringe zone (Brown 1998). This

decrease in woody debris apparently results in decreased forage fish densities as has been found in Lake Joseph, Ontario.

Shoreline development has eliminated most of the natural riparian vegetation that previously occurred along Lake Washington and Lake Union shorelines. Human development of lake shorelines commonly leads to loss of LWD (Christensen et al. 1996). This LWD provides littoral habitat for many aquatic organisms, including young salmon. The mature trees that historically occurred are now present at only a few locations such as Seward Park. Even most of the City's parks have managed vegetation that includes little natural vegetation near the shorelines. Most residences have little vegetation that provides any of the functions of natural riparian vegetation.

Bulkheads and other forms of shoreline armoring or retention are present along most of the Lake Washington shoreline within the city limits (Parametrix and NRC 1999). In many cases, installation of bulkheads has produced vertical or steep-sloped faces next to relatively deep water (4-6 ft). (Parametrix and NRC 1999). Thus, the natural sand-gravel beaches that provide refuge for young salmon from larger fish are lacking along these shorelines.

There are numerous docks associated with single-family residences and several small marinas along Lake Washington. The littoral area adjacent to the city has more than approximately 750 residential docks that extend out 30-100 ft from the shoreline. Docks within the city limits cover an estimated 4% of the lake surface area within 100 feet of the shoreline (Parametrix and NRC 1999). Boats moored at these docks shade additional water surface area.

The numerous docks, piers and bulkheads have significantly altered the lake's shoreline and littoral habitat. The primary concern regarding these shoreline structures is their potential to increase preferred habitat for predators while reducing shallow water refuge, thus potentially resulting in increased predation on Chinook and other salmon that occupy littoral habitat. Available data indicate that largemouth and smallmouth bass may be attracted to large structures, such as pilings and riprap, for reproductive purposes during spring (Stein 1970, Pflug 1981, Pflug and Pauley 1984, Ruggerone and Harvey 1995). They are known to consume salmon migrating along the shoreline of Lake Washington, although greatest predation rates have been observed in the Ship Canal (Fayram 1996, Warner and Footen 1999, Fayram and Sibley 2000). Northern pikeminnows appear to be attracted to cover provided by docks in Lake Sammamish (D. Pflug, City of Seattle, personal communication), but a study in Lake Washington did not find pikeminnows to be more abundant near docks (White 1975). However, data on juvenile Chinook use of the shorelines and the relationship among shoreline structures, Chinook use and predators' populations is very limited. Concern remains high because predation is considered a significant factor affecting Chinook populations (as described later in this chapter). Additional studies are needed and are planned to address this issue.

Docks and piers inhibit light penetration into the water column and may decrease algae (phytoplankton and periphyton) growth and secondary production of zooplankton and insects in relatively small, localized areas. However, food production in Lake Washington currently appears to be adequate, given the apparently significantly growth rate of juvenile Chinook and other salmon in the lake. White(1975) did not detect reduced production of chironomids, a key prey of juvenile Chinook, under docks in Lake Washington compared to adjacent areas.

Additionally, docks and piers may affect juvenile salmonid migration behavior. Some juvenile salmonids were observed moving out into deeper water before passing under a pier or

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avoiding the pier by following the edge of the pier around into deeper water and then returning to the littoral area (Roger Tabor, 2004, personal communication).

Other concerns regarding docks and piers include their potential effect on water circulation in the nearshore and whether they promote sedimentation of gravel. Sedimentation of gravel areas, which is also influenced by exotic plant production, is a primary concern for sockeye salmon, which spawn along some shoreline areas outside the city. Sedimentation may influence habitat structure (cobble reduced to sand) and prey composition and production. Finally, concerns have been raised regarding the potential toxic effects of creosote pilings. Use of creosote and other treated wood pile has been restricted in freshwater environments for a number of years, so concerns about potential effects will be decreasing over time as use of concrete piles or other options are required for new and replacement docks. According to White (1975), the effect of old creosote pilings on Chinook survival is likely small. However, more recent studies have indicated low levels of PAHs can impact salmonid egg survival.

Predation of resident fishes on juvenile Chinook rearing and migrating through Lake Washington has been a concern addressed by recent research. Moss (2001) used a bioenergetics model to estimate 5-26% of the Chinook juveniles and 11-59% of sockeye juveniles in Lake Washington may be eaten by prickly sculpins. Weitkamp and Ruggerone (2000) identified predation as a substantial factor in juvenile salmon survival in Lake Washington based on a review of available literature.

The anthropogenic disturbances that are prevalent in Seattle such as eutrophication, habitat modification, and introduction of exotic species can severely alter habitat connections and the fundamental flows of nutrients and energy in lake ecosystems (Schindler and Scheuerell 2002). Thus, the altered state of the basic ecosystem must be considered in both evaluation and restoration of lake systems such as Lake Washington.

Young salmon migrating out of Lake Washington must pass through the Hiram M. Chittenden Locks. These juveniles either pass over the spillway, through smolt passage flumes, or through the Locks (Johnson et al. 2003). Fish passing through the Locks have been observed to suffer substantial mortalities. Johnson et al. (2003) found the fish passage flumes are effective in bypassing juvenile salmon to avoid injury and mortality in Locks passage. Recent tracking of migrants with ultrasonic telemetry showed fish spent 5 to 22 hours in the immediate vicinity of the Locks prior to downstream passage (Johnson 2004).

The Army Corps of Engineers has recently developed a computational model addressing the movements of water and adult salmon at the Locks (Goetz 2004). Adults have been found to hold for up to 47 days immediately upstream from the Locks. Model results show fish holding at an interface of cool seawater and warm freshwater near the Locks' saltwater drain.

Strategies to Protect the Lentic Environment (including the Ship Canal)

Protection and restoration of natural functions and habitats for lakes is tied to maintenance or restoration of riparian areas, increasing the amount of natural shoreline and decreasing the amount of predation that occurs on salmonid populations. As described above, the riparian area of lakes provides similar functions as in the stream systems; therefore, buffers protect the water quality, decrease the amount of sediment input to the lake and increase the amount of terrestrial insects and other detritus into the lake to feed the food web.

Strategies that restore or protect riparian areas along the lakes and ship canal, even if the width is limited, along substantial reaches of Seattle's urban lake systems will provide some

of the desirable habitat forming functions. Similar to the strategies listed in the stream section, first analyzing causes of degradation and then developing rehabilitation of selected elements where complete recovery is not feasible is recommended. Education and outreach is crucial for restoration strategies in highly developed watersheds such as the City of Seattle.

The City of Seattle has developed and published strategies for improving aquatic and riparian habitats of the shorelines within the City (Seattle 2003, Appendix A). These strategies include restoring riparian habitat and increasing the complexity of the shoreline environment through removal of bulkheads and restoring sandy shallow water habitat, where opportunities are available. Reduction of shoreline armoring is essential for the long-term maintenance of the lakeshore environment and for increasing rearing and refuge areas for juvenile salmonids. With the majority of the shoreline currently altered by hardening, a reduction of shallow water habitat and loss of riparian areas have been the long-term effects. Tributary creek mouths should also be reconnected to restore juvenile salmonid rearing areas.

Limiting the amount of new over-water structures is desirable to prevent further degradation of the lakeshore environment. During redevelopment, existing overwater and in-water structures that currently shade the littoral areas of the lake and potentially attract predators should be replaced with structures designed to minimize impacts on juvenile salmon migration, rearing and survival.

Additionally, the amount of pollution and contaminants caused from chemical lawn care and stormwater runoff from industrial, commercial and street use should be reduced.

Estuaries

Physical Structures of Estuaries

Estuaries are aquatic areas where rivers and streams meet the marine environment. Estuaries are defined as semi-enclosed bodies of seawater measurably diluted with fresh water (Hobbie 2000). The dominant features of estuaries are that they have variable salinity and a salt wedge or interface between salt and fresh water where the heavier salt water is deeper than the lighter freshwater. Natural or undisturbed estuaries also have large areas of shallow, turbid water overlying mud flats or salt marshes.

In marine nearshore and estuarine environments, woody debris diffuses the energy of tides and waves, thereby modifying on-shore sediment transport and helps to produce habitats ranging from muddy bays to gravel or bedrock beaches. The trapping of sediment from the woody debris can promote vegetation growth (Maser et al. 19988). Additionally, where water energy is very low, woody debris increases the amount, diversity and quality of cover for resting, foraging, and predator avoidance.

Biological Structures of Estuaries

Estuaries are biologically complex habitats because of both their variable salinity and high productivity conditions. Estuaries are more complex and numerous than any other type of marine environment (Jay et al. 2000). The complex array of estuarine biota ranges from species adapted to fresh water with slight tolerance of high salinity to species adapted to high salinities and little tolerance for fresh water. The diversity of biota found in estuaries is such that there is an abundance of fewer species; therefore, the diversity of species is less than either marine or freshwater systems.

The estuarine processes and response of organisms to habitat variability are poorly known (Simenstad 2000). However, estuaries are important to anadromous fish because they provide

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a highly productive rearing habitat where young salmon grow rapidly prior to entering marine waters and undergo their physiological transition from fresh water to saltwater. The growth they undergo during their estuarine residence is important to their survival as the young fish enter the marine environment where increased size helps them avoid predation. Cordell et al. (2001) recently found juvenile Chinook and chum salmon consumed a large variety of prey among sites across time, as have previous investigations in many estuaries. At different sites and times in the Duwamish they found prey were dominated by planktonic crustaceans, harpacticoid copepods and amphipods, benthic insect larvae and worms, or terrestrially derived insects. They determined intertidal habitat restoration within the Duwamish River estuary to be ecologically important. Estuaries are also important for marine fish because they provide a highly productive rearing habitat where the young fish grow rapidly.

Marsh vegetation is an important component of the estuarine environment that enhances primary production, accumulation of organic material, and enhances sediment deposition (Reed 2000). Sediment is a physical-chemical aspect of the estuarine environment that has a substantial effect on the biological structure of the estuaries. The ecological role of sediment contaminants has been extensively discussed in recent literature (Arkoosh et al. 1998).

Biological Structure of the Riparian Area

The function of riparian areas in the estuarine environment is that the overhanging vegetation in the riparian area provides cover and shade for aquatic species as well as a source of food in the form of terrestrial insects. However, estuaries are commonly very broad areas with most of the habitat a considerable distance from the riparian zone. Another function of riparian areas is that they provide stormwater management by filtering overland runoff that would enter the estuary directly. Water quality is not generally a concern in estuaries due to flow through the riparian areas since most of the water, nutrient input, and contaminant sources come from other sources, both upstream and downstream (due to tidal action).

Estuaries are coastal areas where juvenile fish including anadromous fish, rear. The functions of the riparian zone in the estuarine environment have not been well studied however several conclusions can be drawn based on this limited work. Juvenile salmonids are known to eat terrestrial insects in estuaries; therefore, the riparian zone contributes food to the estuarine environment (Brennan et al. 2004). Additionally, the shallow water near the shoreline of estuaries functions as refuge habitat from predators. The overhanging vegetation provided by riparian vegetation can increase cover or refuge for aquatic species, thus protecting these species from avian predators. LWD that falls into the riparian areas also provides refuge and contributes to habitat forming processes within the estuarine environment as mentioned above.

Impacts of Urban Development on Estuaries

Estuaries have tended to be the location where large port cities develop. This development affects the biota of the estuaries through dredging activities and industrial or domestic pollution. The Duwamish River estuary is no different. The Duwamish River estuary is the principal estuary within the City of Seattle and is a highly altered estuary resulting from dredging, filling and channelization over the last 125 years. The Duwamish River is the lower 11-mile long estuarine portion of the Green-Duwamish River System from Tukwila to Puget Sound. The dredged navigation channel commonly referred to as the Duwamish Waterway extends from Elliott Bay to river mile (RM) 6. It is tidally influenced, including saltwater intrusion upstream from the navigation channel. Surface salinities may be reduced to 5% or less by the freshwater discharge of the river while bottom salinities tend to be substantially

higher (20-30%), but vary depending on tide stage and river discharge (Dawson and Tilley 1972).

Habitat conditions along most of the lower Duwamish River are highly influenced by the previous dredging and filling from Turning Basin 3 at RM 6 to Harbor Island. The navigation channel is U shaped with a bottom depth at 56 ft mean lower low water (MLLW) at the mouth and a depth of 10 ft (MLLW) near Turning Basin 3 (Weston 1993). Remnants of natural intertidal habitat occur on the northern portion of Kellogg Island and in occasional patches throughout the Duwamish Waterway. Currently there is a straightened river channel with the majority of shoreline composed of riprap, pier aprons, and/or sheet piling (Tanner 1991). The shoreline armoring is usually present at the top of the intertidal zone, but areas of sloping mud and sandflats can exist below, producing narrow intertidal mud flats at about -2 to +4 ft MLLW and extending to steep middle and upper intertidal shorelines (Battelle et al. 2001). The channel profile characteristics, straight shorelines, absence of off channel habitat, and steep hardened upper intertidal areas provide little refugia for young salmonids and limited habitat for estuarine fishes.

Additionally, the above mentioned shoreline modifications have limited native vegetation to small pockets scattered along the shoreline and has resulted in isolating the intertidal flats from inputs of sediment, nutrients, and organic matter (i.e., woody debris) from upland riparian vegetation zones. This isolation degrades the habitat quality of these flats (Battelle et al. 2001). The overwater structures shade shallow and intertidal habitats, alter microclimates, and inhibit growth of plant communities, further degrading nearshore habitats for native fauna (Battelle et al. 2001).

The loss of estuarine habitat from draining and filling has resulted in the loss of rearing area for juvenile aquatic species; this in turn, substantially alters the food base of the estuarine communities. The loss of tidal swamps, tidal marshes, and tidal flats reduces production of emergent vegetation and benthic algal production. Additionally, the placement of anthropogenic structures (rock jetties and pile dikes) together with draining and filling of the estuaries to improve navigation reduces the tidal prism (salt wedge), simplifies the complex network of tidal channels, and focuses the flow into these navigation channels. These changes along with alterations in sediment and water transport characteristics resulting from upstream impoundments and water uses, have had a profound effect on benthic invertebrates that contribute substantially to the biological productivity of estuaries.

In recent years, several habitat restoration projects have constructed new salt marsh habitat within the estuary. These areas together with the substantial middle intertidal flats along the dredged river channel provide foraging habitat for young Chinook and other salmonids. Three Pacific salmon species inhabit the Duwamish-Green River basin in substantial numbers: Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), and chum (*O. keta*) salmon

Strategies to Protect the Estuarine Environment

The potential for habitat restoration in the Duwamish River estuary was reviewed by Tanner (1991). This review identified potential sites and techniques that could be employed in a strategy for habitat restoration in Seattle's major estuary.

Simenstad (2000) identifies guiding concepts for restoration of estuarine habitat to support juvenile salmon. The concepts rely on restoration of the landscape structure of the land margin used by juvenile salmon to restore habitat patches along a corridor connecting freshwater and marine environments. Restoration strategies should develop means to satisfy the refugia, feeding and physiological requirements of young salmon. The strategies should

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take advantage of existing geomorphic structure of the landscape, build on fundamental estuarine processes, and provide opportunities to support diverse life history patterns.

Nearshore Environment

The following information relies heavily on Seattle's Urban Blueprint for Habitat Protection and Restoration (December 2003, City of Seattle).

The city of Seattle's marine nearshore area extends from North 145th Street south to Brace Point in West Seattle and includes approximately 30 miles of Puget Sound shoreline. The nearshore environment in the city of Seattle includes areas within both WRIA 8 and WRIA 9. The nearshore environment in Puget Sound possesses an extremely productive and dynamic ecosystem. Tides, currents, wave action, and intermixing of salt with freshwater create a complex physical environment situated at the juncture between land and water. The marine nearshore environment encompasses the area from upland bluffs, banks, and beaches, the lower limit of the photic (light penetration) zone, which varies with season and climatic conditions. Some define the lower limit of the photic zone at approximately 30 m or 100 feet below the Mean Lower Low Water (MLLW) line. The nearshore area includes a wide variety of upland, marine, and estuary habitats including marine riparian areas, backshore areas, beaches, tidal marshes, tidal flats, eelgrass meadows, kelp forests, and exposed habitats. Terrestrial habitats along the shoreline such as bluffs, sand spits, and coastal wetlands are also included within the nearshore environment as well as the tidally influenced region found within the lower sections of mainstem rivers and coastal streams.

Physical Structure Nearshore

The habitat forming processes that produce the natural characteristics of intertidal and shallow subtidal nearshore areas of Seattle are important because of the dynamic nature of this habitat. The physical structure changes gradually over time due to wave and current forces, and rapidly at times due to the effects of storm events.

The nearshore environment of Seattle has two basic components, the semi-protected shorelines of Elliott Bay and the exposed open shorelines north and south of Elliott Bay. These two habitat types differ primarily in their exposure to wind/wave energy and the amount of shoreline modification resulting from human actions. Most of Elliott Bay has been modified by filling and construction of shoreline structures (seawall, bulkheads, piers, breakwaters, etc). From the Duwamish Head on the southern side, to West Point on the north, only a small amount of shoreline retains natural characteristics (substrate, slope, exposure). Most of the gently sloping, sand-gravel beaches with riparian vegetation have been converted to steep hardened shorelines with no riparian vegetation. The existing condition of the nearshore ecosystem in Seattle and the remainder of King County was recently assessed by Starkes (2001). Battelle (2001) concluded Puget Sound's nearshore ecosystem provides critical support to a wide variety of biological resources. Battelle determined the effect of human-caused changes and natural variability on nearshore physical processes and resources has not been adequately studied. In the nearshore environment, they concluded the essential habitat-forming and fundamental processes have been severely damaged throughout the Seattle area by shoreline modifications.

Seattle's open exposed shorelines along Puget Sound tend to retain relatively natural characteristics at middle and lower intertidal elevations. Along much of these shorelines the upper intertidal and riparian areas have been highly modified by development. South of Elliott Bay bulkheads, single-family residences, and commercial developments border the shoreline. Riparian vegetation, where present, is limited to landscape plantings, or a few

small natural areas such as Lincoln Park. North of Elliott Bay the shoreline is in a relatively natural condition around West Point and the sewage treatment plant/Discovery Park location. North of the entrance of the Ship Canal commercial development, single family residences, and Shilshole Marina modify more than a mile of shoreline. Following the relatively natural shoreline of Golden Gardens Park the shoreline is again modified by the railroad track that has filled the upper intertidal zone extending far north of the City limit.

The physical characteristics of these shorelines are naturally dynamic as the result of the interaction of waves, currents and the intertidal substrates (Downing 1983). Wind generated waves tend to erode exposed bluffs providing silt, sand, and gravel that is transported by the waves and currents and nourish beaches along the way. This dynamic process produces conditions that appear stable, but are constantly changing at a scale not readily visible.

Biological Community (Aquatic and Riparian)

The biological resources of the nearshore environment include contributions from both the upland terrestrial areas (Brennan and Culverwell, 2004, and Brennan et al. 2004) and the marine environment within the upper, middle, and lower intertidal zones (Kozloff 1983). Algae, invertebrates and fish species use the nearshore environment. The shallow water (<10 m) provides sufficient light to allow dense algal and eelgrass beds on the silty sand substrate that occurs through out most of the area. Many species of marine fish also reside in or use the shallow water habitat of the nearshore environment for some portion of their life. Flatfishes, surf perch, rockfishes, and sculpins are some of the more common groups. Juvenile salmonids, particularly Chinook, chum and pink salmon commonly rear for brief periods in the nearshore environment during their migration from estuaries to the ocean. Their habitat requirement and food resources are very similar to those they used in the estuaries. According to Brennan et al. (2004), resources such as eelgrass, kelps and other macroalgae are associated with benthic and epibenthic organisms that juvenile Chinook prey upon. Additionally, eelgrass and algae provide a food source for avifauna such as black brant (*Branta bernicla*). Herring, an important prey species of Chinook salmon, are dependent on eelgrass for spawning.

In the harsh environment of the upper intertidal zone, a few hardy algal species and invertebrates reside. The coarse sand substrate of the upper intertidal zone provides spawning habitat for sand lance and surf smelt (Pentilla 2000, 2001). These forage fish are a key component of the food web that supports salmon and anadromous bull trout, as well as many marine fishes.

Riparian Area Functions

Riparian areas are the transition zones between aquatic habitats and upland areas such as banks and bluffs. Although much is known about the importance of riparian areas in freshwater systems, relatively little research has been conducted on the functions and values of riparian vegetation in marine systems. Desbonnet et al. (1995) and Brennan and Culverwell (2004) hypothesize that marine riparian areas provide functions similar to freshwater riparian areas and may provide additional roles unique to marine systems. Riparian areas provide food sources in the form of insects dropping into the water. Brennan et al. (2004) found prey of Chinook originated from three general habitat types, one being the riparian area. The prey from the riparian areas habitat dominated the Chinook diet, especially for those Chinook that were 110 - 149 mm in length. Most of the insects found in the diet analysis were fully developed which suggests that the source of the prey was directly from overhanging vegetation or were blown in by wind action, rather than via a river flow. Brodeur (1989) also found terrestrial insects as part of juvenile coho and Chinook diets off the Washington and

SEATTLE CITY CLERK

Oregon coasts and Locke and Corey (1986) found all winged adults in their neuston sampling suggesting that these insects entered the water through wind-transport.

Sobocinski (2003) studied insect fallout from Puget Sound shorelines and found that nearshore areas altered by shoreline armoring and other development resulted in consistently lower taxa richness than sites where the shoreline was in a more natural state.

Natural riparian habitat also provides some large wood to Puget Sound shorelines, which traps sediment thereby providing shallow water habitat (Maser et al. 1988). Insects that live in the drift at the upper intertidal level and in the riparian vegetation also provide a food source for juvenile fish rearing along the shorelines (Brennan et al. 2004).

Large trees in the riparian area also provide shade to upper intertidal beaches. Pentilla (2001) determined sand lance and surf smelt embryos have a higher rate of survival when shading prevents summer sunny periods from raising the temperature too high and causing egg desiccation.

Impacts of Urban Development on Nearshore Environment and their Riparian Areas

Human alteration to the nearshore environment has been occurring in Seattle since at least the late 1800's. These activities included extensive filling within Elliott Bay and other areas to increase the city's land base, bank hardening along a significant portion of the shoreline areas for a railroad right-of-way and for property protection, and construction of commercial piers and marinas. The combination of these historic habitat losses and the cumulative impacts of urban development have resulted in major changes to the shoreline environment and the marine nearshore ecosystem. Relatively little is known about the direct effects of urban development and other human impacts on the migration, growth, survival, and habitat of Chinook salmon in the marine nearshore areas of Seattle. However, we do know that bulkheading, bank armoring, and other human activities within shoreline areas have affected many physical processes including sediment production and transport, and that these processes are important for forming and maintaining habitat for juvenile Chinook salmon in the marine nearshore and estuary areas.

The marine nearshore environment within the city of Seattle can be divided into four areas: Elliott Bay, Shilshole Bay, Duwamish Estuary, and other nearshore areas. These areas are discussed below except for the Duwamish Estuary, which is discussed in a separate section of this report.

Elliott Bay

Historically, Elliott Bay consisted of extensive intertidal mud and sand flats and vegetated wetlands bordered by steep banks (Blomberg, 1988). The development of the existing downtown business and industrial districts has resulted in extensive filling, dredging, and grading along the shoreline (Weitkamp et al., 2000). Currently, the shoreline along Elliott Bay is characterized by seawalls, bulkheads, and overwater structures. In Elliott Bay, overwater structures are the predominant shoreline modification, occupying over 65 percent of the bay shore. Shoreline areas having natural characteristics are very limited within Elliott Bay, and are found from the mouth of the Duwamish River to Duwamish Head. Most of the shoreline areas of Elliot Bay have been altered, with water depths dropping rapidly to 80 feet and deeper (Weitkamp et al., 2000). In addition, several combined sewer outfalls (CSO) operated by the city of Seattle and King County discharge to Elliott Bay. The mouth of the Duwamish/Green River is located at the southern extent of Elliott Bay.

Armoring of the shorelines of Elliott Bay has reduced shoreline and bluff erosion, reducing sediment inputs that are important to the formation and maintenance of nearshore habitats. Bank armoring along Elliott Bay has reduced the habitat areas provided by beaches and sand spits to an area from Duwamish Head to Alki Point. The shallow subtidal sandflats and other remnant sandy subtidal areas between Alki Point and Duwamish Head support productive eelgrass patches that are important to a variety of marine organisms, including juvenile Chinook salmon (KCDNR, 2001). Less armoring has occurred north of the city center and feeder bluffs along the city's Magnolia neighborhood remain active and continue to support the beaches to the north and broad sandflats near West Point.

Salmon and Shilshole Bay

Salmon and Shilshole Bays are located at the westernmost portion of the Lake Washington Ship Canal system and connect the Lake Washington drainage (WRIA 8) to Puget Sound. Salmon Bay includes the Fremont Cut and Hiram Chittenden Locks, and extends east to west from Lake Union to about the railroad bridge west of the Locks. At its western end, it connects to Shilshole Bay, a stretch of the Puget Sound nearshore shoreline running north to south from Golden Gardens Park to the tip of Magnolia at West Point. Historically, Salmon Bay was the estuary of a small creek draining the Lake Union watershed. It featured brackish water and a saltwater marsh at its eastern end. After the rerouting of the Cedar River and construction of the Ship Canal and Locks, the western end of Salmon Bay, together with Shilshole Bay, became the estuary for a much larger freshwater system, however, because of the operation of the Locks the estuary does not function as a natural estuary.

Residential development is the primary land use downstream of the Hiram M. Chittenden Locks in both bays. This area has experienced substantial bank armoring, which has reduced the quantity and quality of shallow intertidal habitat. The construction of the Shilshole Bay marina on the north of Shilshole Bay involved the construction of a large breakwater jetty, dredging, and shoreline filling that has resulted in the loss of both subtidal and intertidal habitats. Connection with bluffs and terrestrial upland development is largely limited by the construction of roads, parking area for the marina and waterfront parks, bulkheads, and the railroad that extends north from Salmon Bay to the City of Everett. The most natural shoreline areas within Shilshole Bay are found adjacent to the cliffs and bluffs in Discovery Park, and within the sand beach areas of Golden Gardens Park.

Other Shoreline Areas

The shoreline areas south of Elliott Bay are affected primarily by residential land use, except for a few water-dependent municipal, commercial, and industrial facilities, and city parks. Bank armoring is a major factor affecting the formation and maintenance of nearshore habitat within this region of the city. Approximately 87 percent of shoreline in WRIA 8 and 75 percent of shoreline in WRIA 9 have been armored (KCDNR, 2001). The majority of this armoring has occurred from the construction of bulkheads to protect residential properties, roads, and railroad right-of-ways. Bank armoring is nearly continuous along the nearshore areas north of Golden Gardens Park, as a result of a railroad right-of-way which has been constructed directly adjacent to the shoreline. The railroad bed is protected from wave action by a large riprap embankment upon which the railroad tracks have been placed. The extensive bank armoring along these nearshore areas has substantially reduced the distribution and availability of upper intertidal habitats. Unlike the situation in Elliott Bay and Shilshole Bay, the lower intertidal region of the nearshore environment has not been directly affected by extensive filling or dredging (Weitkamp et al., 2000). The lower intertidal and subtidal habitats within this region are affected by bank armoring and resulting reductions in

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sediment inputs, transport, and deposition, altered substrate composition, and loss of riparian vegetation.

As discussed above, land use patterns and habitat modifications within the nearshore environment in the city of Seattle have the potential to affect survival, growth, and condition of juvenile, subadult, and adult Puget Sound Chinook. Factors that have impacted the functions of the marine nearshore environment include the loss of habitat within the migratory corridor, degradation of water and sediment quality, alteration of physical processes including bank erosion and alongshore sediment transport, and loss of riparian functions. These human activities have resulted in disrupting the natural processes that create habitat within the nearshore environment. Bank armoring, dredging, filling, and the construction of overwater structures have resulted in direct modification to the nearshore habitat within the city of Seattle shoreline area.

One of the most important physical impact caused by urban development has been to sediment inputs, transport, and deposition along marine nearshore and estuary areas. Few quantitative studies of the effects of shoreline development on sediment transport have been done for habitats in Seattle, and there is limited quantitative information on the more general effects of interrupted sediment transport on biological communities. The transport of sediments from landslides is thought to be critical to the maintenance of beaches, spits, flats, eelgrass beds, and other nearshore habitats. Most of these source areas have been isolated from the nearshore environment by widespread shoreline armoring. Bank armoring, including the construction of riprap (boulder) banks and bulkheads, prevents damage to shoreline properties but also prevents erosion processes such as bank sloughing from occurring. This results in the nearshore area being "starved" of a source of small substrates (i.e., silt, sand and gravel), resulting in a shift in substrate composition from smaller substrate to larger substrate, which in turn, changes the composition of the biota in this area. Sediment inputs from streams and rivers into estuary and marine nearshore areas have generally increased as a result of land-development. However, the increased inputs of sediment from streams and rivers probably cannot compensate for the reduced sediment inputs caused by widespread bank armoring along shoreline areas. Widespread diking of the lower Green River, and channelization and dredging in the Duwamish, further reduces the availability of sediments to marine nearshore and estuary areas.

Waves and alongshore currents (drift cells) carry sediment from slides and streams to areas of deposition such as beaches, headlands, and sandspits. Bank armoring and inwater structures such as rock jetties and gabions can reduce the mobilization and transport of sediments along the shoreline. The lack of sediment recruitment, and reduced alongshore mobilization and deposition, can result in substantial changes to substrate composition in many marine nearshore and estuary areas. These substrate changes can in turn result in the reduction or elimination of intertidal and subtidal vegetation including eelgrass beds and kelp forests. Loss of vegetation may substantially reduce the availability of critical refuge, forage, and acclimation habitat areas for juvenile Chinook salmon, as well as baitfish spawning areas. Alterations in marine riparian vegetation can lead to a loss of habitat complexity, predator refuge availability, and nutrient sources and may effect the carrying capacity of the nearshore ecosystem (Brennan and Culverwell, 2004). The loss of riparian vegetation along the shoreline may also decrease the productivity of deeper water habitats by decreasing detrital inputs. Almost all native coniferous forests along the Seattle shoreline have been removed. Shoreline riparian areas are generally limited to landscaping in parks and residential areas and remnant deciduous forests growing on bluffs and steep slopes along the few remaining natural shoreline areas.

All the bluffs that are the sources of the sand and gravel that is transported along the shorelines are currently isolated from the erosive forces. Therefore the transport of sand and gravel along the beaches is gradually moving materials away for the upper end of drift sectors and concentrating the material in deeper water.

Strategies to Protect the Nearshore Environment

Considerable effort has been expended in recent years to address strategies for restoration of Puget Sounds' highly modified nearshore habitats (Broadhurst 1998, MacDonald 2000). Strategies discussed involve restoration of natural shoreline processes that would restore the naturally dynamic conditions. Starkes (2001) and WRIA 8 (2005) identify data gaps that should be addressed or recognized in strategies developed to restore nearshore habitat in Seattle.

Habitat protection to maintain existing intertidal and shallow subtidal resources is a key component of any strategy to protect the nearshore environment. Substrate types, slopes, algal and eelgrass resources would be maintained in their current condition through development regulations that prevent substantial alteration of the intertidal and shallow subtidal areas, or require appropriate mitigation at other locations.

Reduction of shoreline armoring is essential for the long-term maintenance of the nearshore environment. With the majority of the shoreline currently altered by hardening of the upper intertidal and riparian areas, the shore processes that maintain natural conditions are not properly functioning. The long-term effect is to alter the slope and substrate to steeper and harder beaches. Management strategies to restore sediment supply through beach nourishment may need to be developed to mitigate the impacts of shoreline armoring.

Prevention of over-water structures in new areas is desirable to prevent further degradation of the nearshore environment.

ANADROMOUS FISHES

Anadromous fish are species of fish that reproduce in fresh water, migrate to marine waters as juveniles to grow and mature, and finally return to spawn in their natal stream. Salmon are members of the Salmonidae family of fishes that includes salmon, trout, char, whitefish and grayling (collectively called salmonids). Many salmonids are entirely anadromous or have anadromous portions of their populations. Table 2 lists the salmonids and other anadromous fishes that occur within the City of Seattle and are dependent on Seattle's aquatic habitats and shorelines.

Table 2. Anadromous Fish Species Present or Potentially Present in Seattle Aquatic Environment

Common Name	Scientific Name	Group
Chinook salmon	*Oncorhynchus tshawytscha*	Pacific salmon
coho salmon	*O. kisutch*	Pacific salmon
chum salmon	*O. keta*	Pacific salmon
pink salmon	*O. gorbuscha*	Pacific salmon

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sockeye salmon (anadromous form) kokanee (resident form)	*O. nerka*	Pacific salmon
sea-run cutthroat trout (anadromous form) coastal cutthroat trout (resident form)	*O. clarki clarki*	native trout
steelhead (anadromous form) rainbow trout (resident form)	*O. mykiss*	native trout
bull trout	*Salvelinus confluentus*	native char
dolly varden	*Salvelinus malma*	native char
Pacific lamprey	*Entosphenus tridentatus*	lamprey
river lamprey	*Lampetra ayresi*	lamprey
long-fin smelt	*Spirinchus thaleichthys*	smelt
three-spined stickleback	*Gasterosteus aculeatus*	stickleback

Sources: Wydoski and Whitney1979; WDFW, 1998.

The term fisheries commonly refers to stocks of fish that are managed for commercial, recreational, cultural or ceremonial use. Several fish are currently regulated for these purposes in the state of Washington (Table 3).

Table 3. Anadromous species currently regulated as game and/or food fish by WDFW

Pacific salmon (all except pink salmon)
bull trout/dolly varden
coastal resident/sea-run cutthroat trout
steelhead/rainbow trout
long-fin smelt

There are seven species of Pacific salmon of the genus *Oncorhynchus* that inhabit the North Pacific Ocean. Pacific salmon spawn in fresh waters of western North America (California to Alaska), Russia, and Japan. Four Pacific salmon species occur within the City of Seattle. Populations of chum, coho, Chinook and sockeye migrate through or reproduce in Seattle's streams. The majority of individuals migrate through the Duwamish River or Ship Canal/Lake Washington to spawn in waters upstream from the City. Anadromous bull trout and steelhead also migrate through these pathways.

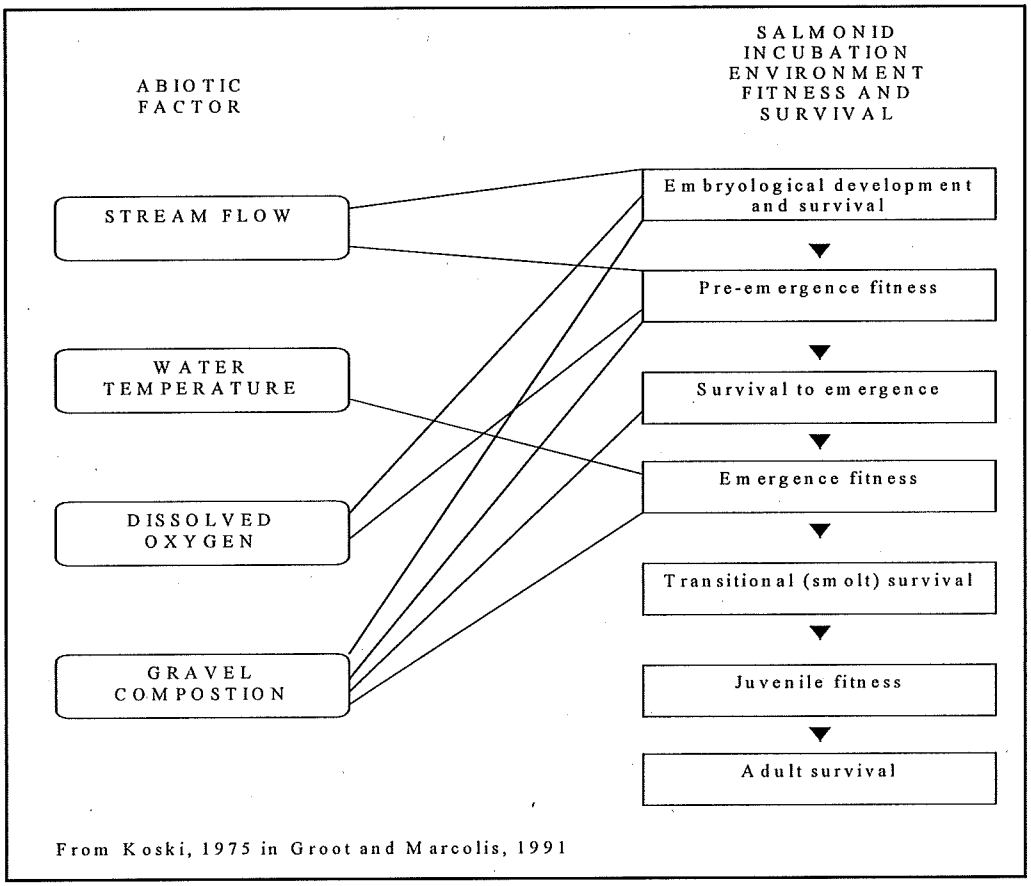
Seattle's creeks provide spawning and rearing habitat for substantial numbers of chum and coho salmon as well as steelhead/rainbow trout/ and cutthroat trout. Chinook and sockeye salmon reproduce in small numbers in several of the larger streams within the City and sockeye reproduce on the shores of Lake Washington.

Pacific salmon reproduction and survival are affected by the following abiotic and biotic factors (Salo 1991):

- stream flow
- water temperature

- dissolved oxygen
- gravel composition
- spawning time
- spawner density
- genetic characteristics

Figure 1. Abiotic Stream Factors that Influence Egg-to-Fry Fitness and Survival.



Stream flow, water temperature, dissolved oxygen levels and gravel composition are factors determined by the local quality of the spawning area and stream. The graphic below shows how each of these four abiotic stream factors relates to egg-to-fry fitness and survival.

Spawning time, spawner density, and genetic characteristics are biotic variables determined by genetics, predation, harvest, and general conditions outside the local area. The distinction is made between the local and general factors because local habitat qualities are produced by forces within the area surrounding the stream and can be regulated by the City. However, spawner density is a product of many different factors including harvesting, predation and ocean conditions that are not influenced by the City.

General habitat requirements of the different life history stages of salmonids are listed in Table 4.

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Table 4. Salmonid Freshwater Life Histories and Habitat Requirements

Life History	Habitat Requirements/ Considerations
Upstream migration	passage (e.g. culverts, dams, low flows, fluctuation in lake levels)/ water quality (temperature, pollution)/ high flows/ low flows/ water diversions/ channel modification/ simplification/ frequency/ depth of holding pools/ available cover/ cold water refugia/ Predation resulting from habitat modification
Spawning	Availability of suitable spawning gravel Siltation of suitable spawning gravel High flows - scouring Redds Low flows - dewatering Redds Disturbance - Humans/wildlife trampling Redds Temperature/ water quality
Egg incubation	Temperature/ water quality/ Dissolved Oxygen
Fry emergence	Temperature/ water quality
Juvenile Rearing	Frequency, area and depth of pools Channel complexity and cover Temperature/ water quality Access to habitat (upstream and down) Off-channel areas and riparian wetlands Fluctuating stream flows (high and low) Predation due to habitat simplification or loss of cover Nutrient and prey availability and competition for prey
Smolt out migration	Water quality Fluctuating stream flows (high and low, timing, quality) Down steam passage Predation due to habitat simplification or modification
Marine rearing	Food source

Chinook Salmon

Nearly all Chinook salmon using the waters within the City of Seattle originate in the Green/Duwamish or Cedar/Sammamish watersheds. They migrate through the City of Seattle as juvenile fish on their way to the ocean and as adults returning to spawn. Both these watersheds terminate within the City of Seattle's boundaries in the marine waters of Puget Sound. The spawning and rearing habitat that supports these runs is present in the watersheds upstream from the City of Seattle. Small numbers of Chinook do spawn, at least occasionally in the larger of Seattle's creeks, but they are a small fraction of the Chinook population.

The existing populations of Chinook have been produced within the substantially modified two watersheds during the past 150 years (Weitkamp and Ruggerone 2000). These modifications have had an important effect on how Chinook use the Seattle's waters. Permanent diversion of the White River and its Chinook salmon production to the Puyallup River system together with the combined lowering of Lake Washington and diversion of the Cedar River from the Duwamish to Lake Washington has greatly altered the Chinook population of the Green/Duwamish River. Hatchery production in both the Green/Duwamish River and Cedar-

Sammamish systems currently produces many of the juvenile Chinook migrating through the City of Seattle and many of the returning adults.

Chinook salmon exhibit two basic life history patterns, ocean type and stream type. Chinook migrating and rearing along Seattle's shorelines are primarily ocean type. Ocean type Chinook spend weeks to several months rearing in freshwater before migrating to the marine environment. Stream type Chinook rear in freshwater for one year in freshwater prior to migrating to the ocean. Stream type Chinook also tend to stay closer to the shore once in the ocean than the ocean type Chinook. Ocean type Chinook are more dependent on the estuarine habitat where they acquire substantial growth that helps them avoid predation as they migrate to the ocean.

In estuaries such as the Duwamish, Chinook appear to prefer shallow water. They are commonly found in areas that provide refuge from wave and current energy apparently due to their preference at this life stage for shallow water beach areas and feeding at the beach substrate when in these shallow shoreline areas. The young Chinook fry appear to preferentially feed at the substrate surface when in shallow shoreline areas commonly no more than 1-2 m deep (Kaczynski et al. 1973, Feller and Kaczynski 1974, Weitkamp et al 1981, MacDonald et al. 1987) where wave energy is likely to make feeding difficult. In this restricted environment, it is likely they are more adversely affected by wave energy than fish in slightly deeper water or fish that tend to be near the surface over deeper water.

In estuaries, young Chinook commonly prey on epibenthic invertebrates such as harpacticoid copepods and chironomid (dipteran insects) larvae and pupae, and many other small invertebrates (Meyer et al. 1980, Parametrix, Inc. 1985, Shreffler et al. 1992, , Cordell et al. 2001, Bottom and Jones 1990, Tanner and Williams 1991). It is not clear if young Chinook are selecting chironomid larvae from the bottom or from drift, or both. Other insect larvae including other dipterans, hymenopterans, coleopterans, ephemeropterans, and tricopterans have been identified as juvenile Chinook prey. Epibenthic prey also include several species of the amphipod *Corophium* consumed by young Chinook collected in a number of investigations. Pelagic prey include some of the varieties of insects listed above, which may be present in drift entering the estuary or as emerging pupae as well as cladocerans that are fresh water organisms. Other pelagic organisms commonly consumed by Chinook are invertebrates found only in more saline waters. These include calanoid copepods, gammarid amphipods, cumaceans, euphausids, mysids, decapod larvae, and fish larvae (herring, sand lance). Table 5 provides a list of the wide variety of more common juvenile Chinook prey identified in a number of investigations from many different estuaries.

Table 5. Prey report for juvenile Chinook stomach contents.

Pelagic	Epibenthic/Benthic
Cladocerans	Amphipods
Bosmina	Corophium
Daphnia	Corophium salmonis
Daphnia longispina	Corophium spinicorne
	Gammarids
Copepods	Anisogammarus
Cyclopoids	Eogammarus confervicolus
Calanoids	
Epischura	Copepods
Neocalanus	Harpacticoids
Eurytemora dirundaides	
	Insects

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Amphipods Euphausids Mysids Neomysis Cumacea Cumella Barnacle larvae Crangonid shrimp Crab larvae, Decapod Larvae Insects chironomid larvae & pupae coleoptera larvae drift insects Dipnerans (flies) Hymenoptera (bugs) Coleoptera (beetles) Tricoptera (caddis flies) Ephemeroptera (mayflies) Fish Larvae (herring, sand lance)	chironomid larvae

Chum Salmon

Chum salmon commonly reproduce in relatively small streams and often within a short distance of marine water. This characteristic enables them to populate many of Seattle's creeks that do not meet the habitat requirements of Chinook. Chum salmon are exclusively an ocean type species whose juveniles migrate to marine waters within a few months following emergence from spawning gravels in the spring. This characteristic allows them to avoid the limiting low water conditions that commonly occur in small streams in late summer and early autumn.

Like Chinook, chum salmon are highly dependent on estuarine habitat for rearing and rapid growth, prior to migrating into Puget Sound. They are commonly found in the same habitat as young Chinook, often in mixed schools. The amount of time chum spend feeding in freshwater systems varies from weeks to months (Salo, 1991).

Young chum eat both benthic and pelagic prey (Beamish et al. 1998, D'Amours 1987, Cardwell et al. 1980, Levy 1978, Okada and Tanaguchi 1971, Foskett 1951). Harpacticoid copepods and chironomids are among the most common benthic prey consumed by young chum in estuarine habitats. Many studies have also found that juvenile chum have consumed pelagic prey in estuarine areas. When they first enter estuaries, prey includes pelagic freshwater cladocerans (*Cyclops*, *Bosmina*, *Daphnia*) apparently carried into the estuary by river flow. Pelagic prey found in higher salinity areas include calanoid and cyclopoid copepods, gammarid amphipods, barnacle larvae, cumaceans, euphausids, mysids, and larvaceans. Chum fry have also occasionally been found to consume fish larvae.

Coho Salmon

Coho salmon are a substantially abundant species in the Pacific Northwest and Seattle's waters. They are commonly produced in many hatcheries. In most areas of the North Pacific, coho occur in small numbers compared to other species of Pacific salmon (Sandercock, 1991). Although coho do exhibit an ocean type life style, more commonly they are stream type fish that spend at least one year rearing in fresh water. Generally the embryos/alevins spend 4 - 6 months incubating in spawning gravel and up to 15 months rearing in fresh water followed by 16 moths rearing in the marine environment (Sandercock, 1991). Adult coho, like other salmon, tend to migrate upstream during daylight hours (Fraser et al.1983).

Juvenile coho prefer structurally complex streams that contain stones, logs and bushes in the water, which tends to support larger numbers of fry (Scrivener and Andersen 1984). Chapman (1965) demonstrated that in Oregon streams, there was a positive correlation between the amount of terrestrial insect material found in coho stomachs and the extent to which the stream was overgrown with vegetation. Coho juveniles are highly dependent on visual cues for locating and capturing food (Hoar 1958) tending to pick food out of suspension or off the water's surface.

Coho spawn in shallow streams with moderate flow rates. In the Green River coho tend to select areas where flow is between 5.0-6.8 m^3/min and stream width does not exceed 1 m (Sandercock, 1991). In urbanized areas, coho must overcome significant in-stream obstacles in order to reach suitable spawning areas. Individual fish have been known to leap more than 2 m into the air in order to clear obstructions which would otherwise block fish passage (Sandercock, 1991), while during autumn storms coho can be seen swimming up streets in several inches of water.

Coho's life strategy of a prolonged upstream journey to small streamlets before spawning allows the coho to inhabit streams that generally tend to provide cool, clear, well-oxygenated water, which are ideal conditions for incubation and rearing (Sandercock, 1991). Historically, in these headwater streams, high and low water temperatures are moderated by groundwater seepage (Sandercock, 1991) and vegetation cover, leading to a relatively stable environment. For a year following their emergence from the gravel, coho rear in slow backwaters, side channels, and small creeks especially in shady areas with overhanging branches (Cederholm et al. 1997, Shirvell 1994, Nickelson et al. 1992). Coho remain in freshwater for a year and thus, are more susceptible to in stream conditions than chum, pink, and ocean-type Chinook salmon (Sandercock,1991).

Coho fry rear in relatively slow water, feeding on drifting organic material and terrestrial insects (Mundie, 1969, Mason 1974, Cordell et al. 1998). Juvenile coho are also piscivorous feeding on other small salmonids (Armstrong 1970, Beall 1972), although they continue to prey on insects and other pelagic prey during freshwater and estuarine rearing. The most productive areas for coho are small streams rather than large rivers (Sandercock, 1991). Woody debris is an important feature of this habitat, but is not essential (Spalding et al. 1995).

Coho tend to be fairly adaptable. This is evidenced in the species ability to use small coastal streams as well as the headwater creeks and tributaries of larger rivers to spawn. (Sandercock,1991). Of the seven Pacific salmon species, coho have also been the most successfully transplanted.

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Since 1998, Seattle urban streams have been experiencing up to 88% of coho returning to the stream to spawn dying before they reach the spawning grounds. This trend in pre-spawning mortality has occurred in coastal streams located between Bellingham and Portland. Currently SPU and NOAA Fisheries are conducting studies to determine the cause of this.

DISCUSSION

In general the information provided by the scientific literature published in recent years has not radically changed any aspect of our understanding of the functions, attributes, and characteristics of shorelines along streams, lakes, estuaries, and marine areas. Most of the literature has expanded and enhanced our understanding of previously identified principles and characteristics. Table 6 provides a summary of information describing the habitat needs of salmon living in, or migrating through, Seattle's aquatic habitats.

Table 6. Juvenile Salmon Freshwater Life History - Summary and Conclusion.

FACTOR	FINDING	SPECIES	SOURCE
Water/Depth/ Stream Velocity	The range in water depths and stream velocity acceptable for spawning is broad (5cm - 700cm) and (10cm/s - 150.0cm/s)	Chinook	Healey, 1991
	Flow control appears to result in a significant increase in average egg survival	Chinook	Healey, 1991
Water Temperature	Temperatures required for incubation vary among stocks. In Washington State a water temperature drop below 2.5°C inhibits nest construction and spawning	chum	Schroder, 1973
	Upper and lower temperatures for 50% pre-hatch mortality are 16°C and 2.5-3°C	Chinook	Alderdice and Velsen, 1978
Dissolved Oxygen	Several authors have shown that survival of eggs and alevins is directly related to the intra-gravel dissolved oxygen content	chum	Salo, 1991
	Lethal level (minimum) dissolved oxygen is 1.67 mg/l	chum	Wickett, 1954
	Survival rate decreases rapidly when concentration of oxygen drops below 2 mg/l	chum	Koski, 1975
	As embryos develop, oxygen demand goes up. Critical oxygen levels range from 1 ppm in early embryonic stages to 7 ppm shortly before hatching.	chum	Alderdice et al., 1958
	Chum have lower oxygen requirements than either coho or Steelhead reflecting lower metabolic demand	chum	Fast and Strober, 1984
Gravel Size	87% of fry emerged successfully from large gravel with adequate sub-gravel flows	Chinook	Healey, 1991
	Survival to hatching is greater than 97% in gravel provided percolation rate is at least 0.001 ft/s	Chinook	Shelton, 1955
	Survival to emergence is positively correlated with gravel sizes >3.35 mm and <26.9mm	coho	Tagart, 1976
	If gravel is heavily compacted or loaded with fine sediment and sand, fry will not be able to get out	coho	Sandercock, 1991
Stream Habitat	Smaller fry tend to inhabit back eddies produced by fallen trees, undercut tree roots or other areas of bank cover	Chinook, coho	Healey, 1991
	Chinook are rarely found in still water or where flow velocity is greater than 30 cm/s	Chinook	Murphy et. al. , 1989

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FACTOR	FINDING	SPECIES	SOURCE
Stream Habitat	At night Chinook move into shore to quiet water over sandy substrates and settle to the bottom	Chinook	Edmundson et al., 1968
	There is little overlap in Chinook habitat and coho or sockeye habitat	Chinook, coho, sockeye	Healey, 1991
	Coho fry congregate in slow backwaters, side channels and small creeks especially in shady areas with overhanging branches, commonly side channel areas	Coho	Gribanov, 1948 in Sandercock, 1991 Swales & Levings 1989
	Most productive areas for coho are small streams rather than large rivers because of the higher proportions of marginal slack water to midstream area.	Coho	Sandercock, 1991
Age at Maturity	Chum mature at 2-6 years of age with 95% of the species maturing in the three to five year age group. In Seattle, approximately 60% of the population matures in 3 years, 39.4% matures in 5 years.	chum	Pratt, 1974 in Salo, 1991.
	Chinook mature and return at an average age of 4 years, males tend to mature younger while females tend to be older	Chinook	Healey, 1991
	Majority of coho mature in their 3rd year, having spent 4 -6 months in incubation, up to 15 months rearing in fresh water and 16 months in sea water	coho	Sandercock, 1991
Stream Re-entry	Chum enter streams stimulated by an increase in steam runoff of almost any magnitude.	chum	Salo, 1991.
	Chinook may return during almost any month of the year.	Chinook	Snyder, 1931 Rich, 1942 Hallock, et.al.1957
	Chinook return yearly in 1 to 3 peaks	Chinook	Healey, 1991
	Coho arrive at their rivers of origin in later summer and autumn.	coho	Sandercock, 1991
	Coho migrate when water temperature is between 7.2° - 15.6°C, depth is at least 18cm and velocity does not exceed 2.44 m/s	coho	Reiser and Bjornn, 1979
	Coho migrate farther upstream than pink and chum but not as far as Chinook or sockeye.	coho, pink, chum, Chinook, sockeye	Sandercock, 1991
Spawning	In the Fraser River, Chinook populations spawn between June and November	Chinook	Healey, 1991

FACTOR	FINDING	SPECIES	SOURCE
	Coho spawn between November and January	coho	Sandercock, 1991
Feeding	Chum fry in Ulkhan River begin feeding early and linger as late as June. Their basic diet consists of larvae and chrysalis of chironomids, mayfly larvae, *Trichoptera*, and other insects.	chum	Kostarev, 1970
	In a series of studies conducted in Big Beef Creek, Washington coho yearlings selected smaller chum fry and predation rate decreased as the size of the fry increased.	coho / chum	Beall, 1972
	Larval and adult insects make up the main portion of rearing Chinook's diet in freshwater.	Chinook	Healey, 1991
	In British Columbia streams, coho tend to feed on drifting organic material and terrestrial insects	coho	Mundie, 1969
Out Migration	Chum fry migrate downstream into estuaries from February to May in Washington State	chum	Salo, 1991
	Some fish migrate downstream as fry while others remain in streams for a period of time	chum, Chinook	Salo, 1991 Healey, 1991
	Stream type Chinook delay out migration until the spring following their emergence from the gravel	Chinook	Healey, 1983

Recently it has been determined that adult salmon contribute marine nutrients to freshwater and riparian habitats (Larkin and Slaney 1997). Carcasses of salmon that die after spawning either decompose in the stream or are eaten by mammals and birds that deposit the nutrients in the riparian areas.

An emphasis of the recent literature is the naturally dynamic characteristic of lentic systems. Streams naturally change both over time and as they progress downstream. Urban development limits that capacity of urban streams to change by confining their channels, greatly reducing their riparian support habitat, and dramatically altering their hydrology. Since biological functions of streams are maintained in part by the natural dynamic characteristic of the aquatic habitat and shorelines, it is important to provide regulatory provisions that encourage and enhance reestablishment of this dynamic characteristic. Although intense human development is commonly not compatible with complete restoration of streams dynamics, it is valuable to restore the physical characteristics this dynamic condition maintains wherever possible.

A continuing and pertinent aspect of BAS is the substantial level of uncertainty in the information available to guide management of the natural resources (Healy 1998). Despite substantial research efforts, the complexity and variability of the natural ecosystems results in a high level of uncertainty. The adaptive management approach to habitat protection and restoration has become a necessary adaptation to deal with this recognized uncertainty (Anderson et al. 2003).

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Fish and Wildlife Habitat Conservation Areas: **Aquatic Areas**

Conservation and protection measures to protect and enhance species of anadromous salmon reproducing, rearing, and migrating in Seattle's aquatics habitats are currently being undertaken (Seattle 2003). These efforts focus primarily on the streams, Lake Washington shoreline, and the Duwamish River estuary shorelines within the City.

GLOSSARY

adaptive management: management strategies that deal with uncertainty and adapt to accommodate new knowledge acquired over time during implementation and operation of an action.

adfluvial: fish that migrate to and spend most of their life in lakes or reservoirs following incubation and initial rearing in tributaries.

alevin: the first post-hatch life stage of salmon. Alevins will have some portion of their yolk sac showing on their abdomen. A life stage commonly found only within spawning gravel or hatcheries.

allochthonous: organic material formed outside the stream, riparian plant material entering streams.

allopatry: fish populations that occur in isolation in different areas.

anadromous: fish that hatch in freshwater, migrate to seawater as juveniles and return to freshwater as adults to spawn.

anthropogenic: man made or man-caused.

aphotic zone: deeper portions of a water body below which light penetration is adequate to support photosynthesis.

backwater: a pool formed by an eddy along the stream channel margin downstream from an obstruction such as large boulders, large woody debris, etc. May be separated from the main channel by a bar or other topographical feature.

benthic: an environment or habitat related to the bottom of a stream or body of water; living in or on the bottom.

boulder: sediment particles larger than 15 cm.

cascade : a continuous series of small waterfalls, highly turbulent

chute : a steep narrow channel with moderate turbulence.

chironomids: dipterans (midges) that have aquatic larvae commonly providing a food source for young salmon and other fishes.

cobble: stones of about 6-15 cm in diameter.

cut bank: a steep stream bank, commonly undercut by the stream current that provides holding or refuge habitat for fish.

diurnal: having a daily cycle, generally day v night.

diversity: a measure of the biological complexity of an ecosystem, number of multiple species and/or life stages present in area or habitat type.

CITY CLERK

eddy: an area having a recirculating current, may be highly elongated, but with a portion of the flow in the reverse direction of the main current. Commonly formed by shoreline or bed features obstructing the general river flow.

epibenthic: living on or just above the bottom of a stream or body of water.

escapement: the number of adult fish that survive ocean conditions and fisheries to enter streams where they reproduce.

estuary: the transition zone from freshwater to seawater where the two mix, commonly having relatively thin layer of reduced salinity on the surface and a higher salinity layer below, and influenced by tidal exchange.

evolutionarily significant unit (ESU): a distinct population segment of a species that interbreeds when mature, generally genetically distinct from other groups, and representing a significant portion of the evolutionary lineage of the species.

exotic species: fish species that have been artificially introduced to a watershed where they did not naturally exist.

fingerling: an early freshwater life stage of salmon that are several months old and are about finger size, usually about 40-50 mm in length. Follows fry life stage and precedes smolt life stage.

fluvial: pertaining to large rivers or major tributaries.

freshet: a major increase in stream flow due to storms or snowmelt, commonly in the autumn and spring.

fry: an early life stage of salmon that have emerged from gravel but still within its first few months of life. Generally about 30-50 mm in length. Follows alevin life stage and precedes fingerling stage.

glide: a slow moving moderately shallow section of a stream with a generally smooth surface (little or no surface turbulence), water velocities 10-20 cm/sec.

habitat: the physical space or location where an organism or species lives, including its physical and biological characteristics.

hyporheic zone: a biologically active underground area of porous sediment adjacent to and under a stream where groundwater and surface water mixes

gravel substrate: gravel forming a stream bottom or shoreline area that provides a basic habitat type used by Chinook for spawning and rearing. Generally 2-6 cm in diameter (Wentworth).

incised channel: a stream channel cut down into a valley floor by erosion.

impervious surface: surface of the earth that has been converted from natural soil to some artificial form (such as building roofs, pavement, sidewalks, etc.) that is impervious to rainfall.

iteroparous: fish that survive their first spawning to undergo one or more subsequent spawnings (e.g., steelhead, cutthroat, bull trout). Contrast "semelparous".

juvenile salmon: young salmon that have not reached sexual maturity. Generally referring to young salmon that have not yet migrated to the sea, or have just entered the marine waters.

larvae: immature life stage of fish and invertebrates that have fundamental characteristics different from the adult life stage of the species.

lentic: lake type or still waters that are not actively flowing.

limnetic: the open water area of a lake or similar body of water.

littoral zone: the nearshore zone of a water body that is sufficiently shallow to permit photosynthetic activity by macrophytes.

lotic: stream type waters that are actively flowing.

macrophytes: multicellular aquatic plants that attach to the bottom by roots or holdfasts, as opposed to planktonic plants.

natal stream: the stream in which the adult salmon were originally spawned, incubated and reared.

native stock: salmon that are genetically derived from wild fish native to the watershed.

naturally producing or spawning stock: salmon of both wild and hatchery origin that spawn together within a stream. Commonly producing some hybrid fish from the two genetic sources

neritic: residing in shallow water.

ocean type: salmon that commonly spend a brief period of weeks to several months rearing in freshwater before they migrate to seawater, as contrasted to "stream-type" salmon that spend at least one winter in freshwater.

order (stream): relative size of a stream based on the joining of tributaries. First order: no tributaries. Third order: tributaries join to produce tributaries that join other tributaries to form a third order stream.

pelagic: residing within the water column rather than near the bottom or shoreline in either fresh or seawater.

photic zone: shallow water where light penetration is sufficient to support photosynthesis by aquatic vegetation.

plunge pool: a pool located immediately downstream from a falls or other obstruction that causes the stream flow to plunge resulting in a scoured stream bed.

point bar: a bar of sand, gravel, cobble or other deposited material on the inside of a bend in the stream, generally producing some obstruction to flow.

ENS CITY CLERK

pool: a section of the stream with relatively deep water and low velocities.

primary production: production by plants that use sun light (photosynthesis) as an energy source to sustain life.

profundal: deep water, usually well below the photic zone.

redd: the nest formed by a spawning female salmon as it digs in a small area of the stream bottom with its tail to form several depressions (egg pockets) in which eggs are deposited.

riffle: a shallow rapid section of a stream with turbulent water, but lacks standing waves.

riparian zone: that portion of the land adjacent to a stream or body of water, usually within several hundred feet of the water's edge.

run: a shallow rapid section of a stream with no obvious waves and little turbulence, water surface generally parallel to the stream gradient.

sand: substrate particles of about 0.0625-2.0 mm in diameter (Wentworth).

scouring: e.g., displacement of spawning gravel along with incubating embryos and alevins in a stream due to high flows (freshets).

semelparous: species such as Pacific salmon that die after their first spawning (Chinook, coho, chum, pink, sockeye). Contrast "iteroparous."

silt: substrate particles of 0.0039-0.0625 mm in diameter (Wentworth)

side channel: a roughly parallel channel separate from the main stream channel that receives its flow primarily from the main channel, and with less flow than the main channel

smolt: a life stage of salmon that is undergoing or has completed the physiological transition that allows it to live in seawater. Commonly involves changes in body form to a slightly more streamlined form and silvery body coloration.

stream incision: cutting down of a stream through erosion of the stream bottom by strong currents.

stream type: salmon that rear for approximately a year or more in freshwater prior to migrating to seawater, as contrasted to "ocean-type" salmon.

sub-basin: a portion of a watershed collecting precipitation draining to a tributary of a larger stream.

thalweg: the center of the main path of a stream having the greatest depths of a channel cross section.

thermocline: a layer of sharp temperature change in a stratified body of water.

vertical temperature gradient: a vertical boundary layer of substantial temperature change within a lake or test aquarium that provides fish with a choice of temperatures.

watershed: the entire geographical area collecting precipitation discharged to a stream, also referred to as a catchment or river basin.

wild stock: a group of fish from a watershed that have continuously spawn naturally, and have not been intermixed with a hatchery population.

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Fish and Wildlife Habitat Conservation Areas:
Birds & Reptiles

Introduction

Fish and Wildlife Habitat Conservation Areas (FWHCA's), as defined by the GMA, are lands designated and managed for maintaining targeted species within their natural geographic distribution so that isolated subpopulations are not created. Such areas are considered to be critical for the long term viability and proliferation of certain native fish and wildlife species. FWHCA's include all areas identified by the Washington State Department of Fish and Wildlife (WDFW) as priority habitat and species areas, urban natural open space habitat areas and bodies of water that provide migration corridors and habitat for priority species of fish.

This section presents management recommendations and descriptions of the needs for species, other than fish, found in Seattle that have been identified as being priority species by the Department of Fish and Wildlife. These species are Bald Eagle, Great Blue Heron, Peregrine Falcon, Purple Martin and Western Pond Turtle. Scientific findings and management recommendations for anadromous fish are found in the Aquatic Habitat section of this report.

It should be noted that management recommendations contained in this report are intended primarily for rural conditions. Given the urban nature of Seattle and the habituation of some species to urban conditions, management of these species needs to be tailored to fit Seattle's context. When appropriate, Seattle works with the Department of Fish and Wildlife to draft specific management recommendations that take into account the urban nature of the specific area.

The following text and management recommendations are largely taken from *Washington's Priority Species, Volume IV: Birds* prepared by the Department of Fish and Wildlife. The compete list of citations and references can be found at www.wa.gov/wdfw/hab/phs/vol4/birdrecs.htm or by contacting Washington State Fish and Wildlife.

Bald Eagle

Bald eagles breed throughout most of the United States and Canada, with the highest concentrations occurring along the marine shorelines of Alaska and Canada. They winter throughout most of their breeding range, primarily south of southern Alaska and Canada (U.S. Fish and Wildlife Service 1986, Stinson et al. 2000). In Washington, bald eagles nest primarily west of the Cascade Mountains, with scattered breeding areas along major rivers in the eastern part of the state. Wintering populations are found throughout the Puget Sound region, the San Juan Islands, Hood Canal, the Olympic Peninsula, the upper and lower Columbia River and its tributaries. Major wintering concentrations are often located along rivers with salmon runs. In Seattle the Department of Fish and Wildlife reports that they have been observed nesting in locations along the Lake Washington shoreline, in the West Point/ Discovery Park area, Green Lake, Foster Island, Union Bay and Duwamish Head area.

Breeding Territories

Eagles defend breeding territories that include the active nest, alternate nests, preferred feeding sites, and perch and roost trees (Stalmaster 1987). Within a territory, snags and trees with exposed lateral limbs or dead tops are used as perches, roosts, and defense stations (U.S. Fish and Wildlife Service 1986). In Washington, breeding territories include upland woodlands and lowland riparian stands with a mature conifer or hardwood component (Grubb 1976, Garrett et al. 1993, Watson and Pierce 1998). Territory size and configuration are

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influenced by factors such as breeding density (Gerrard and Bortolotti 1988), quality of foraging habitat, and the availability of prey (Watson and Pierce 1998). Territories sometimes contain alternate nests. Grubb (1980) found that alternate nest trees in territories of eagles in Washington were located an average of 350 m (1,050 ft) from occupied nests. Although it is unclear why bald eagles construct alternate nests, they may facilitate successful reproduction if the primary nest is disturbed or destroyed.

The 3 main factors affecting the distribution of nests and territories are: 1) nearness of water and the availability of food; 2) the availability of suitable nesting, perching, and roosting trees; and 3) the number of breeding-age eagles in the area (Stalmaster 1987). An adequate, uncontaminated food source may be the most critical component of breeding habitat for bald eagles (U.S. Fish and Wildlife Service 1986, Stalmaster 1987). Breeding eagles in Washington primarily consume live or dead marine and fresh-water fishes, and also waterfowl and seabirds. Secondary food sources include mammals, mollusks, and crustaceans (Retfalvi 1970, Knight et al. 1990, Watson et al. 1991, Watson and Pierce 1998). Grubb (1980) found an average territory radius of 2.5 km (1.6 mi.) in western Washington. Home ranges of 50 pairs of bald eagles throughout Puget Sound averaged 6.8 km^2 (4.2 mi^2) (Watson and Pierce 1998). Ranges included areas occupied during occasional excursions beyond defended territories. Core areas of intense use averaged 1.5 km^2 (0.9 mi^2) in size. On the lower Columbia River, the mean home range size and minimum distance between eagle nests was 22 km^2 (13.6 mi^2) and 7.1 km (4.4 mi), respectively (Garrett et al. 1993). The distance eagles maintain between adjacent, occupied territories may be important for maintaining their productivity when food resources are limited (Anthony et al. 1994).

Courtship and Nest Building

In Washington, courtship and nest building activities intensify in January and February. Bald eagles commonly build large stick nests in mature trees, which are used over successive years. Eagles select nest trees for structure rather than tree species (Anthony et al. 1982, Anthony and Isaacs 1989). A typical nest tree is dominant or co-dominant within the overstory. It usually provides an unobstructed view of nearby water and has stout upper branches that form flight windows large enough to accommodate an eagle's large wingspan (Grubb 1976). It is usually live, though it often has a dead or broken top with a limb structure that supports the nest. Bald eagle nests are usually located within the top 7 m (20 ft) of the tree (U.S. Fish and Wildlife Service 1986). Bald eagles prefer to nest along marine and freshwater shorelines. Approximately ninety-seven percent of Washington's active bald eagle nests are within 914 m (3000 ft) of a lake, river, or marine shoreline (Stinson et al. 2001). The average distance between these nests and open water varies slightly with shore type [marine:140 m (457 ft), river:193 m (633 ft), lake:304 m (997 ft)]. In examining 218 bald eagle nests, Grubb (1980) found that their average distance from water was 86 m (282 ft). These distances ranged from 4.6 - 805 m (15 - 2,640 ft). 55% were within 46 m (150 ft) and 92% were within 183 m (600 ft) of a shoreline.

Eggs and Eaglets

Egg-laying begins in late February, with most pairs incubating by the third week of March (Watson and Pierce 1998). Eaglets hatch after a 35-day incubation period (Stalmaster 1987). Most eaglets fledge in mid-July but remain in the vicinity of the nest for several weeks prior to dispersal (Anderson et al. 1986, Watson and Pierce 1998). Most juvenile and adult bald eagles that nest in western Washington migrate to British Columbia and southeast Alaska in late summer and early fall. Adults return to their Washington territories by early winter (Watson and Pierce 1998).

Wintering
Migrant eagles from other states and provinces begin arriving at their traditional Washington wintering grounds during late October, and most disperse by March (Biosystems, Inc. 1980, 1981; Fielder and Starkey 1980; Garrett et al. 1988; Stalmaster 1989; Watson and Pierce 2001). Wintering bald eagles are attracted to western Washington by abundant prey, particularly salmon carcasses on Puget Sound tributaries.

Food Sources
Because wintering eagles often depend on dead or weakened prey, their diet may vary locally. In Washington, various types of carrion are important food items during fall and winter, including spawned salmon (primarily chum) taken from gravel bars along rivers (Stalmaster et al. 1985, Stalmaster 1987). Cattle carcasses and afterbirths, road-killed deer, and crippled waterfowl are important food sources where salmon carcasses are unavailable (J. Watson, personal observation).

Day Perches and Roosting Habitat
Wintering eagles select day perches according to their proximity to food sources (Steenhof et al. 1980). Perch trees tend to be the tallest available, and eagles will consistently use their preferred branches. A variety of tree species, both alive and dead, are used for perching (Stalmaster 1976). Bald eagles may roost communally in winter, with 3 or more eagles perching consecutive nights in the same trees. Communal roosting probably enhances food-finding in nearby foraging areas (Knight and Knight 1984). Eagles sometimes gather in staging trees located between feeding grounds and roost trees prior to entering the night roost (Hansen et al. 1980, Anthony et at. 1982, Stalmaster 1987). Because bald eagles leave little permanent sign of their presence after they depart wintering areas (i.e., no nest), emphasis in Washington state has been given to identifying the locations and describing characteristics of communal roosts during winter (Hansen 1977, Hansen et al. 1980, Keister 1981, Knight et al. 1983, Stellini 1987, Watson and Pierce 1998). Key roost components include core roost stands, buffer trees, flight corridors, staging trees, and foraging areas associated with roosts (Stalmaster 1987). Roost tree species vary with geographic area, but communal roost stands are generally uneven-aged with a multi-layered canopy, often on leeward-facing hillsides or in valleys. Such characteristics create favorable microclimates within roosts that promote energy conservation (Hansen et al. 1980, Keister 1981, Stalmaster and Gessaman 1984, Stellini 1987). Watson and Pierce (1998) documented twenty-six roosts on major tributaries of Puget Sound and found that eagle territories averaged 9 ha (22 ac) in size, were located <1.1 km (0.7 mi) from foraging areas, and contained roost trees that were larger in diameter, taller, and more decadent than random trees.

Management Issues and Recommendations
Residential development, timber harvest, and the construction of buildings, roads, and piers along shorelines are the main habitat alterations affecting breeding eagles in Washington. Habitat management for nesting bald eagles generally occurs within 400m (1320 ft) of the shores of Washington's outer coast, the Puget Sound, and major rivers and lakes. Maintaining tree and stand structure, and maintaining adequate distances between habitat alterations and nest trees, are the key factors for managing habitat near breeding eagles in Washington. The long-term goal in managing habitat alterations is to maintain suitable nest and perch trees within existing territories to insure their continued occupancy by bald eagles (Stinson et al. 2001). In Oregon, management for uneven-aged forests, dominated by Douglas-fir west of the Cascades and ponderosa pine east of the Cascades, enhance the potential for future nesting (Anthony and Isaacs 1989). Although maintaining unaltered old-growth stands may provide optimum bald eagle habitat, the necessary structural characteristics may be supplied

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by a carefully managed, younger forest over time. Selective logging in younger forests may be prescribed to maintain or enhance desired characteristics of nesting or roosting habitat (Stalmaster 1987). Forests that were hand-logged prior to 1940, leaving remnant old-growth trees, provided bald eagle breeding habitat along coastal British Columbia for the future in the 1980s (Hodges et al. 1984). In general, maintain as many mature trees as possible to protect forage, perch, alternate nest, and roost habitat (Anthony and Isaacs 1989).

Human Disturbance
The keys to preventing nesting bald eagles from being disturbed in Washington State are maintaining adequate distances between human activities and nest trees, and timing activities so that they don't interfere with nesting. WDFW recommends scrutiny of construction activities that result in increased pedestrian activity within 240 m (800 ft) of nests, as well as careful management of public trails and camping within this distance (Watson and Pierce 1998). Additionally, during the nesting season, activities such as tree cutting, the use of heavy machinery, pile driving, and blasting within 240 m (800ft) of active bald eagle nests should be avoided. These activities have a greater potential for disturbance beyond visual effects because they generate noise (U.S. Fish and Wildlife Service 1986). Furthermore, observations of adult eagles can help determine whether or not human activities are causing eagles to alter their behavior. Aggressive behavior, alarm calls, and adults flushing from their nest or perch indicate significant disturbance.

Timing
Activities within 240 m (800 ft) of nest trees that may disturb bald eagles should be conducted outside of the critical breeding period. The critical breeding period for Washington's bald eagles begins with courtship in early January and ends with juvenile dispersal in mid- to late-August (Watson and Pierce 1998, S. Zender, personal communication). Bald eagles in Oregon have a similar nesting phenology, with January 1 through August 31 identified as the time when human activities are most likely to affect breeding success (Isaacs et al. 1983). In residential areas, bald eagles that show tolerance to humans may not need the same distance or period of protection from disturbance (J. Bernatowicz, personal communication; S. Negri, personal communication).

Screening
Maintain high tree density and moderate canopy closure to visually buffer bald eagle nests from human activities. In Washington, Watson and Pierce (1998) found that complete vegetative screening around nests dramatically reduced the time and frequency of eagles' responses to disturbance. Partial screening had less of a positive effect, although it did reduce response distance. In the same study, eagles nesting in taller trees at heights >47 m (154 ft) had significantly reduced responses to a walking pedestrian compared to nests that were lower in trees.

Windthrow
A nest stand's vulnerability to windstorms is an important consideration when determining buffer distances and minimum stand size (Anthony and Isaacs 1989). Maintain a buffer of 120-240 m (400-800 ft) from the nest in order to protect the core stand from the effects of windthrow. The shape of the buffer may vary with site topography and prevailing wind direction to maximize vegetative screening and protection of the core stand. Buffers with variable widths can be designed after conducting a windthrow hazard assessment that takes into account prevailing wind direction, soil conditions, etc. (Sathers et al. 1994). Currently, the Washington Forest Practices Regulations use forested buffers of 60-120 m (200-400 ft) for wetlands and marbled murrelet nest stands. Thinning and salvage logging is allowed within these buffers, provided that the residual forest can withstand major wind penetration.

Research on the effects of windthrow indicates that the creation of abrupt forest openings may result in negative impacts to residual forest stands. Wind penetration has been documented up to 60 m (200 ft) into a conifer forest interior (Fritschen et al. 1971). Decreases in tree densities and tree canopy cover were noted up to 120 m (400 ft) into conifer forest from the clearcut edge (Chen et al. 1992). These changes were attributed mostly to tree mortality and windthrow caused by high wind velocities along new clearcut edges. A forested buffer can mitigate these edge effects on core nest or roost stands.

Buffer Distances

Buffers between 100-1,200 m (330-4,000 ft) have been recommended throughout the United States to protect the integrity of nest trees and stands (Mathison et al. 1977; U.S. Fish and Wildlife Service 1982, 1986; Fraser et al. 1985; Anthony and Isaacs 1989; Grubb and King 1991; Grubb et al. 1992). Nests and nest trees must be protected year round, since bald eagles typically use and maintain the same nests year after year. In addition, nests that appear to be abandoned also need protection, since bald eagles often construct alternate nests that are used periodically. When developing site management plans, WDFW recommends buffering bald eagle nests with a two-zone management system that mimics a strategy designed by the U.S. Fish and Wildlife Service (1981). The following guidelines for these zones are based on the research cited in this document:

Protected Zone (Primary Zone). This zone protects and screens the nest tree and should extend at least 120 m (400 ft) from the nest tree. Its size and shape will vary with site conditions such as topography, prevailing winds, and screening vegetation, as well as on the eagles' tolerance to human activities.

In areas where vegetation and/or topography don't provide adequate screening within 120 m (400 ft) of the nest, consider increasing the size of the protected zone. Retain all existing large trees and existing forest structure within the protected zone. Activities that significantly alter the landscape or vegetation, such as timber harvest; construction of buildings, roads, or power lines; mining; and the application of chemicals that are toxic to plants or animals, should be avoided in this zone. In some situations, noisy, non-destructive activities that can disturb eagles may need to be postponed until after the breeding and nesting seasons.

Conditioned Zone (Secondary Zone). The conditioned zone further screens and protects nest sites in the protected zone and should extend from 100 to 240 m (330-800 ft) beyond the edge of the protected zone. Alternate nest locations, perch trees, and feeding sites should be included in this zone and will influence its size and shape (Stallmaster 1987). Depending on screening vegetation, prevailing winds, topography, and the sensitivity of the nesting eagles to human activities, this zone may need to be expanded up to 800 m (2640 ft) from the edge of the protected zone. Avoid constructing facilities for noisy or intrusive activities, such as mines, log transfer and storage areas, rock crushing operations, and oil refineries, in the conditioned zone. High-density housing and multi-story buildings should also be avoided. Avoid constructing roads or trails within sight of the nest that would facilitate human or predator access to the nest. Construction activities (e.g., homes, roads, and power lines) that take place out of sight of the nest should be postponed until after the young eagles have fledged, as should forest practice activities. Timber harvest within conditioned zones should be designed to avoid blowdown and to provide future nest tree recruitment. Short term, unobtrusive activities, or those shown not to disturb nesting eagles, such as the use of existing roads, trails, and buildings, can occur year-round in the conditioned zone.

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Roosting Habitat
Timber harvest, and the construction of roads and buildings are the main habitat alterations that negatively affect roosting eagles in Washington. The long-term goal in managing these alterations is to maintain suitable roost trees and roost components over time in areas inhabited by bald eagles in order to ensure their continued use. Key roost components included core roost stands, buffer trees, flight corridors and staging trees, and prey bases associated with roosts (Stalmaster 1987). Roost tree species vary with geographic area, but communal roost stands are generally uneven-aged with a multi-layered canopy and are often on leeward-facing hillsides or in valleys.

Human Disturbance
Activities that produce noise or visual effects within 120 m (400 ft) of the edges of communal roost trees or staging trees should be conducted outside of the critical roosting period (November 15 - March 15). This corresponds to the time when most eagles begin to arrive in eastern and western Washington, with numbers peaking in December and January and declining rapidly by mid-March (Biosystems, Inc. 1980, 1981; Fielder and Starkey 1980; Garrett et al. 1988; Stalmaster 1989).

Perching and Foraging Habitat
Perches along shorelines near winter roosts or in nesting territories are important to foraging eagles. Tree structure, and the distance between habitat alterations and shorelines should be considered when managing for bald eagle wintering habitat. Chandler et al. (1995) studied the influence of shoreline perch trees on bald eagle distribution in Chesapeake Bay and found that shoreline segments used by eagles had more suitable perch trees, more forest cover, and fewer buildings than unused segments. Eagles used suitable perch trees that were less than 50 m (164 ft) from the shoreline but preferred those closer than 10 m (33 ft). This is consistent with other authors who observed bald eagles perching less than 50 m (164 ft) from shore (Stalmaster and Newman 1979, Steenhof et al. 1980, Buehler et al. 1992). Similarly, tall perch trees in leave strips that are 50-100 m (160-330 ft) wide along shorelines of major feeding areas were deemed important for foraging eagles (Stalmaster 1987). Also, Chandler et al. (1995) described how to map shoreline areas that could be managed or restored to maintain suitable bald eagle foraging habitat. They recommended protecting patches of shoreline forest, and specifically protecting live and dead trees over 20 cm (8 in) dbh for future habitat.

Bald eagles often feed on the ground, in open areas where food resources are concentrated. They should be allowed a distance of at least 450 m (1,500 ft) from human activity and permanent structures. Buffer zones of 250-300 m (800 ft-1,000 ft) have been recommended in perching areas where little screening cover is present (Stalmaster and Newman 1978). Stalmaster and Newman (1979) found that 50% of wintering eagles in open areas flushed at 150 m (500 ft) but 98% would tolerate human activities at 300 m (1,000 ft). Activities that disturb eagles while feeding, especially during winter, can cause them to expend more energy, which increases their susceptibility to disease and poor health (Stalmaster 1987).

Great Blue Heron

Range and Distribution
Great blue herons are found throughout most of North America south of 55° north latitude and into much of Central and South America. Breeding pairs on the Pacific coast occur only to about 52° north latitude. Distribution of great blue herons within Washington is state-wide.

Need for Protection
Great blue herons can be vulnerable because of their tendency to aggregate during the breeding season. The availability of suitable great blue heron breeding habitat is declining as human population increases in Washington State. In addition, great blue herons may abandon breeding colonies or experience reduced reproductive success when disturbed by humans.

Habitat Requirements and Current Breeding Grounds in Seattle
Great blue herons occur near most types of fresh and saltwater wetlands including seashores, rivers, swamps, marshes, and ditches. They are found throughout Washington but are most common in the lowlands. In Seattle there is a major rookery in the Kiwanis Ravine located in Magnolia adjacent to Discovery Park. Other rookery locations include the area adjacent to the Hiram M. Chittenden Locks, near Union Bay/ Laurelhurst, above the Duwamish River in West Seattle and in North Beach area.

Nesting
Great blue herons are colonial breeders that nest in a variety of deciduous and evergreen tree species. Nests are usually constructed in the tallest trees available, presumably to reduce the risk of predation by mammals (Butler 1992, Carlson 1995), but may also be located in bushes and in artificial structures (Bruce 1986, Blus et al. 1980) when trees are absent (Henny and Kurtz 1978). In King and Kitsap counties, great blue herons nested at heights ranging from 9-26 m (30-85 ft) in the tallest trees available (Jensen and Boersma 1993). A British Columbia study found that most great blue heron nests occurring in trees were located >14 m (46 ft) in height. No nests were found under 10 m (33 ft) (Mark 1976). Great blue herons in western Oregon nested at heights ranging from 7-25 m (23-82 ft) (Werschkul et al. 1976).

Feeding
Great blue herons feed on a wide variety of aquatic and marine animals found in shallow waters. Great blue herons also feed on mice and voles (Calambokidis et al. 1985, Butler 1995), which are an important food for nestlings in Idaho (Collazo 1981) and may be an important food for British Columbia great blue herons during winter (Butler 1995).

At large spatial scales (e.g., great blue heron home range), the location of great blue heron colonies is probably best explained by the distribution of foraging habitat (Gibbs 1991, Jensen unpublished data, see human disturbance below for smaller scale considerations). Although great blue herons may forage up to 29 km (18 mi) from a colony, most forage within 2-5 km (1-3 mi) of the colony (Short and Cooper 1985, Butler 1995). The number of nests per colony in British Columbia (Butler 1991), Oregon (Werschkul et al. 1977, Bayer and McMahon 1981), Maine (Gibbs 1991), and Washington (Jensen unpublished data) were positively correlated with the amount of nearby foraging habitat, and in Maine were negatively correlated with the costs of foraging at greater distances (km flown/ha of wetland visited). Feeding territory size and location may vary from year to year (Hoover and Wills 1987). The availability of alternative foraging and nesting habitat within close proximity of known foraging sites is probably critical to great blue heron reproductive success. Butler (1995) suggested that food availability strongly affects great blue heron survival, the spacing of their colonies, and their use of habitat. Moreover, great blue heron food supply may be limiting, particularly in areas where foraging areas freeze during winter (Butler 1992).

Colonies usually exist at the same location for many years, and productivity (number of fledglings/nesting herons) may be positively related to the number of years colonies have been in use (Butler 1995). This has been the case in the Kiwanis Ravine which has been an active nesting site for many years. Great blue herons may relocate their colonies in response to increased predation on eggs and young by mammals and birds such as eagles (Jensen

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unpublished data), declines in food availability (Simpson et al. 1987), or human disturbance. Jensen (unpublished data) suggested that 2 of the 5 King County colonies monitored in 1991 were abandoned in late spring due to bald eagle predation, but Butler (1995) found that there was no relationship between the location of great blue heron colonies and the location of areas with high densities of nesting eagles. Thus, abandonment of colonial nesting areas due to predation pressure from eagles may be regionally specific. Great blue heron colonies built in spruce or Douglas-fir trees may damage host trees over time, which may also influence colony relocation (Julin 1986).

Limiting Factors

The availability of nesting habitat in close proximity to suitable foraging habitat limits great blue herons. The availability of alternative foraging sites could be critical to nesting success. Great blue herons are generally sensitive to human disturbance and are frequently the target of vandalism (Parker 1980, English 1978). The type and extent of human disturbance can affect great blue heron colony site selection (Gibbs et al. 1987, Watts and Bradshaw 1994). In Virginia, great blue herons chose colony sites further from roads and human structures than would be expected by chance; a pattern that was apparent up to 400-800 m (1,312-2,625 ft) from colonies (Watts and Bradshaw 1994). Great blue heron colonies have been abandoned in response to housing and industrial development, highway construction, logging, vehicle traffic, and repeated human intrusions (Leonard 1985, Parker 1980, Kelsall and Simpson 1979, Werschkul et al. 1976). In King and Kitsap counties, Jensen (unpublished data) found that great blue heron colony size decreased as distance to the nearest human disturbance within 300 m (984 ft) decreased, and as the amount of human development within 300 m (984 ft) of the colony increased. Nests occupied first in each of 3 King County colonies in 1991 were furthest from development and had more than twice as many fledgling than nests closer to development (3.13 versus 1.51 young/nest) (Jensen unpublished data).

Other studies suggested that great blue herons may habituate to non-threatening repeated activities (Webb and Forbes 1982, Vos et al. 1985, Calambokidis et al. 1985, Shipe and Scott 1981). Thus, different great blue herons may have different tolerance levels to disturbance depending on disturbance history and type (Simpson 1984). Although the effects of visual and auditory buffers have not been well studied, topographic or vegetation obstructions may ameliorate some types of disturbance (Webb and Forbes 1982).

Management Recommendations

The following is a summary of the management recommendations found in Management Recommendations for Washington's Priority Species, Volume IV: Birds prepared by Timothy Quinn and Ruth Milner for the Department of Fish and Wildlife.

Wherever possible, a habitat protection buffer at least 300 m (984 ft) wide should be established around the periphery of a colony. All human activities likely to cause colony abandonment should be restricted in this buffer year-round, and all human activities likely to cause disturbance to nesting great blue herons should be restricted in this buffer area from 15 February to 31 July.

Site specific management plans should be developed for each great blue heron colony whenever activities that might affect that colony are proposed. Such plans should consider the following:

The colony's size, location, relative isolation, and degree of habituation to disturbance; Topographic or vegetative features surrounding the colony that might ameliorate the effect of human disturbance; The availability of foraging areas and their proximity to the colony site; Proximity of forest lands that could be used as alternative colony sites; and Land-use patterns and potential for long-term availability of nesting and foraging habitat.

Stands of large trees at least 17 m (56 ft) high and at least 4 ha (10 ac) in size that can be buffered from disturbance should be left in the vicinity of great blue heron breeding colonies as alternative nesting habitat.

Foraging areas, especially wetlands, within a minimum radius of 4 km (2.5 mi) of colonies should be protected from development and should have a surrounding disturbance free buffer zone of at least 100 m (328 ft). Attempts should be made to keep all pesticides out of great blue heron foraging and nesting habitat, and associated buffer zones. Activities such as logging or construction should not occur within 1,000 m (3,281 ft) of a colony, and no aircraft should fly within a vertical distance of 650 m (2,133 ft) during the nesting season. Alternative forested stands at least 4 ha (10 ac) in size with dominant trees at least 17 m (56 ft) in height should be left in the vicinity of existing great blue heron breeding colonies.

Purple Martin

Purple martins breed from southern Canada to central Mexico (Brown 1997) and winter in South America (Ehrlich et al. 1988). In Washington, they typically breed near the waters around the Puget Sound, along the Strait of Juan de Fuca, the southern Pacific coastline, and near the Columbia River (S. Kostka, personal communication). Unconfirmed records suggest that other potential breeding areas might also be found from the Willamette Valley up through Thurston County. In Seattle they have been identified by the Department of Fish and Wildlife as breeding in boxes in the Highlands and Blue Ridge neighborhoods, at pier 90 and in the vicinity of downtown.

Need for Protection

The purple martin is a State Candidate species. This species has a high public profile and are vulnerable to population fluctuations due to a limited distribution and loss of suitable natural nesting cavities (Brown 1997).

Habitat Requirements

Purple martins are insectivorous, colonial nesting swallows that nest in cavities (Brown 1997). In Washington, most martins have been reported nesting in artificial structures near cities and towns in the lowlands of western Washington. Historically, they probably bred in old woodpecker cavities in large dead trees, but only a few such nests are known to exist in Washington today (Brown 1997, Russell and Gauthreaux 1999). The eastern race of purple martins often nest in apartment-style nest-boxes, while the western subspecies, found here in Washington, prefer to nest individually (Pridgeon 1997). The nest site preferences of the purple martin have been studied at Fort Lewis in Pierce County (Bottorff et al. 1994). Martins nested in a variety of artificial nesting structures, including wood duck boxes. No purple martin nesting activity was detected in artificial nesting structures on land; all artificial cavities were over freshwater wetlands, ponds or saltwater. Swallows were found nesting in both natural and artificial cavities intermingled with martin nests, possibly competing for nest sites. More recent observations documented four pairs nesting in natural snag cavities near water at Fort Lewis (S. Kostka, personal communication). Martins were also recently found nesting in boxes well away from water just outside of the fort in Spanaway. Purple martins feed in flight on insects (Ehrlich et al. 1988, Brown 1997). Favorable martin foraging habitat includes open areas, often located near moist to wet sites, where flying insects are abundant.

Limiting Factors

The decline of the purple martin is attributed to the lack of snags containing nest cavities (Bottorffet al. 1994) as well as competition for nesting cavities with more aggressive

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European starlings (*Sturnus vulgaris*) and house sparrows (*Passer domesticus*; Bottorff et al. 1994, Brown 1997).

Management Recommendations
In Washington, purple martins are known to nest in cavities located in old pilings over water and occasionally in snags (United States Fish and Wildlife Service 1985, Milner 1987). These pilings and snags (especially snags near water) should be protected and left standing. The removal of creosote-coated pilings that contain a purple martin nest box or that possibly contain cavities used by martins should be closely coordinated with the Washington Department of Fish and Wildlife (M. Tirhi, personal communication). Snags should be retained during timber harvesting operations near saltwater and wetlands (Milner 1988), including salvage operations after burns, blow-downs, and insect infestations (United States Fish and Wildlife Service 1985). Prescribed burns can be used as a tool to create favorable martin foraging habitat. Snags can be created in forest openings, or at forest edges (e.g., by topping trees) where nesting cavities are lacking, especially within 16 km (10 mi) of an existing purple martin colony (United States Fish and Wildlife Service 1985). Because northern flickers and pileated woodpeckers excavate cavities used by martins, managing for these species will indirectly benefit martins (K. Bettinger, personal communication). Because of their dependence on insects for food, purple martins can be impacted by the broad use of pesticides (United States Fish and Wildlife Service 1985). If insecticide or herbicide use is planned for areas where this species occurs, review Appendix A for contacts to assist in assessing the use of chemicals and their alternatives. Although artificial nesting structures are an important tool for the conservation of purple martins, they should not replace the protection of natural nesting structures (e.g., snags) and the habitat used by this species (S. Kostka, personal communication). If natural sites are lacking and cannot be provided by manipulating habitat, artificial nesting structures can be provided.

Peregrine Falcons

Peregrine falcons occur nearly worldwide. In Washington, nesting may occur in all but the driest parts of the state. Breeding has been verified along the outer coast, in the San Juan Islands, and in the Columbia Gorge. Young birds have been introduced in unoccupied historical habitat in Skamania, Lewis, Spokane, Asotin, and Yakima counties. In Seattle they have established an eyrie on a downtown office building and near Pidgeon Point in West Seattle.
The peregrine falcon is a State Endangered species. Peregrine falcon populations have increased in Washington since chlorinated hydrocarbon pesticides were banned in the United States, and through the success of reintroduction programs.

Need for Protection
Their numbers and distribution are still limited however, due primarily to the lingering effects of pesticides and the lack of suitable nesting sites. Nest sites need to be in close proximity to adequate food sources and free from human disturbance.

Habitat Requirements
Peregrine falcons usually nest on cliffs, typically 45 m (150 ft) or more in height. They will also nest on off-shore islands and ledges on vegetated slopes. Eggs are laid and young are reared in small caves or on ledges. Nest sites are generally near water. The birds are sensitive to disturbance during all phases of the nesting season (1 March through 30 June) (Pacific Coast American Peregrine Falcon Recovery Team 1982, Towry 1987). Disturbance can cause desertion of eggs or young, and later in the breeding season can cause older nestlings to fledge prematurely.

Peregrines feed on a variety of smaller birds that are usually captured on-the-wing. Hunting territories may extend to a radius of 19-24 km (12-15 mi) from nest sites (Towry 1987). In winter and fall, peregrines spend much of their time foraging in areas with large shorebird or waterfowl concentrations, especially in coastal areas (Dekker 1995). At least 3 western Washington areas support significant numbers of winter resident peregrines annually: the Samish Flats, Grays Harbor, and the Sequim area (Dobler 1989).

Limiting Factors

Peregrine falcon populations declined worldwide as a result of sublethal doses of chlorinated hydrocarbon pesticides, especially DDT and dieldrin. Chemical contamination of the prey base resulted in reduced eggshell thickness, and consequently poor hatching success and survival of young peregrines (Snow 1972). Although these chemicals are now banned in the United States, eggshell thinning and other effects of pesticide contamination are still seen in some peregrine pairs (Peakall and Kiff 1988). Contamination probably results from consuming prey species that winter in countries that continue to use DDT and other organochlorine pesticides, from persistent pesticide residue remaining at the breeding grounds, or from current, illegal use of these chemicals in the United States (Henny et al. 1982, Stone and Okoniewski 1988). Additionally, peregrines may be limited in some parts of their range by availability of nesting sites in proximity to an adequate food source.

Management Recommendations

Breeding peregrine falcons are most likely to be disturbed by activities taking place above their nest (eyrie) (Herbert and Herbert 1969, Ellis 1982). Ellis (1982) recommended buffer zones of "no human activity" around peregrine falcon breeding sites in Arizona that ranged from 0.8 km to 4.8 km (0.5-3.0 mi), with wider buffer zones recommended for activities above the breeding cliff. These buffer distances were based on incidental observations of peregrine responses to various disturbances. In Washington, buffer zones of 4.8 km (3.0 mi) may not be necessary. However, human access along the cliff rim should be restricted within 0.8 km (0.5 mi) of the nest from March through the end of June (F. Dobler, personal communication). Human activities on the face of, or immediately below, nest cliffs should be restricted from 0.4-0.8 km (0.25-0.5 mi) of the nest during this time (F. Dobler, personal communication).

Where falcon nests are already established in proximity to humans, there is no need to eliminate trails, picnic grounds, or other facilities except where the birds are evidently disturbed by the human activities. However, further facilities should not be established within 0.4-0.8 km (0.25-0.5 mi) of the eyries (Ellis 1982). Cliff tops above the eyrie should remain undeveloped. Ellis (1982) suggested that logging be curtailed within 1.6 km (1 mi) of occupied peregrine eyries in Arizona. In Washington, forest practices are reviewed by the Department of Fish and Wildlife when occurring within 0.4 km (0.25 mi) of an eyrie during any season, and within 0.8 km (0.5 mi) of an occupied eyrie during the breeding season (WAC 222-16-080, 1,f). Eyries occurring within non-forested lands, and those eyries not subjected to forest practices or forest practice rules, should be similarly considered through the development of a site specific peregrine management plan when activities near nests are considered. Male peregrines require perches within sight of the eyrie. Preserve all major perches around the nest and on ridges or plateaus above the nest by retaining all snags and large trees (F. Dobler, personal communication). Aircraft should not approach closer than 500 m (1,500 ft) above a nest (Fyfe and Olendorff 1976). Closer approaches may cause peregrines to attack planes or may cause a frantic departure from the nest. Falcons startled from the eyrie have been known to damage eggs or nestlings (Nelson 1970).

EDS CITY CLERK

Powerlines and other wires may be serious hazards to peregrine falcons. Wherever possible, powerlines should be routed away from eyries (Olsen and Olsen 1980). Applications of pesticides that could potentially affect passerine birds should be avoided around occupied peregrine eyries during the breeding season. Some chemicals such as organochlorines, organophosphates, strychnine, and carbofuran can impact birds by causing toxicosis or death, or by contaminating their tissues. Other pesticides may be less toxic to birds, but will increase mortality of young passerines by directly reducing their food supply, thus indirectly reducing the prey available to peregrines (Driver 1991). Reduced or contaminated food sources will negatively affect peregrine falcons.

Wetlands, especially intertidal mudflats, estuaries, and coastal marshes, are key feeding areas in winter. Wetlands used regularly by peregrine falcons at any time of the year should receive strict protection from filling, development, or other excessive disturbances that could alter prey abundance. Do not apply pesticides to areas where winter prey species congregate. Lead shot should not be used in waterfowl areas where peregrine falcons feed. Peregrines can tolerate human presence at wintering sites if they are not harassed and if abundant prey remains. All large trees and snags in areas where peregrine falcons feed in winter should be maintained. These perches are important for roosting and for hunting at terrestrial sites. Snags and debris located on mud flats should also be left for winter perching and roosting.

Western Pond Turtle

The range of the western pond turtle follows the Pacific coast of North America, from the Puget Sound region in Washington to northwestern Baja California. Most populations are found west of the Cascade Mountain Range (WDFW 1993). In recent years, these turtles have become virtually absent in the Puget Sound region (WDFW 1993, Storm and Leonard 1995). Populations in Washington are confirmed only in Klickitat and Skamania counties. Individual turtle sightings have recently been confirmed in Pierce and King counties, which are part of the turtle's historic range. Historic records also exist for Clark and Thurston counties (McAllister 1995). The western pond turtle is a State Listed Endangered species. Populations of western pond turtles are declining in Washington. They are in jeopardy of extirpation due to their limited distribution, low numbers, and isolated populations. This species is vulnerable to extirpation in Washington by both natural and human-caused events (WDFW 1993). In Seattle WDFW has reported sitings in the past (the last siting was in 1992 when one was found under the SR 520 ramp near Foster island), but it's unlikely that a viable population exists in Seattle. Included in *Washington's Priority Species, Volume III: Amphibians and Reptiles* (http://www.wdfw.wa.gov/hab/vol3.htm) prepared by the Department of Fish and Wildlife staff Noelle Nordstrom and Ruth Milner which outlines habitat requirements, limiting factors and management recommendations for this species.

Geologic Hazards

Introduction

Geologic hazard areas present in Seattle include potential liquefaction areas and areas that are susceptible to landslides and earth movement due to unfavorable geologic conditions, steep inclination, seismic activity, stream incision, and wave action. These factors exist separately, or in combination, within certain areas of the city.

The region's geologic history provides the physical setting within which the forces of nature act to produce hazards to the environment and those occupying the land. The subsequent sections describe the general nature of these hazards. These hazards include known/documented landslide areas, potential landslide areas due to geologic and topographic conditions, steep slope areas and potential liquefaction areas.

Glacial Geology

Sedimentary deposits make up the bulk of local soil types and can be attributed to several processes. During the glaciation cycle, glaciers advanced and retreated out of the Puget Sound region continuing to add sedimentary layers to the Seattle area. This and more recent factors, have resulted in a regional soil pattern of interbedded, highly permeable soils overlying extremely compacted and relatively impermeable soils.

Approximately 25,000 years ago, alpine glaciers began to form and advance in the mountains of western Washington and an ice sheet was developing in the mountains of western British Columbia; this marks the beginning of the Fraser Glaciation (Armstrong and others, 1965). Approximately 15,000 years ago a lobe of Cordilleran ice, the Puget Lobe, pushed south into the Puget Lowland far enough to block the northward-flowing drainage to the Strait of Juan de Fuca. This resulted in a large proglacial lake, which drained southward into Grays Harbor via the lower Chehalis Valley. Water and sediment entered the lake from the glacier, which constituted its northern boundary, and from the highlands on both sides. A widespread deposit of silt and clay was thus created in a lake, which constitutes the Lawton Clay Member of the Vashon Drift (Mullineaux et al., 1965; Yount et al,1993).

As the Puget Lobe advanced to the south, a thick unit of proglacial fluvial and lacustrine sand was deposited. This unit, the Esperance Sand Member of the Vashon Drift, spread over the Lawton Clay and the hills of older material that protruded through the Lawton Clay. The contact between the Lawton Clay and the Esperance Sand is not generally an abrupt one; there often exists a zone, several meters thick, in which sand is interlayered with silt and clay. This contact zone, as used in this report, is the boundary between the Lawton Clay and the Esperance Sand. Because of its role in slope stability processes, Tubbs (1975) includes the transition zone between these two units to be within the Lawton Formation because of the presence of lower permeable layers within this zone. The transition zone is also described in publications by Mullineaux (Mullineaux, et al., 1965).

The front of the Puget Lobe continued to advance southward to about 100 kilometers south of Seattle; at its maximum, the glacial ice thickness in the vicinity of Seattle was probably about 1000 meters. Some of the material eroded by the glacier was redeposited further south as advance outwash and the remainder was incorporated into the ground moraine of the Vashon glacier. This ground moraine is a mixture of sand, silt and gravel known as the Vashon (lodgment) till. Vashon till generally mantles the ridges in Seattle (Galster & Laprade, 1991). As glaciers retreated sediments trapped in the ice layers were deposited. Ablation till consisting of assorted gravels with interspersed clay, silt and sand lobes was deposited locally. These soils tend to be 4- 10 feet thick and can be found as a top layer blanketing hillsides and valleys in certain areas of the Puget Sound region. However, most top layer soils

CITY CLERK

are the result of weathering of the glacially consolidated soils or deposition since the glacial retreat.

The recession of the Puget Lobe was rapid. By approximately 13,500 years ago (Mullineaux and others, 1965) the ice front had retreated to a latitude north of Seattle and by 11,000 years ago the ice had retreated up the Fraser Valley. The retreating ice uncovered a glacially-sculptured landscape of uplands and intervening valleys. Meltwater streams often cut large channels and, especially where they emptied into the lakes, locally deposited Vashon recessional outwash.

Accompanying worldwide deglaciation, sea level rose rapidly and marine water invaded the glacially carved troughs to form the inlets of Puget Sound. Most of the rise in sea level had taken place by about 7,000 years ago, but since then there has been a slow rise of relative sea level in the Puget Lowland amounting to about 10 meters (Biederman, 1967).

Glaciers consolidated underlying sediment with the weight of ice, thousands of feet in height (Laprade, 1981). These glacially overridden soils include Vashon Till, Esperance Sand and Lawton Clay, the Vashon Stade of the Fraser glaciation, as well as all previous glacial and interglacial sedimentary cycles.

These Pre-Fraser deposits can be subdivided in places into Olympia beds (last interglacial period), and older glacial and non-glacial deposits, all of Pleistocene age. Sedimentary bedrock that comprises the Blakeley Formation is present near the ground surface near Alki Point and in portions of South Seattle (Booth, et al. 2003).

Postglacial Geologic Processes

The postglacial geologic history of the Seattle area primarily involves natural weathering and erosion of the uplands and resulting infilling of the intervening valleys and inlets with alluvial and colluvial deposits, in addition to human-induced processes. Peat deposits formed in the numerous kettles and closed depressions on the surface of the till uplands and alluvial fill valleys (Galster & Laprade, 1991). Prior to construction of seawalls, the bases of Seattle's bluffs were subject to continual shoreline erosion and oversteepening at the toe of the slope. Once undercut, the slope would slide, thereby undercutting the slope at higher elevations. With urbanization and the subsequent construction of seawalls and other shoreline armoring measures over most (about 90 percent) of the Seattle shoreline, this erosion has been arrested or greatly reduced (Shannon & Wilson, 2000). Thus, wave action may no longer cause undercutting along much of the coast, but slopes throughout Seattle have not necessarily achieved a stable configuration yet, so landslides continue to occur (Tubbs, 1974).

Regional Seismicity

Sources for seismic hazards include (1) deep earthquakes within the subducting oceanic plate (the Juan de Fuca Plate); (2) shallow earthquakes within the continental plate (North American Plate); and (3) subduction zone earthquakes occurring at the boundary between the oceanic and continental plates. These three sources represent significant hazards to the Puget Sound Region (Pacific Northwest Seismograph Network, 2003).

The most recent significant earthquakes on record are deep earthquakes occurring in 1946, 1949, 1965, and 2001. These events typically originate 30 miles or more below the earth's surface.

Shallow earthquakes have the potential to be quite devastating, especially if shallow enough to cause ground rupture. Current seismic research has identified surface faults in the Puget Lowland associated with shallow earthquake events, including the Seattle Fault zone.

Estimation of the return intervals for large shallow earthquake events is part of on-going research.

Subduction zone earthquakes have the potential to be devastating, with magnitudes of up to 9, and durations of one to three minutes. The last known massive subduction zone earthquake in the region occurred in 1700, off the coast of Washington. The effects of this type of earthquake would be attenuated by the 100 kilometers or more distance between Seattle and the epicenter of such a temblor.

The Seattle Area Geologic Mapping Project

The City of Seattle is a sponsor of the Seattle Area Geologic Mapping Project (SGMP), and other efforts, to improve out understanding of the soil conditions in Seattle and how they relate to seismic hazards. The more detailed and accurate geologic maps resulting from this project are allowing for upgraded and refined mapping of geologic hazard areas, especially as they relate to geologic contacts between different soil units and the spatial extent of soil units subject to liquefaction. The SGMP is a cooperative project sponsored jointly by the City of Seattle, U.S. Geological Survey, King County, and the Center for Water and Watershed Studies at the University of Washington. The SGMP is producing a new generation of geologic maps for the City of Seattle, using the tremendous amount of information acquired by the City, private consultants, and other scientists in the last 50 years since the last map was prepared. The only available geologic mapping of the City itself is over four decades old. For example, the Seattle Fault zone (now known to pass directly under the city and to have produced violent shaking about 1100 years ago) is not recognized on the existing map.

This project is developing a detailed understanding and representation of the three-dimensional distribution of geologic materials beneath Seattle and is embedding that information in the context of a coherent, regionally integrated geologic framework for the central Puget Sound region. These new maps will be the foundation for making modern assessments of geologic hazards, because the distribution of the different geologic materials across the city largely determines where the risks of landslides, liquefaction, and seismic shaking are greatest.

Landslide Hazard Areas

Landslides occur on a frequent basis in the City of Seattle. Recorded landslides date as early as 1890 (Shannon & Wilson, 2000 & 2003). A combination of factors lead to conditions conducive to landslide activity. Based on their review of extensive landslide records and their subsequent geologic reconnaissance, Shannon & Wilson (2000) concluded that almost all landslides in Seattle occur in areas identified as geologic hazard zones. Of 1432 landslide incidents studied using location, date, slide type, geologic conditions, and possible contributing factors, about 58 percent occurred within areas mapped by the City of Seattle as potential landslide due to geologic conditions (also referred to as Class 3 and Class 4 Landslide Hazard Areas by Tubbs, 1975) (Shannon & Wilson, 2000). Furthermore, about 88 percent of the total number of slides occurred within areas mapped by the City of Seattle as potential slide areas (Shannon & Wilson, 2000, updated 2003). The small percentage of recorded landslide events outside of the mapped potential slide zones are generally associated with such things as trench failures and other sloughing of graded land, or as a result of inaccurate or outdated topographic or geologic information.

A number of probable causes and factors related to slope failure were identified (Shannon & Wilson, 2000). Among these are: increased groundwater levels and surface runoff, removing support at the toe of the slope by erosion or by excavation, changes in the soil strength, loading the head of the slope with debris from another landslide or with manmade fills, and seismic loading. Although landslides can occur any time of the year, most occur during the

ENS CITY CLERK

typically wetter winter months, and most occur during or shortly after periods of intense rainfall following the buildup of the water level in the ground (Shannon & Wilson, 2000 and Chleborad, 2001).

Similarly, Tubbs (1975) relates landslides in Seattle to certain geologic, climatic, and human factors. These factors include (1) steep topography; (2) unfavorable geologic characteristics; (3) intense or prolonged rainfall intensity; (4) the products of human activity; and (5) ground shaking caused by large earthquake events (Tubbs, 1975).

The majority of landslides in Seattle occur in areas of steep slope containing geologic conditions that can lead to instability and loss of soil strength. Such geologic conditions conducive to landsliding include permeable, course-grained soils overlying relatively impermeable fine-grained sediments, including interbedding of course- and fine-grained soils. This geologic stratification can direct groundwater seepage to the slope face; with buildup of seepage forces and/or hydrostatic pressure at the face of the slope, the effective strength of the soil decreases. Landslides occur where the strength of the soil mass becomes less than the soil strength that is required to maintain stability (Turner and Schuster, 1996).

Past glaciations play a major role in landslide mechanisms in the Seattle area. The steep slopes surrounding many of the upland areas have been affected by weathering of the surficial soils, and some slopes has been affected by shoreline erosion and undercutting for thousands of years (Tubbs, 1977). Because of the high strength of the glacially consolidated sediment, deep-seated landslides are often characterized as block movements, which may remain partially intact as they translate downslope. Deep-seated slides are typically associated with high groundwater pressure within the shear zone.

Landslide Studies About Seattle

Three major publications have been prepared concerning landslide mechanisms and inventories in Seattle. These include the following:

1. *Landslides in Seattle*. Donald W. Tubbs. 1974. Department of Natural Resources Division of Geology and Earth Resources, Information Circular No. 52 (United States Geologic Survey, Washington).

2. *Causes, Mechanisms and Prediction of Landsliding in Seattle*. Donald Willis Tubbs. 1975. PhD. Dissertation. (University of Washington, Seattle).

3. *Seattle Landslide Study*. Shannon & Wilson, Inc., W.T. Laprade, W.D. Nashem, T.E. Kirkland, C.A. Robertson. 2000 updated 2003. (Seattle Public Utilities: City of Seattle, Seattle).

References 1 and 2 above were based primarily on the landslide season of 1971/1972. More than three-quarters of the landslides originated as debris slides that could be modeled as infinite-slope failures (Tubbs, 1975).

Reference 3 includes an inventory and evaluation of landslides on record with the City of Seattle, as well as landslides in files maintained by Shannon & Wilson, Inc. The landslide locations were field verified. The study includes recommendations for landslide hazard areas, based on review of the documented landslides, field verification of landslides, and geologic assessment and evaluation of topography and geologic conditions that are conducive to landslide activity.

Additional references can be found on the USGS website (http://pubs.usgs.gov/). Documents include the following:

A Preliminary Finite-Element Analysis of a Shallow Landslide in the Alki Area of Seattle, Washington, S. Debray and W.Z. Savage, USGS Open-File Report 01-0357, 2001.

Preliminary map showing landslide densities, mean recurrence intervals, and exceedance probabilities as determined from historic records, Seattle, Washington, J. A. Coe, J.A. Michael, R.A. Crovelli, and W.Z. Savage, USGS Open-File report 00-303, 2000.

An Account of Preliminary Landslide Damage and Losses Resulting from the February 28, 2001, Nisqually, Washington, Earthquake, by Lynn M. Highland, USGS Open-File Report 03-211, preliminary, no date.

Map Showing Recent and Historic Landslide Activity on Coastal Bluffs of Puget Sound Between Shilshole Bay and Everett, Washington, R.L. Baum, E.L. Harp and W.A. Hultman, Map MF 2346, 2000.

Preliminary Evaluation of a Precipitation Threshold for Anticipating the Occurrence of Landslides in the Seattle, Washington Area, A.F. Chleborad, USGS Open-File Report 03-0463, 2003.

Landslide Mechanisms

Based on the Seattle Landslide Study (2000), most landslides in Seattle fit into one of the following categories: (1) high bluff peel-off; (2) groundwater blowout; (3) deep-seated; and (4) shallow colluvial (or skin slide; also includes slides involving fill material). It is common for landslides to fit into more than one category listed above. For instance, a landslide may start out as a high bluff peeloff and turn into a shallow colluvial slide in the lower portions of the slope.

Several authors provide detailed descriptions of landslide mechanisms (Tubbs, 1974; Tubbs, 1975; Turner and Schuster, 1996; Shannon and Wilson, 2000). Shannon and Wilson (2000) identify that approximately 68 percent of all documented landslides in the City of Seattle are shallow colluvial. Approximately 20 percent are deep-seated, while, the remaining 12 percent are groundwater blowout, high bluff peel-offs, or unknown (Shannon & Wilson, 2000, fig. 1-10).

The Episodic Nature of Landslide Events

Although landslides can occur at any time of the year, most landslides occur during the typically rainy period from November to May, with only 7 percent occurring outside of the time period (Shannon and Wilson, 2000). Within the typically rainy season, 86 percent of the slides occurred from December to March (Shannon & Wilson, 2000).

Three winter seasons produced a particularly large number of landslides: (1) winter of 1933/1934; (2) winter of 1985/1986; and (3) winter of 1996/1997 (Shannon & Wilson, 2000; Baum et al., 1998). Due to the 1933/1934 landslide season, the Works Progress Administration drainage program was formed in Seattle (Shannon & Wilson, 2000, p. 24). Background information concerning the WPA Landslide Stabilization Projects is contained in the following reference ("Draining Seattle - WPA Landslide Stabilization Projects, 1935-1941," Stephen Evans, Washington Geology, Vol. 22, No. 4, Dec. 1994). The landslides of the winter of 1996/1997 resulted in a state of emergency declared by the mayor, and the subsequent formation of the Seattle Landslide Policy Group. Based on this group's conclusions, the LPA

EDMS CITY CLERK

(Landslide Prone Areas) program was implemented by Seattle Public Utilities to help improve drainage in steep slope/landslide-prone areas in an effort to decrease the risk of landslides.

Shannon & Wilson (2000, p. 24) identifies eleven winter seasons with significantly high numbers of landslide events. These years are (1) 1933/1934; (2) 1955/1956; (3) 1959/1960; (4) 1960/1961; (5) 1966/1967; (6) 1968/1969; (7) 1971/1972; (8) 1973/1974; (9) 1985/1986; (10) 1995/1996; (11) 1996/1997.

Landslide events correspond to high levels of precipitation. A study by the United States Geological Survey (USGS) identifies precipitation thresholds for the initiation of landslides (Chleborad, 2000). The precipitation thresholds are based on the 3-day cumulative rainfall amount following the rainfall amount of the preceding 15 days (antecedent 15-day precipitation). Data for this study was limited to occurrences of three or more landslides within a 3-day period, in order to exclude events that are not related to rainfall (leaking water or sewer lines, improper grading activities, and so forth). A chart is maintained on the USGS website that allows the public to track precipitation conditions at citywide/regional weather stations in order to predict landslide conditions (Chleborad, 2001).

The Role of Geologic Conditions

The two references cited above by Donald Tubbs include descriptions of geologic conditions that contribute to the potential for landslide activity. In his 1974 study, Tubbs indicates that saturation of surficial debris was a cause, but not necessarily the only cause, of 40 of the 50 landslide events included in the study. In 37 of those landslides, the underlying material was identified as either glacial till, Lawton Clay, or pre-Lawton sediments, all of which have low permeability characteristics. Forty percent of the landslides he studied occurred in proximity to the contact zone between Esperance Sand and Lawton Clay, or the Esperance Sand and pre-Lawton geologic contact. There are a variety of visual indicators for areas of high landslide potential. These include hummocky terrain, groundwater seeps, bowed trees and scarps(Gray and Sotir, 1996).

The role of geologic conditions in landsliding relates to the movement of groundwater within the soil formations. Infiltrating precipitation flows down gradient. Within a highly permeable and unsaturated soil formation percolating groundwater tends to flow downward. Upon contact with a less permeable soil unit, the groundwater seeks the path of least resistance and will flow along the contact between the two soil formations until reaching a terminus. The terminus can be either a pond, creek, or steep slope area (Shannon & Wilson, 2000, p. 13). Saturation of soil at the slope face results in a decrease in resisting shear strength of the soil mass, increasing the possibility of landsliding (Turner and Schuster, 1996).-

Tubbs (1975, p. 33) designates a width of 200 feet horizontally along the trace of Esperance Sand and either the Lawton Clay formation or pre-Lawton sediments. This zone was designated as Class 4 Landslide Hazard Area. Slides often occur at the contact zone between the upper sand layer and underlying Lawton Clay or Pre-Vashon Sediments (Tubbs, 1975). This width corresponds to the estimated thickness of the zone of intercalated sand at the top of the Lawton formation that would outcrop along a 15 percent slope. Over three quarters of the landslides in the Tubbs study occurred in areas directly underlain by either the Lawton Clay or pre-Vashon sediments, and nearly half of the slides occurred along the trace of the contact between one of these units and the overlying Esperance Sand (Tubbs, 1975).

Tubbs designated areas with at least 15 percent slope and underlain by Lawton or pre-Lawton sediments (with the exception of Class 4 Hazard Areas) as Class 3 Landslide Hazard Areas, which are considered of intermediate stability, but less stable than areas underlain by the Esperance Sand or younger sediment. Knowing where the contact zone is located is crucial

for determining the propensity for a landslide to occur. The areas of particular risk of slope instability can be readily seen on a map created by statistical analysis of the data from the Seattle Landslide Study (Coe et al., 2000).

The Effect of Large Earthquakes

Seismic shaking can trigger landslides. In fact, some of the most devastating landslides worldwide have been associated with earthquake events. Earthquake-induced landslides have buried entire towns and villages. In the 1964 Alaska earthquake, 56 percent of the total cost of damage was the result of earthquake-induced landslides (Kramer, 1996). Including the effect of large earthquakes in the evaluation of landslide potential and necessary mitigation remains essential for safe development within potential landslide areas, and it requires case-by-case analysis and evaluation by a geotechnical engineer.

Although only one seismically induced landslide out of 1,346 had been reported in the Seattle Landslide Study (Shannon & Wilson, 2000), the 2001 Nisqually Earthquake triggered many small landslides (Highland, 2003).

In Seattle, strong shaking would exacerbate the number and destructiveness of landslides during the wet season. The degree of damage would depend on the time of years, the antecedent precipitation, and the strength and duration of shaking. During dry periods, seismically induced landslide damage could be minor, whereas strong near-surface movement on the Seattle Fault zone during the wet season could be devastating.

The Human Factor

It is usually more difficult to assess the importance of human influences than to determine the geologic and climatic causes of land sliding (Tubbs, 1975). Tubbs (1974) reports that 80 percent of the landslides included in his study were influenced in some way by human activity. Diversion of water into the formation was the most common human factor, noted in more than 40 percent of the landslides. The water was usually the result of runoff from roofs and paved areas, but other sources were occasionally involved (Tubbs, 1975). Other cited human activities included hillside excavation, artificial fill failure, and retaining wall failure. Steepening of slopes by excavation was also recognized in over 40 percent of the landslides (Tubbs, 1975). This can contribute to sliding either by the removal of lateral support, often resulting in immediate failure, or by the creation of unnaturally steep slopes upon which debris slides are likely at some future date (Tubbs, 1975). Placing artificial fill on a slope can contribute to land sliding, especially on steep slopes underlain by an impermeable substrate (Tubbs, 1975). Over 30 percent of the landslides involved some fill. Ten percent of the landslides were associated with retaining wall failures, due to inadequate design, construction, or maintenance (Tubbs, 1975).

Shannon & Wilson (2000, p. 27, 29) estimated that on a citywide basis, 84% of all slides studied had some form of human influence. The identified human factors include broken or leaking pipes, lack of maintenance of drainage facilities, excavation at the toe of a slope, fill placement at the top of a slope, and imprudent cutting of vegetation. Shannon and Wilson (2000) suggest though that the high percentage of landslides with human influence may be explained by the fact that the records contain only reported landslides in developed areas, and that totally natural landslides in parks and other undeveloped areas may have been under reported.

How Should Landslide Hazard Areas Be Regulated?

Regulation of development of landslide hazard areas, including areas of potential landslide and documented slide areas, requires site specific project conditioning and engineering.

CITY CLERK

Geologic and/or geotechnical engineering studies should provide evaluations of the geologic hazards affecting the proposed development. Recommendations must be provided to mitigate those hazards on the subject property and prevent adverse and/or cumulative impacts to nearby properties. These recommendations must be incorporated into the project plans. Control of stormwater and seepage collected from subdrainage systems, site stability, and offsite hazards associated with steep slopes and geologic conditions need to be addressed on a case-by-case basis.

Project requirements must be incorporated into the plans, including but not limited to limits and configuration of excavation and shoring, surface and subsurface drainage systems, erosion and sediment control plans, staging of construction activities, and structural safeguards (landslide debris catchment methods). All of these issues must be monitored during construction to ensure compliance with the design.

Steep Slope

The steepness of slopes is an important factor in both landslide and erosion processes. In Seattle, a steep slope area is defined as a slope 40 percent or steeper within a minimum vertical elevation change of 10 feet. Steep topography increases the potential for adverse impacts related to development activities, including impacts to adjacent properties, public rights-of-way, water bodies, and public natural resources including fish and fish habitat. Adequate temporary and permanent control of collected water is essential for safe development, control and prevention of erosion/sedimentation, and reduction of landslide risks on steep slope sites (Gray and Sotir, 1996).

Lack of temporary erosion and sediment control on construction sites is known to increase siltation of streams, lakes, Puget Sound, and other receiving waters, as well as the public stormwater system. The impacts commence as raindrops strike bare soil, such as soil exposed during construction, breaking up soil aggregates, and separating organics and fine soil particles from heavier soil particles (Goldman et al., 1986). This degradation of soil structure can lead to the development of a hard crust, reducing the infiltration rate, and inhibiting plant establishment (Goldman et al., 1986). On a sloping construction site, changes in established drainage patterns can result in concentration of runoff, with associated problems (i.e. flooding, earth movement) (Menashe, 1993; Myers, 1993).

Maintaining vegetation on a slope is critical in reducing the potential for erosion and sedimentation problems (Brennan, 2001; Goldman et al., 1986). This is an important issue, given the difficulty of re-establishing vegetation on a disturbed site.

Vegetated buffers reduce stormwater flows over the steep slope area, reducing erosion on the steep slope and protecting the root system of vegetation on the slope. The buffer also limits the impact of grading and development in close proximity to the steep slope which can effect slope stability.

How Should Steep Slope Areas Be Regulated?

The preferred method of preventing harm to the environment from development activity on steep slopes, and harm to the drainage systems in which the steep slopes are located, is to minimize disturbance, to maintain and enhance existing vegetative cover, and enact effective temporary erosion control methods during construction activities.

Potential Liquefaction Areas

Background

Liquefaction occurs in relatively loose, cohesionless, saturated soils, when these soils are temporarily transformed into a quicksand-like state, most commonly as a result of earthquake-induced ground shaking. Liquefaction occurs due to a build-up of excess pore water pressure in the soil during ground shaking. When subjected to ground shaking, the soil particles in a loose soil will tend to re-arrange into a dense or more compact condition, decreasing the amount of void space between the soil particles. If void spaces between the particles are filled with water (i.e., if the soil is saturated), the decrease in void space will increase the water pressure between the soil particles in the voids. As the water pressure in the voids (i.e., the pore water pressure) increases and approaches the pressure caused by the weight of the overlying soils, the soil in the zone of increased pore pressure loses most of its shear strength and is temporarily transformed into a quicksand-like condition.

Effects of Liquefaction

Where the excess pore water pressure is relieved or vented at the ground surface, sand boils or "volcanoes" commonly develop as the fluidized sand and water is ejected on to the ground surface. The vented water may cause localized flooding, and the voids created by the vented sand may cause sinkholes nearby in addition to ground settlement that typically occurs as a result of the earthquake ground shaking.

The reduced shear strength of the liquefied soil can also result in permanent lateral ground displacements. Where the ground is level, the "crust" of non-saturated soil at the ground surface may crack, forming blocks that oscillate or jostle between each other. While there may not be any overall sense of permanent lateral ground displacement, the displacement between individual blocks may be several inches or feet. On sloping ground (slopes as little as 0.1%) or where a "free-face" is nearby, the soil may move as a lateral spread or flow failure down slope or toward the free-face, with permanent ground displacement up to several tens of feet.

Structures or infrastructure located above or within liquefiable soils can be more susceptible to damage if liquefaction and its associated effects (loss of shear strength, bearing capacity failures, loss of lateral support, ground oscillation, lateral spreading, flow failure, etc.) are not considered in design. Historic types of failures due to liquefied soil include settlement and overturned buildings on shallow foundations (due to reduction in soil bearing capacity), broken piling and lateral and vertical displacement of buildings and bridges on deep foundations (due to loss of lateral support and lateral spreading), rise or floatation of buried structures such as tanks and tunnels, and damage to underground utilities and pavements (e.g., roads and airport runways).

Historically, earthquake-induced liquefaction and related ground failures have caused casualties and substantial property loss. For example, losses in excess of $800 million have been attributed to liquefaction-related ground failures during the 1964 Niigata, Japan Earthquake and over $200 million from the 1964 Great Alaskan Earthquake (Keefer, 1983).

Liquefaction Studies in Seattle

Geologic units that are moderately to highly susceptible to liquefaction typically include Holocene (less than about 10,000 years old) delta, estuarine, beach and lacustrine deposits and non-engineered artificial fills (Youd and Perkins, 1978). The U.S. Geological Survey conducted analytical studies of the liquefaction potential of these soil types in the Seattle area (Grant et al., 1998). The study determined that the artificial fills and Holocene alluvium in the Duwamish River Valley are highly susceptible to liquefaction. While not as susceptible to liquefaction, this study determined that the liquefaction potential of the Holocene

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alluvium, lacustrine and beach deposits and artificial fill elsewhere in the city is significant. The results of the study were also used to assess the potential for lateral spreading for the soils identified as moderately to highly susceptible to liquefaction (Mabey and Youd, 1991).

Historic Liquefaction in Seattle

Liquefaction has occurred in Seattle in each of the largest historic earthquakes to affect the area (1949 Olympia, 1965 SeaTac, and 2001 Nisqually earthquakes). Chleborad and Schuster (1998) documented more than 26 instances of liquefaction, which typically resulted in differential settlement of buildings, lateral movement of bulkheads and bridge foundations, and cracking of basement walls. Most of the liquefaction and related damages occurred in the soils in the Duwamish River Valley. To a lesser extent, liquefaction and related damages occurred in other areas of the city in soils with high to moderate liquefaction potential. Liquefaction and related damages were similar in the 2001 Nisqually earthquake, with significant damage from liquefaction-induced settlement in the Duwamish River Valley south of downtown Seattle (SODO).

How should development be regulated in liquefaction areas?

Geotechnical engineering studies should be required of all proposed new development in areas subject to liquefaction to determine the physical properties of the surficial soils, especially the thickness of unconsolidated deposits, and their liquefaction potential. If it is determined that the site is subject to liquefaction, mitigation measures should be recommended. In addition, engineering studies should be carried out and engineering solutions, such as soil improvement or deep foundations, should be incorporated into project design.

More detailed studies and more extensive engineering solutions should be required in areas subject to high potential for liquefaction, and for critical and high occupancy facilities such as fire stations, hospitals, and high occupancy residential development.

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Flood-Prone Areas

What Are Flood-Prone Areas?
Flood-prone areas are defined as those areas that would likely be covered with or carry water as a result of a 100 year storm, or that would have a 1% or greater chance of being covered with or of carrying water in any given year. Some of these areas are rather obvious and are readily identified, such as the floodplains of existing rivers and streams. Floodplains are the generally flat, low-laying areas adjacent to a river or stream that is periodically flooded during storm events.

A ravine may carry an intermittent stream. A structure constructed in the ravine bottom would be subject to flooding by the stream during moderate storms. Or an undeveloped depression may pass stormwater directly into a sandy soil that acts as a sieve. Subsequent paving of the area may result in a frequently flooded parking lot where there was no previous indication of a flooding problem. These situations can occur almost anywhere in the city and are dependent on relatively small scale local conditions. Flood-prone areas include those that currently exist, as well as those that may be created as a result of foreseeable development within the life expectancy of the affected property improvements. A topographic depression may be essentially dry today but stormwater runoff from future upstream development may be sufficient to fill such a depression with water at a later date.

How Should Flood-Prone Areas be Protected?
Development within waterways or flood-prone areas has the potential for creating flooding problems for the development or the neighboring properties. Lack of careful planning in flood-prone areas and waterways can result in increased public costs to alleviate flood damage, costly litigation, and an increased demand for City emergency response services. When an area is identified as flood-prone, development should be regulated to protect the development, its neighbors and the general public from deleterious effects. The form of regulation will be site-specific and may range from simply acknowledging and formally accepting a minor risk, or avoiding construction in a drainage course, to complying with the Floodplain Development Ordinance.

How Seattle Protects Development in Flood-Prone Areas
Seattle protects flood-prone areas by requiring:
1. Drainage Control Plans.
2. The lowest floor needs to be two feet above the 100-year base flood elevation, except for nonresident construction meeting special construction requirements outlined in the SMC 25.06 the Seattle Floodplain Ordinance. Seattle adopted this ordinance in March of 1989, with minor amendments in 1996 and 2003. It regulates areas of special flood hazard in Seattle that are identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for King County, Washington and Incorporated Areas," dated May 16, 1995, with accompanying Flood Insurance Rate Maps. In addition to these mapped areas local flood-prone areas exist that cannot be readily identified for inclusion on the maps. The developer is responsible for identifying these areas and for bringing them to the City's attention at the time of development. For Thornton Creek a Basinwide Flow Control Plan (Entranco April 2001) was developed. This included modeling to predict flooding problems and locations in the basin. Flooding was predicted at the 2-year, 10-year, 25-year, and 100-year return periods.
3. Updating of mapping whenever new information becomes available.

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Abandoned Landfills

What are abandoned landfills?
An abandoned landfill is a site where solid waste was disposed of with or without a permit, at some time in the past. Sites were identified as abandoned solid waste landfills by the Seattle- King County Health Department's Abandoned Landfill Toxicity/Hazard Assessment Project (1986) including those listed in the Atlas of Abandoned Solid Waste Landfills and Toxic Sites. Identified abandoned landfills include Interbay, Genesse (Rainier Valley), Montlake (University), Haller Lake (North Aurora), West Seattle site, Green Lake, Judkins Park, Washington Park (arboretum), Rainier and the former Sicks Stadium Sixth Avenue South. A toxicity/ hazard assessment conducted on the Rainier site in 1986 identified combustible gas levels at locations on around the landfill site (Turnberg, 1986).

How should development be regulated on or in proximity to abandoned landfills?
Development on the sites of abandoned solid waste landfills should be regulated to minimize the risks of ground subsidence, earthquake induced ground shaking, and methane gas build up. In all cases, except for the Haller Lake and part of the Green Lake abandoned landfill areas, identified abandoned landfills in Seattle are also mapped as liquefaction prone areas. Development on sites within 1000 feet of abandoned solid waste landfills should be regulated to minimize the risk of methane gas build up to protect the public health and safety and prevent damage to property.

Development on the sites of abandoned solid waste landfills raises concerns of methane gas seepage and ground subsidence. The 1986 study also identified those landfills that may produce methane gas; these are mapped and are included in the Atlas of Abandoned Solid Waste Landfills and Toxic Sites. There may be smaller long-abandoned sites that were previously used for waste disposal that have not been identified.

Each of the landfill sites identified in the Atlas is surrounded by a "1,000-foot from landfill" line designating areas which the Health Department has determined require special attention to minimize the risk of methane build up in structures. Methane build up, of sufficient concentration, can lead to explosions, property damage and injury. Methane is a non-toxic, odorless, flammable gas that is much lighter than air. It is produced during decomposition of landfill debris. The explosive concentration range for methane gas is 5%-15% methane by volume in air (50,000- 150,000 parts per million). Methane gas will follow the path of least resistance and has been shown to migrate laterally to find escape paths (Montlake Landfill Oversite Committee, 2002). Seattle has adopted regulations that authorize the Health Department to order the owner or operator of an abandoned landfill to perform any monitoring or remedial measures necessary to protect the public health and safety. The Health Department also has policies establishing uniform procedures for excavation and development of abandoned and closed landfill sites. In November 2000, University of Washington Environmental Health and Safety, Seattle- King County Public Health and the Seattle Public Utilities performed methane gas monitoring at over 41 sites on the Montlake Landfill and confirmed the presence of high concentrations of methane gas (at or above the explosive range) (Montlake Landfill Oversite Committee, 2002).

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Critical Aquifer Recharge Areas

Typically the purpose of a critical aquifer recharge area designation is to provide local governments with a mechanism to classify and regulate those areas deemed necessary to provide adequate recharge and protection to aquifers used as sources of potable (drinking) water. Seattle Public Utilities supplies water to 1.3 million people and businesses in the region. Nearly all this water is from the 90,000-acre Cedar River Watershed and the 13,300-acre South Fork Tolt River Watershed in eastern King County.

The Seattle King County Public Health Department regulates public well systems in the city and county. Their records indicate that there are no public water systems that use ground water in Seattle and no locations that should be designated as critical aquifer recharge areas.

In addition, the State Department of Ecology's Water Resources Program maintains well log records for the State of Washington. Wells in Seattle were inventoried using Department of Ecology well log information database. When queried there were over three hundred wells identified that may be used for drinking water purposes. Upon review many of these are resource protection wells, abandoned or used for commercial non-drinking purposes. None were identified as being used for drinking water.

Areas Outside the City Boundaries

In addition to the major supply sources, Seattle operates a small wellfield in the Highline area of South King County to provide additional capacity in the peak season and serve as an emergency supply. The source consists of three wells, Riverton Heights Wells 1 & 2 and Boulevard Park Well. These wells can provide a combined yield up to 10 million gallons a day (mgd) in peaking capacity. Groundwater from this source does not require disinfection. However, the water is treated with chlorine for residual maintenance, fluoride, and minerals to make it compatible with water from Seattle Public Utilities (SPU) surface water sources. When in use, water from the wells serves approximately 100,000 customers from Highline to West Seattle, as well as portions of the Duwamish industrial area.

The Highline Wellhead Protection program (WHPP) manages the area surrounding the three SPU production wells with the intent of preventing potential contamination of the ground water which supplies the wells. The objective of the WHPP is to protect the Highline Wellfield, and its source aquifer, from contamination so as to assure its preservation as a municipal drinking water supply. This is done by providing management zones around the wells to detect and manage potential sources of ground water contamination. Wellhead protection is proactive and emphasizes pollution prevention by agency coordination among multiple levels of government to protect public drinking water supplies.

In undertaking development of the Highline Wellfield, SPU recognized early the need to look closely at potential contamination threats to the Wellfield's source water. All SPU's prior experience had been with surface water sources in highly controlled watersheds. In contrast to surface sources, the Wellfield is located in an area, outside of Seattle land use authority, that has experienced a wide range of uses over an extended period of time. Therefore, the preliminary investigations included a survey of potential contamination sources. A network of monitoring wells was constructed, and a program of periodic aquifer monitoring was incorporated into the wellfield operation plan.

An inventory of potential contaminant sources is a key element of the WHPP. Its purpose is to identify past, present, and proposed activities that might threaten the aquifer. The initial inventory for the Highline Wellfield was performed even before the first production well was constructed, and was last updated in 1999. The inventory includes all potential sources of contamination within Zone 1 (1-year time of travel zone), and Zones 2 and 3 (5- and 10- year time-of-travel zones). The inventory is updated regularly.

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Critical Aquifer Recharge Areas

Environmental stewardship is an important component of SPU's water management activities on the Cedar and Tolt Rivers. The provision of beneficial instream flows to protect aquatic resources downstream is a cornerstone in the Utility's efforts to protect salmon and steelhead trout populations. The effects of stream flow on salmon and steelhead in the Cedar and Tolt Rivers have been studied for many years. Recent collaborative efforts with state, federal and tribal fisheries resource managers have resulted in the implementation of protective instream flow management practices in both rivers. These efforts are complemented by additional habitat and fish population protection measures that are being implemented by SPU and others in cooperative regional efforts to protect and restore salmon and the ecosystems upon which they depend.

A broad array of instream flow protections are provided by the Cedar River Watershed Habitat Conservation Plan and the South Fork Tolt River Settlement Agreement. In addition, SPU works collaboratively with state, federal and tribal resources managers on a real-time basis to monitor conditions in the watershed, conduct additional biological studies, and adaptively manage stream flows for the benefit of aquatic resources.

References

Department of Ecology Well Log Records

2001 Seattle Public Utilities Water Supply Plan

Sources

Steven Kopelman and Mark Bossart, Seattle-King County Public Health Department
Rich Donner and Celia Kennedy, Seattle Public Utilities

Appendix A: **Washington Administrative Code-**
Best Available Science Rule

WAC 365-195-900 Background and purpose. (1) Counties and cities planning under RCW 36.70A.040 are subject to continuing review and evaluation of their comprehensive land use plan and development regulations. Every five years they must take action to review and revise their plans and regulations, if needed, to ensure they comply with the requirements of the Growth Management Act. RCW 36.70A.130.

(2) Counties and cities must include the "best available science" when developing policies and development regulations to protect the functions and values of critical areas and must give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. RCW 36.70A.172(1). The rules in WAC 365-195-900 through 365-195-925 are intended to assist counties and cities in identifying and including the best available science in newly adopted policies and regulations and in this periodic review and evaluation and in demonstrating they have met their statutory obligations under RCW 36.70A.172(1).

(3) The inclusion of the best available science in the development of critical areas policies and regulations is especially important to salmon recovery efforts, and to other decision-making affecting threatened or endangered species.

(4) These rules are adopted under the authority of RCW 36.70A.190 (4)(b) which requires the department of community, trade, and economic development (department) to adopt rules to assist counties and cities to comply with the goals and requirements of the Growth Management Act.

WAC 365-195-905 Criteria for determining which information is the "best available science." (1) This section provides assessment criteria to assist counties and cities in determining whether information obtained during development of critical areas policies and regulations constitutes the "best available science."

(2) Counties and cities may use information that local, state or federal natural resource agencies have determined represents the best available science consistent with criteria set out in WAC 365-195-900 through 365-195-925. The department will make available a list of resources that state agencies have identified as meeting the criteria for best available science pursuant to this chapter. Such information should be reviewed for local applicability.

(3) The responsibility for including the best available science in the development and implementation of critical areas policies or regulations rests with the legislative authority of the county or city. However, when feasible, counties and cities should consult with a qualified scientific expert or team of qualified scientific experts to identify scientific information, determine the best available science, and assess its applicability to the relevant critical areas. The scientific expert or experts may rely on their professional judgment based on experience and training, but they should use the criteria set out in WAC 365-195-900 through 365-195-925 and any technical guidance provided by the department. Use of these criteria also should guide counties and cities that lack the assistance of a qualified expert or experts, but these criteria are not intended to be a substitute for an assessment and recommendation by a qualified scientific expert or team of experts.

(4) Whether a person is a qualified scientific expert with expertise appropriate to the relevant critical areas is determined by the person's professional credentials and/or certification, any advanced degrees earned in the pertinent scientific discipline from a recognized university, the number of years of experience in the pertinent scientific discipline, recognized leadership in the discipline of interest, formal training in the specific area of

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expertise, and field and/or laboratory experience with evidence of the ability to produce peer-reviewed publications or other professional literature. No one factor is determinative in deciding whether a person is a qualified scientific expert. Where pertinent scientific information implicates multiple scientific disciplines, counties and cities are encouraged to consult a team of qualified scientific experts representing the various disciplines to ensure the identification and inclusion of the best available science.

(5) Scientific information can be produced only through a valid scientific process. To ensure that the best available science is being included, a county or city should consider the following:

(a) **Characteristics of a valid scientific process.** In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. To determine whether information received during the public participation process is reliable scientific information, a county or city should determine whether the source of the information displays the characteristics of a valid scientific process. The characteristics generally to be expected in a valid scientific process are as follows:

1. **Peer review.** The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline. The criticism of the peer reviewers has been addressed by the proponents of the information. Publication in a refereed scientific journal usually indicates that the information has been appropriately peer-reviewed.

2. **Methods.** The methods that were used to obtain the information are clearly stated and able to be replicated. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to assure their reliability and validity.

3. **Logical conclusions and reasonable inferences.** The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented. Any gaps in information and inconsistencies with other pertinent scientific information are adequately explained.

4. **Quantitative analysis.** The data have been analyzed using appropriate statistical or quantitative methods.

5. **Context.** The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.

6. **References.** The assumptions, analytical techniques, and conclusions are well referenced with citations to relevant, credible literature and other pertinent existing information.

(b) **Common sources of scientific information.** Some sources of information routinely exhibit all or some of the characteristics listed in (a) of this subsection. Information derived from one

Appendix A: **Washington Administrative Code-Best Available Science Rule**

of the following sources may be considered scientific information if the source possesses the characteristics in Table 1. A county or city may consider information to be scientifically valid if the source possesses the characteristics listed in (a) of this subsection. The information found in Table 1 provides a general indication of the characteristics of a valid scientific process typically associated with common sources of scientific information.

Table 1	CHARACTERISTICS					
SOURCES OF SCIENTIFIC INFORMATION	Peer review	Methods	Logical conclusions & reasonable inferences	Quantitative analysis	Context	References
A. Research. Research data collected and analyzed as part of a controlled experiment (or other appropriate methodology) to test a specific hypothesis.	X	X	X	X	X	X
B. Monitoring. Monitoring data collected periodically over time to determine a resource trend or evaluate a management program.		X	X	Y	X	X
C. Inventory. Inventory data collected from an entire population or population segment (e.g., individuals in a plant or animal species) or an entire ecosystem or ecosystem segment (e.g., the species in a particular wetland).		X	X	Y	X	X
D. Survey. Survey data collected from a statistical sample from a population or ecosystem.		X	X	Y	X	X
E. Modeling. Mathematical or symbolic simulation or representation of a natural system. Models generally are used to	X	X	X	X	X	X

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understand and explain occurrences that cannot be directly observed.						
F. Assessment. Inspection and evaluation of site-specific information by a qualified scientific expert. An assessment may or may not involve collection of new data.		X	X		X	X
G. Synthesis. A comprehensive review and explanation of pertinent literature and other relevant existing knowledge by a qualified scientific expert.	X	X	X		X	X
H. Expert Opinion. Statement of a qualified scientific expert based on his or her best professional judgment and experience in the pertinent scientific discipline. The opinion may or may not be based on site-specific information.			X		X	X

X = characteristic must be present for information derived to be considered scientifically valid and reliable

Y = presence of characteristic strengthens scientific validity and reliability of information derived, but is not essential to ensure scientific validity and reliability

(c) **Common sources of nonscientific information.** Many sources of information usually do not produce scientific information because they do not exhibit the necessary characteristics for scientific validity and reliability. Information from these sources may provide valuable information to supplement scientific information, but it is not an adequate substitute for scientific information. Nonscientific information should not be used as a substitute for valid and available scientific information. Common sources of nonscientific information include the following:

(i) Anecdotal information. One or more observations which are not part of an organized scientific effort (for example, "I saw a grizzly bear in that area while I was hiking").

(ii) Nonexpert opinion. Opinion of a person who is not a qualified scientific expert in a

pertinent scientific discipline (for example, "I do not believe there are grizzly bears in that area").

(iii) Hearsay. Information repeated from communication with others (for example, "At a lecture last week, Dr. Smith said there were no grizzly bears in that area").

(6) Counties and cities are encouraged to monitor and evaluate their efforts in critical areas protection and incorporate new scientific information, as it becomes available.

WAC 365-195-910 Criteria for obtaining the best available science. (1) Consultation with state and federal natural resources agencies and tribes can provide a quick and cost-effective way to develop scientific information and recommendations. State natural resource agencies provide numerous guidance documents and model ordinances that incorporate the agencies' assessments of the best available science. The department can provide technical assistance in obtaining such information from state natural resources agencies, developing model GMA-compliant critical areas policies and development regulations, and related subjects. The department will make available to interested parties a current list of the best available science determined to be consistent with criteria set out in WAC 365-195-905 as identified by state or federal natural resource agencies for critical areas.

(2) A county or city may compile scientific information through its own efforts, with or without the assistance of qualified experts, and through state agency review and the Growth Management Act's required public participation process. The county or city should assess whether the scientific information it compiles constitutes the best available science applicable to the critical areas to be protected, using the criteria set out in WAC 365-195-900 through 365-195-925 and any technical guidance provided by the department. If not, the county or city should identify and assemble additional scientific information to ensure it has included the best available science.

WAC 365-195-915 Criteria for including the best available science in developing policies and development regulations. (1) To demonstrate that the best available science has been included in the development of critical areas policies and regulations, counties and cities should address each of the following on the record:

(a) The specific policies and development regulations adopted to protect the functions and values of the critical areas at issue.

(b) The relevant sources of best available scientific information included in the decision-making.

(c) Any nonscientific information -- including legal, social, cultural, economic, and political information -- used as a basis for critical area policies and regulations that depart from recommendations derived from the best available science. A county or city departing from science-based recommendations should:

(i) Identify the information in the record that supports its decision to depart from science-based recommendations;

(ii) Explain its rationale for departing from science-based recommendations; and

(iii) Identify potential risks to the functions and values of the critical area or areas at issue and any additional measures chosen to limit such risks. State Environmental Policy Act (SEPA)

DNS CITY CLERK

review often provides an opportunity to establish and publish the record of this assessment.

(2) Counties and cities should include the best available science in determining whether to grant applications for administrative variances and exemptions from generally applicable provisions in policies and development regulations adopted to protect the functions and values of critical areas. Counties and cities should adopt procedures and criteria to ensure that the best available science is included in every review of an application for an administrative variance or exemption.

WAC 365-195-920 Criteria for addressing inadequate scientific information. Where there is an absence of valid scientific information or incomplete scientific information relating to a county's or city's critical areas, leading to uncertainty about which development and land uses could lead to harm of critical areas or uncertainty about the risk to critical area function of permitting development, counties and cities should use the following approach:

(1) A "precautionary or a no risk approach," in which development and land use activities are strictly limited until the uncertainty is sufficiently resolved; and

(2) As an interim approach, an effective adaptive management program that relies on scientific methods to evaluate how well regulatory and nonregulatory actions achieve their objectives. Management, policy, and regulatory actions are treated as experiments that are purposefully monitored and evaluated to determine whether they are effective and, if not, how they should be improved to increase their effectiveness. An adaptive management program is a formal and deliberate scientific approach to taking action and obtaining information in the face of uncertainty. To effectively implement an adaptive management program, counties and cities should be willing to:

(a) Address funding for the research component of the adaptive management program;

(b) Change course based on the results and interpretation of new information that resolves uncertainties; and

(c) Commit to the appropriate timeframe and scale necessary to reliably evaluate regulatory and nonregulatory actions affecting critical areas protection and anadromous fisheries.

WAC 365-195-925 Criteria for demonstrating "special consideration" has been given to conservation or protection measures necessary to preserve or enhance anadromous fisheries. (1) RCW 36.70A.172(1) imposes two distinct but related requirements on counties and cities. Counties and cities must include the "best available science" when developing policies and development regulations to protect the functions and values of critical areas, and counties and cities must give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. Local governments should address both requirements in RCW 36.70A.172(1) when developing their records to support their critical areas policies and development regulations.

(2) To demonstrate compliance with RCW 36.70A.172(1), a county or city adopting policies and development regulations to protect critical areas should include in the record evidence that it has given "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. The record should be developed using the criteria set out in WAC 365-195-900 through 365-195-925 to ensure that conservation or protection measures necessary to preserve or enhance anadromous fisheries are grounded in the best

available science.

(3) Conservation or protection measures necessary to preserve or enhance anadromous fisheries include measures that protect habitat important for all life stages of anadromous fish, including, but not limited to, spawning and incubation, juvenile rearing and adult residence, juvenile migration downstream to the sea, and adult migration upstream to spawning areas. Special consideration should be given to habitat protection measures based on the best available science relevant to stream flows, water quality and temperature, spawning substrates, instream structural diversity, migratory access, estuary and nearshore marine habitat quality, and the maintenance of salmon prey species. Conservation or protection measures can include the adoption of interim actions and long-term strategies to protect and enhance fisheries resources

CITY CLERK

Author's Name: Miles Mayhew
Date (Hard-Coded): August 24, 2004
Name of Companion Legislation: Environmentally Critical Areas Code Update
Version #:1

Form revised December 9, 2004

FISCAL NOTE FOR NON-CAPITAL PROJECTS

Department:	Contact Person/Phone:	DOF Analyst/Phone:
Department of Planning and Development	Miles Mayhew/ 615-1256	Amanda Allen/ 684-8894

Legislation Title: An ordinance amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

- **Summary of the Legislation:** The legislation updates the ECA code in keeping with state Growth Management Act requirements. See the attached "Environmentally Critical Areas: Summary of Proposed Changes" document for more information.

- **Background:**
The proposed legislation is a response to RCW 36.70A.130 requiring that cities and counties planning under the Growth Management Act, including the City of Seattle, to update their environmentally critical areas regulations to comply with the requirements of the Act, including the requirement in RCW 36.70A.172 to include the "best available science" (BAS) when developing policies and regulations that protect the functions and values of critical areas. In addition, the statute requires these jurisdictions to give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

  Any increase in staff time necessary due to some changes, such as increased buffer sizes in wetlands, and new administrative control for steep slope development will be balanced with changes that reduce the DPD administrative burden, including decreasing DPD's role in review of City projects and clarifications to the exemptions section. As such, the result of the legislation is likely to be neutral.

- *Please check one of the following:*

X This legislation does not have any financial implications.

Attachment A: Director's Report
Attachment B: Best Available Science Review

BNS CITY CLERK

City of Seattle

Gregory J. Nickels, Mayor

Office of the Mayor

September 20, 2005

Honorable Jan Drago
President
Seattle City Council
City Hall, 2nd Floor

Dear Council President Drago:

I am pleased to present the attached proposed Council Bill, which adopts critical areas regulations to protect sensitive areas of our natural environment. Seattle's environmentally critical areas provide important habitat for animals and natural places for people. Critical areas are also areas that present particular challenges for development due to geologic or other natural conditions.

In addition to the requirement to protect critical areas, the Growth Management Act requires that Seattle accommodate its share of the region's growth and allow for an adequate supply of housing, economic development opportunities, and the protection of property rights. The recommended provisions strike what I believe to be the necessary balance among these goals. My recommendations have been informed by the participation of many individuals and groups who have attended public forums, written letters, and participated in public meetings and workshops.

Key recommendations of this proposal include:

- Increasing protection for higher value wetlands through increased buffer sizes;
- Greater protection for shoreline habitat by requiring mitigation for actions that harm habitat for fish and wildlife in proximity to these areas; and,
- Strengthening the protection of creek corridors by limiting development and encouraging more vegetation to be planted in these areas.

Thank you for your consideration of this legislation. With the approval of this proposal, I believe we will take a significant step forward in meeting our goal of sustaining the ecological health of our community. Should you have questions, please contact Miles Mayhew at 615-1256.

Sincerely,

GREG NICKELS
Mayor of Seattle

cc: Honorable Members of the Seattle City Council

600 Fourth Avenue, 7th Floor, P.O. Box 94749, Seattle, WA 98124-4749
Tel: (206) 684-4000, TDD: (206) 684-8811 Fax: (206) 684-5360, Email: mayors.office@seattle.gov
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STATE OF WASHINGTON – KING COUNTY

--ss.

197074 No.
CITY OF SEATTLE,CLERKS OFFICE

Affidavit of Publication

The undersigned, on oath states that he is an authorized representative of The Daily Journal of Commerce, a daily newspaper, which newspaper is a legal newspaper of general circulation and it is now and has been for more than six months prior to the date of publication hereinafter referred to, published in the English language continuously as a daily newspaper in Seattle, King County, Washington, and it is now and during all of said time was printed in an office maintained at the aforesaid place of publication of this newspaper. The Daily Journal of Commerce was on the 12th day of June, 1941, approved as a legal newspaper by the Superior Court of King County.

The notice in the exact form annexed, was published in regular issues of The Daily Journal of Commerce, which was regularly distributed to its subscribers during the below stated period. The annexed notice, a

CT:122050 ORDINANCE

was published on

04/14/06

The amount of the fee charged for the foregoing publication is the sum of $2,009.63, which amount has been paid in full.

Subscribed and sworn to before me on

04/17/06

Notary public for the State of Washington,
residing in Seattle

JENNIFER A. PATZER NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES OCT. 22, 2007

ORDINANCE _____

AN ORDINANCE amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

WHEREAS, the City of Seattle wishes to adopt regulations to promote safe, stable, and compatible development and to protect critical areas pursuant to the authority of Chapter 36.70A RCW (the "Growth Management Act"), including the statewide planning goals, and pursuant to the City's police power authority independent of the Growth Management Act to adopt planning and zoning regulations; and

WHEREAS, compliance with the Growth Management Act requires balancing of competing goals which cannot always be reconciled easily in a single regulatory ordinance; and

WHEREAS, Council recognizes that the successful implementation of the Environmentally Critical Areas ordinance increases the ongoing local and regional need to develop and implement policies that provide adequate housing capacity and identify suitable buildable lands; and

WHEREAS, the City of Seattle wishes to adopt regulations to implement the City's Comprehensive Plan; and

WHEREAS, the City of Seattle has engaged in public participation, has considered the best available science, the statewide planning goals, and the City's Comprehensive Plan, and has determined that it is appropriate to amend its environmentally critical areas regulations and Title 23 based on the information and analysis set out in the Director's Report and Recommendations;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Title 25.09 of the Seattle Municipal Code is amended as follows:

25.09.010 ((~~**Moratorium on development in landslide-prone areas**~~))**Purpose of the chapter.**

((~~Notwithstanding any other provision of this chapter or of Chapter 23.76, all public and private development that is subject to this chapter and proposed for landslide-prone areas, as described in Section 25.09.020 B1a, is prohibited during the term of this section, except that the Director may approve the following:~~

~~A. Work that will not disturb the ground, such as interior repairs to existing structures;~~

~~B. Work that is necessary to stabilize a site that has been rendered unstable by recent slide activity, so as to lessen the risk of new or additional damage;~~

~~C. Work that is necessary to repair damaged structures or utilities, as long as the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property;~~

~~D. Work that would be exempted pursuant to Section 25.09.040, provided that work that would be exempted pursuant to subsections B, C, and F may be approved only if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property; and~~

~~E. Work that would be exempted pursuant to Section 25.09.180 D1 if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property.~~))

This chapter is based on and implements The City of Seattle Comprehensive Plan, as amended from time to time. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person, or class, or group of persons who will or should be especially protected or assisted by the terms or provisions of this chapter. This chapter is intended to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin.

25.09.015 Application of chapter.

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer.

B. This chapter applies to altering vegetation, trees, or habitat carried out by any person in landslide-prone critical areas (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers on publicly or privately owned parcels.

C. Section 25.09.200 A4 applies to daylighting pipes and culverts defined in that subsection.

25.09.017 Administration.

A. The Director shall administer and interpret the provisions of this chapter, except as specifically provided. The provisions of Section 23.88.020 apply to a decision by the Director as to the meaning, application, or intent of any provision of this chapter.

B. The Director shall determine whether development, platting, or alteration of vegetation, trees, or habitat is subject to this chapter. The Director may also consult with other City departments and state and federal agencies as necessary to obtain additional technical and environmental review assistance.

C. The Director shall review and analyze all applications for all permits or approvals subject to this chapter that are issued by the Department of Planning and Development. Such applications shall be approved only after the Director is satisfied the applications comply with this chapter.

D. Every other City department issuing a permit for development on parcels containing an environmentally critical area or its buffer or for altering vegetation, trees, or habitat in the areas set out in subsection 25.09.015 B shall require the use of best management practices to prevent impacts to environmentally critical areas and their buffers and to meet the intent of this chapter. Departments shall

require mitigation to address unavoidable impacts. All such City departments shall maintain records documenting compliance with this subsection D.

E. The Director shall identify techniques that are best management practices for actions administered by the Director. The Director may do this by Director's Rule. The directors of other City departments applying these regulations or issuing permits for development in environmentally critical areas or their buffers may identify techniques that are best management practices and may do this by Director's Rule.

F. The notice and administrative appeal provisions set out in Title 23 do not apply to decisions under this chapter, except as specifically provided.

25.09.020 Environmentally critical areas definitions.

((~~A. This chapter is based on and implements the Seattle Environmentally Critical Areas Policies as adopted by Resolution 28559, and as amended from time to time. This chapter shall apply to all development and platting located in environmentally critical areas as defined below and characterized by specific site conditions. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person or class or group of persons who will or should be especially protected or benefited by the terms or provisions of this chapter.~~))

((~~B.~~)) The following ((~~shall constitute~~)) are environmentally critical areas regulated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

((~~1~~))A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas and landslide-prone areas described in subsections 2 and 3. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4. Seismic hazards are addressed in subsection 5.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

((a))3. Landslide-prone Areas. The following are ((~~L~~))landslide-prone areas ((~~are characterized by the following~~)):

(((~~1~~)))a. Known landslide areas identified by documented history, or ((~~any~~)) areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris ((~~that occurred~~)) deposited during this period; or

(((~~2~~)))b. Potential landslide areas: ((~~Potential landslide areas based on documented geological characteristics, and based on a combination of geologic, topographic and hydrologic factors, including the following:~~

~~(a) Areas over fifteen (15) percent slope which have at least one (1) of the following characteristics:~~

~~(i) Impermeable soils (typically silt and clay) interbedded with permeable granular soils (predominantly sand and gravel); or impermeable soils overlain with permeable soils. This includes the area within one hundred (100) feet either side of the contact between Esperance Sand and either Lawton Clay or Pre-Lawton sediments as is shown on the area noted as Class Four (4) on the Slope Stability Map of Seattle, in Causes, Mechanisms and Prediction of Landsliding in Seattle,~~

~~by Donald Willis Tubbs, Ph.D. Dissertation, University of Washington, 1975 ("Tubbs Map"), or as otherwise mapped, or~~

~~(ii) Identified relatively unstable soils in either Lawton Clay or Pre-Lawton sediments, as is shown on the area noted as Class Three (3) of the Tubbs Map, or as otherwise mapped, or~~

~~(iii) Springs or groundwater seepage;~~))

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000, 2003), or as more accurately mapped.

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(((~~b~~)))(5) ((~~Steep s~~))Slopes with an incline of forty (40) percent ((~~average slope or greater as defined by the Director. A slope must have a vertical elevation change of at least ten (10) feet to be considered a steep slope, although the ten (10) feet may cross the boundaries of a site. Slopes that meet)) these characteristics shall be considered steep slope environmentally critical areas in addition to being classified as potential landslide areas;~~)) or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(((~~e~~)))(6) Areas that would be covered under ((~~either (a) or (b)~~)) one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

((~~d~~))(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

((~~b. Liquefaction-prone Areas. Liquefaction-prone areas are areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table which lose substantial strength during earthquakes.~~))

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that the area is only a landslide prone area when such a slope is (a)

on a parcel in a Downtown zone or highrise zone, or (b) on only one side of a retaining structure higher than ten feet (10').

5. There is a known risk from a seismic events in Seattle and the surrounding region. Subsection 1-4 identify areas that constitute a particularly high risk to safety and welfare from such events and are therefore regulated as environmentally critical areas. The risks associated with seismic hazards in the remainder of the City are regulated by the Building Code (SMC Title 22) and not by this Ordinance.

((~~2~~))B. Flood-prone Areas. Flood-prone areas are those areas that would likely be covered with or carry water as a result of a one hundred (100) year flood event ((~~storm~~)), or that would have a one percent (1%) or greater chance of being covered with or of carrying water in any given year based on current circumstances or maximum development permitted under existing zoning. This includes areas identified as flood-prone on the Seattle Floodplain Development Ordinance or on FEMA maps, and streams identified by the Washington State Department of Fisheries Catalog of Washington Streams, and areas with ((~~drainage~~)) stormwater runoff problems known to ((~~the~~)) Seattle ((~~Drainage and Wastewater Utility.~~)) Public Utilities.

((~~3. Riparian Corridors. Riparian corridors include all areas within one hundred (100) feet measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark of the watercourse and water body, or a one-hundred (100) year floodplain as mapped by FEMA, as regulated by the Seattle Floodplain Development Ordinance, whichever is greater, and are classified as either a Class A Riparian Corridor or a Class B Riparian Corridor. Class A Riparian Corridors are stable, established streams and lakes that flow year-round and/or support salmonids, and include, but are not limited to, corridors that have an established floodplain as mapped by the FEMA Flood Insurance Program, and include Longfellow, Thornton, Pipers, Venema,~~

~~Mohlendorph, Fauntleroy, Ravenna, Mapes, DeadHorse/Mill, Maple Leaf and Little Brook Creeks, and Haller and Bitter Lakes. Class B Riparian Corridors are not mapped by FEMA and are intermittent streams without salmonids that still demonstrate a high water mark. Riparian corridors do not normally include those artificial drainage areas intentionally created from grass-lined swales, canals, detention facilities, wastewater treatment facilities, and landscape amenities.~~))

((4))C. Wetlands. Wetlands are those 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 stormwater 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. (((~~f~~))The method for delineating wetlands shall follow ((~~the most current version of~~)) the "Washington State Wetlands Identification and Delineation Manual" as adopted by the State Department of Ecology (Publication #96-94.)

((~~5~~))D. Fish and Wildlife Habitat Conservation Areas. The following are ((~~F~~))fish and wildlife habitat conservation areas ((~~include, but are not limited to, the following~~)):

1. Areas mapped by the Washington State Department of Fish and Wildlife ("WDFW") as urban natural open space habitat areas.

((a))2. Areas designated ((~~identified~~)) by ((~~the Washington State Department of Wildlife~~)) WDFW as priority habitats and species areas, including native eel grass beds, kelp beds, and recreational shellfish areas. ((~~or urban natural open space habitat areas;~~))

(((~~1~~)3. Corridors connecting ((~~other~~)) priority habitats and species areas or habitat areas for species of local importance when either: ((~~especially areas that would otherwise be isolated;~~))

a. WDFW or the Department's species habitat management plan identifies the parcel as part of a corridor connecting habitat areas for priority species or species of local importance; or

b. the parcel is adjacent to or connects parcels containing priority species or species of local importance and the Director determines that the parcel is part of a wildlife corridor based on information provided by a qualified wildlife biologist.

(((~~2) Areas that remain an isolated remnant of natural habitat of ten (10) acres or more and surrounded by urban development, with local consideration given to areas smaller than ten (10) acres;~~))

((~~b. All bodies of water that provide migration corridors and habitat for fish, especially salmonids, including Lake Washington, Lake Union and the Lake Washington Ship Canal, Duwamish River , and that portion of Elliot Bay within the City's jurisdiction;~~))

((e)) ((~~Commercial and Recreational shellfish areas and kelp and eelgrass beds and~~))

((d))4. Areas ((~~which~~)) that provide habitat for species of local importance.

5.a Riparian corridors, which are the riparian watercourse and the riparian management area. The riparian watercourse is the watercourse of Type 2-5 waters defined in WAC 222-16-031 that have fish or wildlife habitat. Water in surface water ditches and stormwater

conveyances, pipes, culverts, flow control facilities and water quality facilities are not regulated as riparian watercourses. The riparian management area is the area within one hundred feet (100') measured horizontally landward from the top of each bank of the watercourse, or from the ordinary high water mark of the watercourse as surveyed in the field, if the top of the bank cannot be determined. In watercourses with braided channels or alluvial fans, the ordinary high water mark shall be determined so as to include the entire stream feature.

b. When a pipe or culvert connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert is daylighted, the waters formerly in the pipe or culvert will be regulated as a riparian watercourse, and the area adjacent to that watercourse will be regulated as a riparian management area, as defined in subsection 5. This subsection 5b does not apply when the pipe or culvert is removed to provide a publicly-owned facility designed primarily for water quality treatment, flow control or stormwater conveyance.

6. Shoreline habitat, which is Type 1 waters, defined in WAC 222-16-031, that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

((~~6~~))E. Abandoned Landfills. Abandoned landfills include those abandoned solid waste landfills identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project, additional sites identified by public or historical research, and areas within one thousand feet (1,000') of methane-producing landfills.

((~~C. Environmentally Critical Areas Maps. Environmentally critical areas defined and identified in subsections A and B shall be mapped whenever possible. These maps shall be advisory and used by the Director to provide guidance in determining applicability of the standards to a property.~~

~~Sites that include environmentally critical areas which are not mapped shall be subject to the provisions of this chapter.~~))

((~~The Director may update or amend the environmentally critical areas maps by Director's Rule, according to Seattle Municipal Code Chapters 3.02 and 3.06, as new information and improved mapping resources become available. Mapping amendments may occur at a frequency not to exceed once every year.~~))

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. These maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary.

25.09.040 ((~~Application of standards~~)) Permits and Approvals Required.

((~~The standards of this chapter shall apply to all public and private proposals for new structures, additions to structures, short subdivisions and subdivisions, grading and drainage activity, and tree and vegetation removal per Section 25.09.320 located on either public or private property within environmentally critical areas and their buffers. Public projects proposed by any public agency shall comply with the standards of this chapter. Projects shall be exempted from the requirements of the chapter when the following situations and/or conditions apply:~~))

A. Prior to undertaking development or platting on a parcel containing an environmentally critical area or buffer, the person responsible shall submit an application complying with the provisions of Section 25.09.330, unless the person complies with the provisions of Section 25.09.045, 25.09.055, or 25.09.320.

B. Prior to undertaking actions under Section 25.09.045, 25.09.055, or 25.09.200 A4, the person responsible shall comply with provisions of the applicable section.

C. Prior to altering vegetation, trees, or habitat protected by this chapter the person responsible shall comply with the provisions of Section 25.09.320, unless that person complies with Section 25.09.045 or 25.09.055.

25.09.045 Exemptions.

A. 1. When the Director determines that criteria in subsections D to J below are met, those activities are exempt from the provisions of this chapter, except Sections 25.09.017 and .030 B and as otherwise provided in this section.

2. An application for an exemption may be made only as a component of a specific proposed development.

3. a. The applicant for an exemption shall provide all information requested by the Director and demonstrate that the work qualifies for the exemption. The Director shall determine whether work is exempt and may impose conditions on the work to protect environmentally critical areas and buffers or other property.

b. City agencies taking the action under any subsection of this section and the public agency taking the action under subsection J do not need to make an application to the Director provided that if no application is made, they shall comply with all provisions of this Section 25.09.045,

make all determinations required to be made by the Director, including required conditions, and shall maintain records documenting compliance with all provisions.

B. All exempt activities shall be undertaken using best management practices; the applicant shall maintain records documenting compliance with this subsection B.

C. The enforcement provisions of this chapter apply to all activities exempted under this section. The Director's determination that a violation exists is not limited by determinations made by other City agencies or public agencies under subsection A3b, above.

D. Development that does not temporarily or permanently encroach within, alter, or increase the impact to the environmentally critical area or buffer on the parcel where the development occurs is exempt from the provisions of this chapter; if existing development that encroaches within or impacts the environmentally critical area or buffer is removed, then new development that encroaches within, alters or impacts the environmentally critical area or buffer is not exempt.

(((~~A~~)))E. ((~~When the Director determines there is an emergency threatening the public health, safety and welfare;~~)) Work directly related to ending a condition that (1) is an immediate threat to the public health, safety and welfare, or creates an immediate risk of damage to public or private property and (2) requires remedial or preventive action in a timeframe too short to allow compliance with the application provisions of this chapter is exempt from those provisions, provided that the work is the minimum work necessary to end the condition and the work is consistent with the development standards of this chapter to the extent practicable. Once the Director determines that the condition no longer meets these criteria, all work is subject to the provisions of this chapter, including but not limited to its application requirements, its development standards, and any requirements for technical reports and reviews for work that was exempt at the time it was performed.

((~~B~~))F. Maintenance, repair, renovation, or structural alteration of an existing structure ((~~structures in existence on October 31, 1992, the effective date of the ordinance codified in this chapter, unless otherwise prohibited by law.~~))that does not increase the impact to, or encroach further within, or further alter an environmentally critical area or buffer is exempt from the provisions of this chapter.

((~~Expansion or extension in any manner which increases the extent of nonconformity with the environmentally critical area provisions of the chapter shall not be permitted. When these structures are damaged by an act of nature, they may be rebuilt or replaced within one (1) year or the act of nature provided that the new construction or related activity does not further intrude into an environmentally critical area or required buffer and is subject to the flood hazard areas reconstruction restrictions;~~))

((~~C. New accessory structures and additions to structures whose developmental coverage does not exceed a cumulative addition of seven hundred and fifty (750) square feet of impervious surface after October 31, 1992, the effective date of the ordinance codified in this chapter, provided the addition is not constructed over a watercourse, water body or wetland;~~))

((~~D. When the applicant demonstrates to the satisfaction of the Director, through site surveys, topographic maps, technical environmental analysis, and other means as determined necessary by the Director that either one of the following situations apply:~~))

((~~1. The site contains no environmentally critical areas as defined in Section 25.09.020, or~~))

((~~2. The proposed development and associated land disturbing activity, including developmental coverage, does not occur within the area of the site designated as environmentally critical and any required buffer as defined in Section 25.09.020;~~))

((~~E. Normal and routine operation, maintenance, remodeling, and repair of existing public facilities and utilities, including the maintenance, vegetation management and revegetation of public~~

~~parkland and open spaces, when undertaken pursuant to best management practices to avoid impacts to environmentally critical areas;~~

~~F. The following electric, natural gas, cable communications, telephone, public facility and utility, and right-of-way improvement projects, with the Director's approval of the location and limits of the project, only when the project is not a prerequisite to development. The exemption shall only be approved when the project is undertaken pursuant to best management practices to avoid impacts to environmentally critical areas, and when it can be demonstrated that:~~

~~1. No practicable alternative exists;~~

~~2. The encroachment into a critical area is minimized to the greatest extent practicable; and~~

~~3. Mitigation measures are employed before, during and after construction:~~))

G. Rebuilding or replacing structures that are destroyed by an act of nature is exempt from the provisions of this chapter, provided that action toward the rebuilding or replacement is commenced within one (1) year of the act of nature, that the rebuilding or replacement is diligently pursued, and that the new construction or related activity does not further encroach into, or increase the impact to, or further alter an environmentally critical area or buffer and complies with restrictions on flood hazard areas reconstruction.

H. 1. The activities identified in subsection 3 below are exempt from the provisions of this chapter when the applicant demonstrates:

a. The work is not a prerequisite to other development;

b. No practicable alternative to the work with less impact on the environmentally critical area or buffer exists; and

c. The work does not pose an unreasonable threat to the public health, safety or welfare on or off the parcel.

2. The Director's decision shall:

a. include the approved location and limits of the work; and

b. shall require specific mitigation measures for impacts to all environmentally critical areas and their buffers before, during, and after construction.

3. The provisions of this subsection H apply to the following activities:

a. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less only when required by a governmental agency,

b. Relocation of natural gas, cable communications, gas, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances only when required by a governmental agency,

c. Installation or construction in improved public road rights-of-way, and replacement, operation or alteration, of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less,

d. Installation or construction in improved public road rights-of-way, and replacement, operation, repair or alteration of all natural gas, cable communications, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances,

e. Public or private projects designed to enhance ((~~streams~~)) riparian corridors, shoreline habitat and its buffer, and wetlands and their buffers, including ((~~drainage~~))stormwater-related functions, that require either a Hydraulic Project Approval from ((~~either~~))the Washington Department((s)) of ((~~Fisheries or Wildlife~~))Fish and Wildlife or a Section 404 permit under

the federal Clean Water Act from the United States Army Corps of Engineers, Aquatic Habitat Matching Grant program, established by City Council Resolution 30719,and

f. Public projects ((~~that promote a public objective,~~)) where the intrusion into the environmentally critical area or buffer benefits the public, such as trails providing access to a creek or wetland area, when located and designed to ((~~minimize~~)) keep environmental disturbance to ((~~the greatest extent possible~~)) a minimum. The applicant shall protect vegetation and trees pursuant to a tree and vegetation plan consistent with best management practices. The plan shall be prepared by a qualified expert with experience related to the type of environmentally critical area or buffer where work will occur. In landslide-prone areas of the plan shall also be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on steep slopes.

I. Normal and routine operation, maintenance, remodeling, repair, and removal of existing public facilities and utilities is exempt from the provisions of this chapter when these activities do not result in substantial disturbance of environmentally critical areas or buffers.

J. Normal and routine (a) pruning, (b) tree and vegetation maintenance and management, and (c) revegetation are exempt from the provisions of this chapter when they do not result in substantial disturbance of environmentally critical areas or buffers and when they are carried out in parks, public utility right of ways, and publicly owned open spaces by the public agencies, including City agencies, that are responsible for them.

25.09.050 City Projects.

"City project" means all work described in Section 25.09.015 that is undertaken by a City agency. A City project shall comply with all provisions of this chapter unless the project is exempt under Section 25.09.045.

25.09.055 Small Project Waiver.

A. The Director may approve new accessory structures or additions to existing structures in environmentally critical areas and buffers, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

B. Director's Decision.

1. The Director shall require the use of fencing with a highly durable protective barrier during the construction to protect the remainder of the environmentally critical area and/or buffer.

2. The Director shall require planting native vegetation in an area equal in size to the area of any native vegetation in a riparian corridor, wetland buffer, steep slope, or steep slope buffer that is removed or adversely impacted by the development. Any invasive species shall be removed from the planting area. The planting area shall be on site and, whenever possible, in the same environmentally critical area or buffer. When this is not possible, the Director may authorize all or a portion of the planting to be outside the environmentally critical area or buffer or on another parcel, when the Director determines this will mitigate the impact.

3. The Director may require additional measures to protect the remainder of the environmentally critical area and/or buffer.

25.09.060 ((~~Application submittal requirements, general requirements and development standards~~)) General Development Standards.

((~~All proposals listed in Section 25.09.040 shall meet the following application submittal requirements, general requirements and development standards:~~

~~A. Application Submittal Requirements. In addition to the application submittal requirements specified in other codes, development proposals subject to this chapter shall include the following additional information as applicable:~~

~~1. Surveyed Site Plan. A surveyed site plan, prepared and stamped by a State of Washington licensed surveyor, shall be required for sites which include landslide-prone, flood-prone,~~

~~riparian corridor, wetland, and steep-slope environmentally critical areas. The surveyed site plan shall include the following existing physical elements:~~

~~a. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~b. Terrain and drainage-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights- of-way and easements;~~

~~c. General location of areas with significant amounts of vegetation, and specific location and description of all trees and shrubs over six inch (6") caliper measured three feet (3') above the base of the trunk, and noting their species;~~

~~d. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of development coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);~~

~~e. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and~~

~~g. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~2. Additional Site Plan Information. The following site plan information shall also be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.~~

~~a. Location and boundaries of all critical areas on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;~~

~~b. Proposed location and boundaries of all required undisturbed fenced areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines;~~

~~c. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);~~

~~d. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;~~

~~e. Location of all proposed grading activities, and all proposed drainage control facilities or systems on site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and~~

~~g. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~3. Technical Reports. Technical reports shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, vegetation, and other pertinent site information. The reports shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.~~

~~B. General Requirements for the Lot, Adjacent Lots, Surrounding Area, and Drainage Basin.~~

~~1. The developer shall ensure safe, stable and compatible development which avoids adverse environmental impacts and potential harm on the lot, to adjacent lots, the surrounding neighborhood, and the drainage basin. Detailed analysis of impacts, including cumulative impacts of development, of the proposed development upon wetlands, riparian corridors, native vegetation and wildlife habitats, water quality, fisheries, natural water temperature, slope and soil conditions, and surface water drainage may be required by the Director when lot and area conditions indicate the need for such analysis. Supplemental technical reports may be required by the Director to specify measures~~

~~to preserve, protect, and maintain adjacent sites and the drainage basin and ensure safe, stable and compatible development.~~

~~2. All conditions of approval associated with an approved development application and permit shall be recorded as official permit conditions at the Department of Construction and Land Use. During construction, the Director may require conditions to be posted on the site in such a manner as to be visible from public rights-of-way.~~

~~3. If applicable, as determined by the Director, the following environmentally critical areas and/or their associated buffers located on a development site, together with any permanent conditions, shall be described in a permanent covenant with the property which shall be recorded in the King County Office of Records and Elections:~~

~~a. Riparian corridor buffers; and/or~~

~~b. Wetlands and steep-slope environmentally critical areas and their required buffers.~~

~~If applicable, the Director may require placement of small permanent visible markers to delineate riparian corridor buffers and/or wetlands and steep-slope environmentally critical areas and their required buffers. The location of the markers shall be described in the permanent covenant.~~))

((~~C. General Development Standards. General development standards as applicable shall include, but are not limited to the following:~~)) The following general development standards apply to development on parcels containing environmentally critical areas or their buffers, except as specifically provided in this chapter:

A. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335.

B. The project shall avoid adverse impacts from development on environmentally critical areas and buffers, and the Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable, naturally stable, and least sensitive portion of the site in order to protect the ecological functions and values of wetlands and fish and wildlife habitat areas, prevent erosion from development on steep slope areas, and protect the public health, safety and welfare in landslide-prone, liquefaction–prone, and flood-prone areas. Grading activities and impervious surfaces that may impact environmentally critical areas or buffers shall be kept to a minimum and limited to areas approved by the Director.

C. Driveways and utility corridors that may impact environmentally critical areas or buffers shall be kept to a minimum through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access shall be located in a way that keeps impacts to environmentally critical areas and buffers to a minimum.

D.((~~1~~)) All buffers and designated non-disturbance ((~~areas and other designated protected~~))areas shall be fenced with a highly visible and durable protective barrier during construction to prevent access and to protect environmentally critical areas. ((~~No removal of vegetation or wildlife habitat shall be permitted within the protected wetlands and their buffers, riparian corridors and their buffers, and steep slopes and their buffers either during or after construction, except as otherwise permitted by the chapter.~~))

((~~2. All disturbed areas on the site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control drainage and prevent erosion during construction, and revegetated to promote drainage control and prevent erosion after construction. The Director may require an erosion control plan and a vegetation removal and replacement plan when~~

~~erosion potential is severe. The erosion control plan shall be prepared and followed using best management practices. The vegetation removal and replacement plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of trees, shrubs, and ground cover that does not require permanent irrigation systems for long-term survival and is suitable for the location.~~))

E. ((~~3.~~)) All site clearing ((~~sites~~)) on the lot that may impact environmentally critical areas or buffers shall be carried out ((~~cleared~~)) in stages just prior to construction, and cleared areas shall ((~~only~~)) be kept to the minimum ((~~as large as necessary~~)) for construction. Revegetation shall occur after the particular phase of construction is completed. When required by the Director, ((~~the vegetation removal and replacement~~))a tree and revegetation plan shall establish a staged vegetation removal and replacement program ((~~which minimizes~~)) that keeps the amount of exposed soil during and after construction to a minimum. In drier months, temporary surface irrigation or temporary installation of intermediate plantings may be required until weather or seasonal conditions permit installation of the permanent plantings.

F. Construction activity on the lot that may impact environmentally critical areas or buffers shall adhere to a prepared schedule and mitigation plan approved by the Director prior to the start of construction. This schedule and mitigation plan shall include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation.

G. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless the applicant demonstrates to the satisfaction of the Director based on approved

technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st. This provision does not apply to grading in liquefaction-prone areas and abandoned landfills environmentally critical areas unless the parcel contains another environmentally critical area.

H. Best management practices shall be used for all construction activity on parcels with or adjacent to environmentally critical areas or buffers to prevent sediment and other pollutants from entering the riparian corridor watercourses or other fish and wildlife habitat conservation areas on or off the property. Best management practices include, but are not limited to, installation of siltation barriers, diversion measures, slope drains, and structural, vegetative stabilization techniques and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

I. The Director may require an erosion control plan and a tree and revegetation plan when erosion potential is severe. The erosion control plan shall be consistent with best management practices, and best management practices shall be followed in implementing it. The tree and revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of native vegetation.

J. The site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control stormwater and prevent erosion during construction, and shall be revegetated to promote stormwater control and prevent erosion after construction, consistent with Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

((~~4. The Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable and naturally stable portion of the site. Grading activities and impervious surfaces shall be minimized and limited to areas approved by the Director.~~

~~5. All drainage associated with the development shall be connected to City-approved drainage control systems with approved discharge points in compliance with the SMC Chapter 22.802-808, Stormwater, Drainage and Erosion Control. If an adequate drainage conveyance system is not available and safety and erosion concerns dictate, the Director may require design of drainage facilities to handle up to a one hundred (100) year storm, and/or require a release rate slower than the rate normally required.~~

~~6. All construction activity on environmentally critical area sites in watersheds containing designated critical watercourses and associated riparian corridors shall follow best management practices. These practices include installation of siltation barriers to minimize erosion and pollutants entering the watercourse, as well as other methods such as diversion measures, slope drains, and structural and vegetative stabilization techniques.~~))

K.((~~7.~~)). When calculating detention requirements, all disturbed areas on the site shall be calculated as developmental coverage, including revegetated areas, excluding enhanced or restored areas as approved by the Director.

L.((~~8.~~)) Pesticides and fertilizers shall not be used on parcels containing a riparian corridor, shoreline habitat or its buffer, or wetland or its buffer, except as allowed by the Director for the following circumstances and when that work will be done by a licensed applicator:

1. On public parks and public and private golf courses when the Director, in consultation with Seattle Public Utilities, determines a satisfactory substitute is not available and when the work is done pursuant to best management practices or an integrated pest management plan, except that pesticides and fertilizers shall not be applied within fifty (50) feet of a stream, wetland or shoreline habitat.

2. The state or local Health Department recommends or directs their use to

address a threat to public health.

3. A county, state, or federal agency with jurisdiction directs their use.

4. When the Director, in consultation with Seattle Public Utilities, determines the applicant has demonstrated that the use will have no adverse impact to fish and wildlife.

5. When the Director, in consultation with Seattle Public Utilities, has determined there is no other way to halt the spread of an invasive plant.

6. When the Director, in consultation with Seattle Public Utilities, determines that an emergency situation exists where there is a serious threat to public safety, health, or the environment and that an otherwise prohibited pesticide application must be used as a last resort.

M. The Director may require a development proposal's design to account for a one hundred (100) year seismic and one hundred (100) year flood event, unless a design for a greater event is required by other applicable codes.

((~~9. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless demonstrated to the satisfaction of the Director based on approved technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st.~~

~~10. Development occurring in riparian corridor, wetland and steep slope sites shall preserve the integrity of wildlife habitat corridors, and minimize the intrusion of development into designated wildlife habitat areas.~~

~~11. Construction activity shall adhere to a prepared schedule and mitigation plan to be approved by the Director prior to the start of construction. This schedule and mitigation plan shall~~

~~include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation. This plan shall be reviewed with the owner's representative and approved by the Director at a pre-construction meeting prior to the start of construction.~~

N.((~~12.~~)) The Director may require additional construction practices and methods and requirements, including, but not limited to best management practices as outlined in federal, state and Seattle manuals, and limitations on construction equipment permitted on the site, to protect environmentally critical areas and buffers on and off the property. (~~on-site, on adjacent sites, and within the drainage basin of a proposed development.~~))

O. No provision of this chapter shall be construed to require putting new or existing power lines underground.

25.09.080 ((~~**Development standards for landslide-prone hazard**~~)) **Landslide-prone critical areas.**

A. ((~~Site.~~)) This section applies to all parcels in or containing a landslide-prone critical area.

B. Site.

1. Complete stabilization of all portions of a site ((~~which~~)) that are disturbed or affected by the proposed development, including all developmental coverage and construction activity areas, ((~~shall be~~))is required. Complete stabilization of all portions of a site refers to the process and actions necessary to stabilize ((~~ensure that~~)) proposed site improvements ((~~are stabilized~~)), and ((~~that~~)) all on-site areas and adjacent properties, including adjacent public and private rights-of-way, ((~~which~~)) that are disturbed or ((~~impacted~~)) affected ((~~are stabilized~~)).

2. The proposed development ((~~or use~~)) shall be limited and controlled to avoid adverse impacts and potential harm, and to ((~~ensure~~)) provide safe, stable and compatible development appropriate to site conditions. Other reasonable and appropriate solutions to ((~~solve~~)) provide site stability ((~~problems~~)) may be required by the Director. This may include imposing conditions concerning the type and method of construction that reflect the specific constraints of the site.

3. Removal of, clearing, or any action detrimental to trees or vegetation in landslide prone critical areas is prohibited, except as provided in this section and Section 25.09.320.

((~~B. Staged Review Process. Projects proposed in landslide-prone areas shall be subject to a staged review process.~~

~~1. The staged review process may consist of one (1) or more of the following steps:~~

~~a. Site visit and reconnaissance;~~

~~b. Preliminary soils investigations including tests and borings; and~~

~~c. Detailed geotechnical studies and engineering plans.~~

~~2. During the staged review process, more extensive studies and investigations may be required for more hazardous sites, based on the degree of slope, hydrology and underlaying soils and geology. The Director may require detailed site investigation including, but not limited to the following:~~

~~a. Review of available literature regarding the site and surrounding areas;~~

~~b. Detailed topographic analysis;~~

~~c. Subsurface data and exploration logs;~~

~~d. Ground surface profiles;~~

~~e. Analysis of relationship of vegetated cover and slope stability;~~

~~f. Site stability analysis;~~

~~g. Geotechnical considerations to reduce risk; and~~

~~h. Construction and post-construction monitoring.~~

~~3. The Director shall determine the amount of additional study necessary depending on the degree of landslide-prone hazard on a site based on the information disclosed during the staged review process. The Director may require third-party review.~~

~~4. As part of the staged review process, the Director shall provide mailed notice to adjacent property owners, and the applicant shall post one (1) land use sign visible to the public at each street frontage abutting the site except, when there is no street frontage or the site abuts an unimproved street, the Director shall require either more than one (1) sign and/or an alternative posting location so that notice is clearly visible to the public. The land use sign may be removed by the applicant within fourteen (14) days after final action on the application has been completed. The purpose of this notice is to allow for an exchange of information between the applicant, adjacent property owners and the Director. Adjacent property owners may review and comment on site investigations and technical studies, and provide information and documentation of any previous landslide problems on the site. Notice will include information on how to find out whether or not third-party review is required.~~))

C. Third-Party Review. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, ((~~T~~))the Director ((~~shall determine when~~)) may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. ((~~shall be required.~~)) Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant. ((~~In determining the need for third-party review, the Director shall consider whether or not the project is to be constructed on deep soft-soil areas, areas identified as being affected~~

~~by deep slide masses or block movements, sites with excessive groundwater, and sites subject to lateral ground failure due to earthquakes.~~))

D. Bonds and Insurance. The Director may require adequate bonds and/or insurance to cover potential claims for property damage ((~~which~~)) that may arise from or be related to excavation or fill within a landslide-prone area ((~~a. The Director shall require such bonds or insurance~~)) when the depth of the proposed excavation ((~~shall~~)) exceeds four feet (4') and the bottom of the proposed excavation ((~~shall be~~)) is below ((~~a~~)) the one hundred percent (100%) slope line (forty-five (45) degrees from a horizontal line) from the property line. The Director may require such bonds and insurance in other circumstances where the Director determines that there is a potential for significant harm to an environmentally critical area or buffer during the construction process.

E. Permit renewals.

In addition to complying with the permit renewal standards in Chapter 23.76, applications for permit renewal shall comply with the following standards.

1. The Director may renew a permit for development that is in conformance with applicable regulations in effect at the time the renewal is sought.

2. An applicant seeking to renew a permit for new development in a landslide-prone area must submit a letter of certification from the current project geotechnical engineer of record as described in subsection G2. If such a letter of certification is not submitted, the permit shall not be renewed.

3. The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections G, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to

the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans.

4. An applicant for renewal also must demonstrate that any required bond or insurance will be in effect during the renewal period, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.

F. Issued permits in landslide-prone areas. If the Director has reasonable grounds to believe that an emergency exists because significant changes in conditions at a project site or in the surrounding area may have occurred since a permit was issued, increasing the risk of damage to the proposed development, to neighboring properties, or to the drainage basin, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a letter of certification as described in subsection G2 and has satisfied the standards of that section.

G. Letter of Certification.

1. The Director may require a letter of certification based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.

2. The letter of certification shall be from the current project geotechnical engineer of record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:

a. In the project geotechnical engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to the Department as part of the application for the permit; or that

b. In the project geotechnical engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria, and that in the project geotechnical engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been prepared and submitted.

25.09.100 Development standards for liquefaction-prone areas.

A. The general development standards set out in SMC 25.09.060 do not apply to liquefaction prone areas.

B. Soils engineering studies may ((~~shall~~)) be required for ((~~of all proposed~~)) development in ((~~areas subject to~~)) liquefaction-prone areas to determine the physical properties of the surficial soils, especially the thickness of unconsolidated deposits, and their liquefaction potential, as set out in Title 22, Subtitle I.

((~~B~~))C. If it is determined that the site is subject to liquefaction, mitigation measures may be imposed pursuant to ((~~appropriate to the scale of the development shall be recommended and implemented through requirements of~~)) Title 22, Subtitle ((~~VIII~~))I, ((~~Grading and Drainage Control Ordinance, SMC Title 22, Subtitle I, Building Code, and any~~)) in addition to other applicable codes or regulations pertaining to development ((~~within~~)) in liquefaction-prone areas.

25.09.120 Development standards for flood-prone areas.

A. Development is prohibited within the "floodway" of flood- prone areas. Permitted development within flood-prone areas lying outside the floodway shall not contribute to increased downstream flow of floodwaters and shall comply with the provisions of ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance. (((~~(FEMA) A drainage control plan shall be required for all proposed development.~~)))

B. Drainage-Control Plan. If the site is mapped or determined to be flood-prone, the Director may require a drainage-control plan ((~~shall~~))to be submitted with the permit application showing the flood-prone area, the tributary watershed, and all drainage features, to describe the existing situation and proposed modifications to the drainage system. If required, the ((~~The~~))drainage-control plan shall provide for control of water quality and quantity in compliance with ((~~the~~)) Title 22, Subtitle VIII, Stormwater Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance, and any other subsequent applicable flood-control codes or ordinances to protect the public interest and prevent harm.

C. Elevation Above Base Flood Level. The lowest floor elevation of any structure located in a flood-prone area shall be no less than two feet (2') above the one-hundred (100) year flood elevation ((~~unless otherwise specified by the Director of Seattle Public Utilities~~)).

((~~**25.09.140 Development standards for riparian corridors.**~~

~~A. Riparian Corridor Watercourse. No development shall be permitted within or over the watercourse as delineated by survey and accepted by the Director. If no other access is available to the property, the Director may approve access over the watercourse as long as it maintains the natural channel and floodway of the watercourse and minimizes the disturbance of the buffer to the greatest extent possible.~~

~~B. Minimum Riparian Corridor Buffer. In order to prevent harm on-site and downstream, and in order to minimize degradation of water quality, a buffer shall be established within the corridor within which development shall not be permitted. All buffers shall be measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark as surveyed in the field. In cases with braided channels and alluvial fans, the top of the ordinary high water mark shall be determined so as to include the entire stream feature. The buffer shall not extend beyond an existing~~

~~public road if the road has an adequate storm water catchment facility. The minimum buffer shall be as follows:~~

~~1. Class A Riparian Corridor Buffers; Fifty Feet (50'); and~~

~~2. Class B Riparian Corridor Buffers; Twenty-five feet (25').~~

~~C. Buffer Vegetation and Restoration.~~

~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required.~~

~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately.~~

~~3. Buffer Restoration Exemption. When the site is a single lot, located adjacent to properties where natural vegetation has already been removed for lawns or other residential activities, the Director may conclude that a buffer restoration plan is not to be required or that buffer restoration is limited to planting trees for creek shading when no significant increase in protection of the water body would result from full restoration of the buffer.~~

~~D. Buffer Reductions on Existing Lots. The Director may reduce a Class A buffer if development of adjacent lots is less than fifty feet (50') from the watercourse. However, the buffer shall not be less than the distance to the watercourse from the adjacent structure that is furthest from the watercourse, or less than twenty-five feet (25'), whichever is greater.~~

~~E. Riparian Corridor Restoration.~~

~~1. To encourage restoration of a riparian corridor presently located in an underground pipe or culvert, the following conditions shall apply:~~

~~a. Every effort shall be made to avoid building over a riparian corridor located in an underground pipe or culvert, except when located under a street right-of-way; and~~

~~b. Uncovering of the riparian corridor should be encouraged and allowed with the Director's approval of the following exceptions to riparian corridor standards:~~

~~i. The minimum buffer may not be required if there is no space available; and~~

~~ii. The open riparian corridor may be located elsewhere on-site or on adjacent sites.~~

~~2. To encourage restoration of a riparian corridor presently located in an open channel or drainage-way, the Director may waive the minimum buffer.~~

~~F. More intensive site review and application of stricter development standards may be applied in areas outside of the riparian corridor buffer where any of the following conditions are present:~~

~~1. High, steep slopes that could produce debris slides directly to surface waters; or~~

~~2. Sites with polluted groundwater seeps or springs; or~~

~~3. Other areas of potentially extreme adverse impacts.~~

~~G. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant shall be encouraged to~~

~~make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.~~))

25.09.160 Development standards for wetlands.

((~~A. Wetland. Wetland provisions of this chapter shall apply only to wetlands of one hundred (100) square feet or greater in area, unless a smaller wetland or a combination of adjacent, smaller wetlands are part of a larger drainage system. No grading, filling, draining and/or development shall be permitted within or over a wetland of exceptional value and its buffer as delineated by a survey accepted by the Director. Grading, filling, draining and/or development within wetlands and their buffers, other than wetlands of exceptional value, shall only be allowed under the following limited situations and conditions:~~

~~1. Wetlands altered for use as lawns or playfields prior to the effective date of this ordinance shall not be regulated as wetlands unless the Director determines that the wetland could be restored when new development or redevelopment occurs on the site; and~~))

A. Wetlands are rated according to the Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-25). Illegal grading, filling, draining, or other development will not result in a change to that wetland's rating. Wetlands constructed for mitigation or replacement purposes are subject to the provisions of this chapter.

B. Impacts to Wetlands.

1. Development, including but not limited to grading, filling, or draining, is prohibited within or over:

a. Category I, II or III wetlands greater than one hundred (100) square feet;

b. Category IV wetlands one thousand (1,000) square feet or greater;

c. A wetland of any category or size that is part of a larger wetland system or abuts any Type 1-5 water.

2. Development may occur within or over Category IV wetlands less than one thousand (1,000) square feet, other than those wetlands described in subsection B1c, in accordance with subsection C3.

3. When development is authorized on a parcel containing a wetland:

a. All on or offsite runoff shall be routed away from the wetland and wetland buffer; and

b. Direct lighting shall be directed away from the wetland and its buffer.

4. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in wetlands is prohibited, except as provided Section 25.09.320.

((~~2. Wetlands, excluding wetlands of exceptional value, may be considered for alteration if the proposal meets the criteria for an Environmentally Critical Areas Exception, Section 25.09.300 of this chapter, and complies with the following wetland compensation requirements:~~

~~a. Restoration of an existing degraded wetland, or~~

~~b. Creation of additional substitute wetlands, although the Director shall give preference to restoration, and~~

~~c. Restoration of an existing degraded wetland or creation of substitute wetlands shall meet the following conditions:~~

~~i. The applicant shall fund the wetland restoration or creation under the direction and authority of the Director,~~

~~ii. To the greatest extent practical, restoration or creation may occur either on or off site, but within the same drainage basin,~~

~~iii. Restoration or creation shall be of a similar type and shall take place before alteration of the original wetland,~~

~~iv. Restoration or creation shall require the original wetland to be replaced at a ratio of two to one (2:1), and~~

~~v. The restored or substitute wetland shall provide comparable water-quality benefits and be of at least equal habitat and hydrologic value.~~))

((~~B~~))C. Wetland Buffers and Mitigation. ((~~In order to protect wetland areas and maintain water quality, a minimum wetland buffer of fifty feet (50') shall be established within which no development shall be permitted and all vegetation shall remain undisturbed. The wetland buffer shall be measured horizontally from the edge of the wetland.~~))

1. Establishment of buffers.

a. The wetland buffer is measured horizontally from the edge of the wetland.

b. Wetlands have the following buffers:

Category I and II wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	100 feet 110 feet for moderate level habitat function 200 feet for high level of habitat function
Category III wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	60 feet 85 feet for moderate or greater level habitat function

Category IV wetlands one thousand (1,000) square feet or more in total size or of any size with the characteristics described in subsection B1c above	50 feet
Category IV wetlands under one thousand (1,000) square feet in total size that do not have the characteristics described in subsection B1c above	No buffer. Use mitigation under subsection C3.

A wetland with a moderate level of function is one that scores 20 to 28 points for habitat function when rated according to Washington State Ecology publication #04-06-025. A wetland with a high level of function for habitat is one that scores of 29 to 36 points for habitat function when rated according to Washington State Ecology publication #04-06-025.

c. Wetlands constructed in upland areas or non-wetland areas by any person for stormwater control, biofiltration or aesthetic purposes are not subject to the wetland buffer requirements of this chapter. Maintenance activities are not restricted in these types of wetlands.

2. Development is prohibited in wetland buffers, except as approved by the Director under subsection D.

3. The Director may authorize development in a Category IV wetland under one thousand (1,000) square feet that does not have the characteristics described in subsection B1c above, when the Director finds that one of the following measures, which must occur on site, will mitigate wetland function lost by development:

a. Construct a wetland of equal function to the lost wetland function.

b. Plant an area of native vegetation equal or greater in size to the area of the developed wetland, and remove invasive species in the area to be planted.

c. Construct a bioengineered/ infiltration facility, such as a bioswale, stormwater planter or infiltration planter, that replicates the hydrologic and/or water quality benefit of the developed wetland. This facility shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

d. Construct a eco-roof or roof garden that replicates the hydrologic and/ or water quality benefit of the developed wetland. These facilities shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

((~~C~~)) 4. Buffer Vegetation ((~~and Restoration~~)).

((~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required~~)).

a. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the wetland buffer is prohibited, except as provided in subsection D and Section 25.09.320.

((~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately~~.

((~~3. Buffer Revegetation Exemptions. The Director shall allow the removal by hand of i~~))

b. Invasive plants and noxious weeds ((~~, such as purple loosestrife,~~)) may be removed by hand. No machines or chemical removal shall be permitted without the Director's approval.

((~~E.~~))D. Buffer Averaging and Buffer Reductions.

1. Buffer Width Averaging. The Director may modify the standard wetland buffer width by averaging buffer widths when a qualified wetlands professional demonstrates to the Director's satisfaction that:

a. It will not reduce wetland functions or values;

b. The total area contained in the buffer area after averaging is no less than that which would be contained within the buffer required in subsection C above; and

c. The buffer width is not reduced to less than the following:

Category IV wetlands	35 feet
Category III wetlands with a high level of function for habitat	60 feet
All other Category III wetlands	40 feet
Category I and II wetlands with a high level of function for habitat	140 feet
All other Category I and II wetlands	75 feet

A high level of function for habitat shall be determined as set out in Subsection C1 above.

((~~D~~))2. Buffer Reductions. ((~~on Existing Lots. Buffer reductions on existing lots may only be allowed after the Director has determined that the front or rear yard or setback reduction or variance provisions of Section 25.09.280 will not provide sufficient relief.~~))

a. The Director may reduce a Category IV wetland buffer when the applicant qualifies for a variance by demonstrating that:

(1) the lot where the buffer is located was in existence before October 31, 1992;

(2) the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full buffer; and

(3) either the site does not meet the criteria for buffer averaging under subsection D1 or such averaging does not relieve the hardship that was found under subsection 25.09.280 B2.

b. If any buffer reduction is authorized by a variance under subsection D2a, the Director shall

(1) require the Category IV wetland to be restored on site in a manner that improves water quality, hydrology and habitat functions. Restoration must comply with subsections F and G below and with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29); and

(2) determine the amount of wetland buffer to reduce by applying the buffer averaging to the extent possible under subsection D1 and reducing the yards and setbacks before reducing the wetland buffer, unless reducing the yards or setbacks is injurious to safety. The wetland buffer shall be reduced by the minimum amount to mitigate the hardship, but never to less than thirty five feet (35');and

(3) impose additional conditions on the location and other features of a proposed development as necessary to carry out the purpose of this chapter and to mitigate the loss or reduction of the yard, setback or buffer.

c. The process and procedure for notice of decision and appeal of a variance under this subsection D2 shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~1. The Director may reduce a wetland buffer on existing lots only if the front or rear yard or setback reduction provision of Section 25.09.280 A does not provide sufficient relief to allow placement of an adequate structure and maintain the full width of the required wetland buffer.~~))

((~~2. The Director may further reduce a front or rear yard or setback through an Environmentally Critical Areas Yard or Setback Reduction Variance pursuant to the provisions of Section 25.09.280 B. If, during the review of this variance, the analysis shows that additional front or rear yard or setback reductions would not meet the criteria for variance approval and/or would not provide sufficient relief to allow placement of an adequate structure and maintain the full wetland buffer requirement, the Director may either approve reduction of the wetland buffer only or reduction of both yards or setbacks and the wetland buffer. The wetland buffer reduction shall be the minimum amount necessary, but never less than the twenty-five-foot (25') minimum buffer, to provide for use of the property and to prevent harm to the wetland.~~))

((~~3. The Director may reduce a wetland buffer only for wetlands which are determined to be degraded under the following circumstances:~~))

((~~a. If the degraded portion of the wetland is restored on site at a four to one (4:1) ratio, restored land area to reduced buffer, for wetlands larger than fifteen hundred (1,500) square feet; and at a two to one (2:1) ratio for wetlands under fifteen hundred (1,500) square feet; and~~))

((~~b. Such buffer reduction adjacent to the degraded wetland shall not result in a buffer of less than twenty-five feet (25') and does not apply to the wetland itself.~~))

((~~E~~)) ((~~Constructed Wetlands. Wetlands constructed by a private interest or public agency for stormwater control, biofiltration or aesthetic purposes shall not be subject to the wetland buffer requirements of this chapter. Maintenance activities shall not be restricted. This does not apply to wetlands constructed for mitigation or replacement purposes.~~))

E. Avoidance and Mitigation Standards.

1. The standards for wetland mitigation shall be applied in following order of priority:

a. avoid the impact to the extent practicable by not taking all or part of an action;

b. keep the impact to a minimum by limiting the degree or magnitude of the action and its implementation, and by taking affirmative actions to mitigate the impact over time; and

c. mitigate unavoidable impacts to the designated uses of a wetland by replacement, enhancement, or other approved compensation methods.

2. Mitigation for grading, filling, or draining wetlands shall achieve the equivalent or better biologic functions of the existing wetland. Mitigation plans shall be consistent with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29).

3. Wetland mitigation actions shall not result in a net loss of wetland area unless the following criteria are met as determined by a site-specific function assessment:

a. The lost wetland area provides only minimal functions and the mitigation action(s) results in a net gain in wetland functions; or

b. The lost wetland area provides only minimal functions and other replacement areas provide greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

4. Mitigation actions that require compensation by replacing, enhancing, or substitution, shall occur in the following order of preference:

a. Restoring wetlands on sites that were formerly wetlands.

b. Creating wetlands on disturbed sites, such as those with vegetative cover consisting primarily of exotic introduced species.

c. Enhancing wetlands and/or wetland buffers with significantly degraded functions and values. The amount of required enhancement is dependent on the wetland classification in subsection 5.

5. a. The following ratios are required for the restoration, creation or enhancement of wetlands for authorized alterations. As determined by the Director, wetland mitigation may include the preservation and enhancement of habitat if it provides greater ecological function than the existing wetland. The first number specifies the area of replacement wetlands, and second specifies the area of wetlands altered:

	Restoration or Creation Ratios	Enhancement Ratios
Category I	6:1	16:1
Category II	3:1	16:1
Category III	2:1	8:1
Category IV	1.5:1	6:1

b. Replacement ratios may be increased under the following circumstances to achieve the equivalent wetland function of the wetland that is altered:

(1) Uncertainty exists as to the probable success of the proposed restoration or creation; or

(2) A significant period of time will elapse between impact and establishment of wetland functions at the mitigation site; or

(3) Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted.

c. Replacement ratios may be decreased when the proposed mitigation actions are conducted in advance of the impact and result in no net loss in wetland functions.

F. Mitigation Timing. Any restoration, creation or enhancement of wetlands that is required as mitigation shall be completed prior to issuance of the certificate of occupancy for the displacing use. If that has not occurred or if no certificate of occupancy is needed, the applicant shall submit plans that establish a specific schedule for completion, which must be approved by the Director, and shall provide a bond of at least one hundred and fifty percent (150%) of the cost of installation, in addition to the monitoring plan and bond required under subsection G. If the required mitigation can be completed for less than five thousand dollars ($5,000), no bond is required under subsection F or G.

G. A monitoring plan shall be prepared to monitor successful re-establishment of the wetland for a period of five growing seasons or the period required to achieve the performance standards of the plan, whichever is earlier. The applicant shall provide a bond in an amount of at least one hundred fifty percent (150%) of the cost to retain a qualified wetlands scientist to assess the wetland and submit a report to the City at least twice yearly, prior to and near the end of each growing season and shall also provide a bond in an amount sufficient to implement additional restoration measures if the replacement wetland does not equal the functions of the wetland displaced at the end of five growing seasons.

((~~F~~))H. Other Agency Regulations. Review of projects subject to the wetland provisions of this chapter shall be coordinated by the applicant with the appropriate state and federal agencies.

((~~Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act~~)) The applicant ((~~shall be encouraged to~~)) should make early contact with these agencies to ensure compliance with local, state and federal ((~~riparian corridor~~))regulations.

I. In addition the information provided pursuant to Section 25.09.330 and to Director's Rule, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. The third party review will be conducted by a qualified wetland consultant hired by the Director and paid for by the applicant.

25.09.180 Development standards for steep slope((s)) areas.

A. This section and Section 25.09.080 apply to parcels containing a steep slope area or buffer.

B. ((~~A. Development Limitations on Steep Slopes and Buffers on Existing Lots~~)) Impacts on Steep Slope Areas.

1. Development ((~~shall be avoided on areas over forty percent (40%) slope whenever possible~~)) is prohibited on steep slope areas, unless the applicant demonstrates that the provisions of subsections B2 or E apply.

2. ((~~Generally, the Director shall require a~~)) Provided that all the provisions of this chapter and all applicable provisions of Title 23 and Title 22, Subtitle VIII, are met, the development standards in subsection B 1 do not apply when the applicant demonstrates the development meets one of the following criteria. In determining whether these criteria are met, the Director may require a geotechnical report to verify site conditions and to evaluate the impacts of the development in the steep

slope area and shall require such a report for criteria (c) and (d). The geotechnical report is subject to the provisions for third party review in Section 25.09.080 C.

a. Development is located where existing development is located, if the impact on the steep slope area is not altered or increased; or

b. Development is located on steep slope areas that have been created through previous legal grading activities, including rockeries or retaining walls resulting from rights of way improvements, if no adverse impact on the steep slope area will result; or

c. Development is located on steep slope areas that are less than feet (20') in vertical rise and that are thirty feet (30') or more from other steep slope areas, if no adverse impact on the steep slope area will result; or

d. Development is located on steep slope areas where the Director determines that application of the development standards in subsection B1 would prevent necessary stabilization of a landslide-prone area.

C. Buffers.

1. Steep slopes have fifteen-foot (15') buffers from the top ((~~or~~))and toe of a slope unless the Director determines ((~~whenever practicable~~)) that a greater or lesser buffer is required ((~~based on geotechnical and hydrological site constraints and the impacts of proposed construction methods on the stability of the slope, increased erosion potential, and disruption of existing topography and vegetation. The width of the buffer may be increased or decreased as determined by the Director~~)) based on the following considerations:

a. Proposed construction method and its effect on the stability of the slope and ((~~increased~~)) erosion potential;

b. Techniques used to ((~~minimize~~))keep the disruption of existing topography and vegetation to a minimum; and

c. Preparation of technical reports and plans to address and propose remedies regarding soils and hydrology site constraints.

2. Development is prohibited on steep slope area buffers, except as authorized in subsection B2 or to provide access to such an area, which shall be kept to a minimum, and except as provided in subsection E.

((~~3. When it is not practicable to avoid development on areas over forty percent (40%) slope and the buffer area, the following conditions shall apply:~~))

((~~a. Grading and development activity and other land disturbing activity shall not exceed thirty percent (30%) of the areas measured over forty percent (40%) slope. This shall not include vegetation removal for the purposes of replacing existing vegetation with more suitable plants; and~~))

((~~b. The Director may impose conditions concerning the type and method of construction that reflect the specific constraints of the site, as well as the landslide-prone area regulations of this chapter, Section 25.09.080 A.~~))

((~~B. Vegetation Removal and Replanting. Removal of vegetation in steep slope areas shall be minimized. Any replanting that occurs shall consist of trees, shrubs, and ground cover that is compatible with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival.~~))

D. Vegetation Removal and Replanting. If removal of trees or vegetation in a steep slope area and its buffer is authorized as part of approved development, it shall be kept to a minimum, and shall be carried out pursuant to a tree and revegetation plan described in subsection 25.09.320C. Other

removal of, clearing, or any action detrimental to trees or vegetation in a steep slope area or buffer is prohibited, except as provided in Section 25.09.320. In addition to complying with Section 25.09.320, any replanting that occurs shall consist of native vegetation.

((~~C. Site Design Guidelines. The following guidelines shall be followed for development in steep slope areas:~~

~~1. Structures should be designed and placed on the hillside to minimize negative impacts, such as grading and land disturbing activity;~~

~~2. Driveways and utility corridors should be minimized through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access should be located in a way that minimizes impacts to steep slopes or other critical areas;~~

~~3. Development should be located on the least sensitive portion of the site to preserve the natural land forms, geological features, and vegetation;~~))

((~~4. Terracing of land shall be kept to a minimum; and~~

~~5. Cluster development may be allowed pursuant to the provisions of Section 25.09.260 to emphasize the existing topography and conserve existing resources if compatible with the surrounding residential character.~~

~~D. Steep Slope Exemptions.~~

~~1. Highly Developed Areas. Existing lots, short subdivisions and subdivisions may be exempted by the Director from steep slope regulations when located in highly developed and urbanized areas. Highly developed and urbanized areas include all Downtown and Highrise zones. Sites located in Midrise and Commercial 1 and 2 zones may also qualify for this exemption when~~

~~surrounding lots contain high-density residential development and/or concentrated commercial development which closely matches the development potential for the zone. This exemption shall not apply to single-family, lowrise, neighborhood commercial, industrial, or any other zones. If the site is characterized by or adjacent to at least one (1) of the following areas, this exemption shall not apply:~~

~~a. A wetland over one thousand five hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor;~~

~~b. A large undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or other large areas with significant tree cover that provides valuable wildlife habitat.~~

~~2. Steep Slopes Resulting from Rights-of-way Improvements. Steep slopes resulting from street, alley, sidewalk and other typical rights-of-way improvements, including rockeries or retaining walls, may be exempted from compliance with the environmentally critical areas regulations. This exemption shall not extend beyond the cut or fill created by the street, alley, sidewalk or other rights-of-way improvement, and does not release the applicant from any applicable geotechnical review requirements under the Stormwater, Grading and Drainage Code. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~3. Previously Developed Sites. Sites that have been previously developed may be exempted by the Director from steep-slope requirements under the following conditions:~~

~~a. If the objectives of the steep-slope regulations would not be compromised; and~~

~~b. If the degree of nonconformity with the environmentally critical areas regulations, if applicable, is not increased. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~4. Limited Exemptions. Slopes with a vertical elevation change of up to twenty feet (20') and not part of a larger steep slope system, or slopes which have been created through previous, legal grading activities, may be exempted by the Director from the steep slopes regulations based on a geotechnical report demonstrating that no adverse impact will result from the exemption.~~

~~5. Stabilization of Landslide-prone Area. Certain steep slopes may be exempted from the steep slope regulations upon the Director's determination, based on geotechnical expertise, that application of the regulations would prevent necessary stabilization of a landslide-prone area, subject to the provisions of Section 25.09.080 C, Third- party Review.~~

~~6. Any project receiving an exemption shall be subject to steep slope drainage control and vegetation removal regulations, as well as applicable landslide-prone area regulations of this chapter.~~))

E. 1. Steep Slope Area Variance. The Director may reduce the steep slope area buffer and may authorize limited intrusion into the steep slope area and steep slope buffer to the extent allowed in subsection E2 only when the applicant qualifies for a variance by demonstrating that:

a. the lot where the steep slope or steep slope buffer is located was in existence before October 31, 1992; and

b. the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full steep slope area buffer.

2. If any buffer reduction or development in the critical area is authorized by a variance under subsection E1, it shall be the minimum to afford relief from the hardship and shall be in the following sequence of priority:

a. reduce the yards and setbacks, to the extent reducing the yards or setbacks is not injurious to safety;

b. reduce the steep slope area buffer;

c. allow an intrusion into not more than thirty percent (30%) of the steep slope area.

3. The Director may impose additional conditions on the location and other features of the proposed development as necessary to carry out the purpose of this chapter and mitigate the reduction or loss of the yard, setback, or steep slope area or buffer.

4. The process and procedures for notice of decision and appeal of a variance under this subsection E shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.200 Development standards for fish and wildlife habitat conservation areas.

((~~The characteristics of fish and wildlife habitat conservation areas shall be used to evaluate development within wetlands, riparian corridors and steep slopes. Preserving the integrity of fish and wildlife habitat corridors, and minimizing the intrusion of development into these designated habitat areas shall be considered in applications for buffer reductions and conditional use permits to transfer development credit to noncritical portions of a site.~~))

A. Development standards for parcels with riparian corridors.

1. The provisions of this subsection A apply to all development on parcels containing riparian corridors as defined in Section 25.09.020 D5. In addition, the provisions of subsection C apply to these parcels, except subsection C2 with respect to fish. In the event of an

irreconcilable conflict between the provisions of subsection C and this section, the most restrictive provision applies.

2. Riparian Watercourse.

a. Development is prohibited within or over the watercourse, except as provided in subsection A2b. If no other access is available to the property, the Director may approve access over the watercourse, provided that it maintains the natural channel and floodway of the watercourse and that disturbance of the riparian management area is kept to a minimum.

b. On Haller and Bitter Lakes, piers are regulated pursuant to the development standards for similar structures in the Seattle Shoreline Master Program, Chapter 23.60, Part X, The Urban Residential Environment. If a pier is allowed, access to it through the riparian management area is also allowed, provided the impact on the naturally functioning condition of the riparian management area from the pier's location, method of construction, and construction materials is kept to a minimum.

c. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian watercourse is prohibited, except as provided in Section 25.09.320.

3. Riparian Management Area.

a. The riparian management area is defined in subsection 25.09.020 D5. Existing public or private streets are excluded from the regulations for the riparian management area, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat on the parcel and downstream and to keep degradation of water quality for habitat to a minimum.

b. Activities in the riparian management area.

(1) Development is prohibited in the riparian management area, except to provide access to development approved under subsection A2 and except under subsections A3b(2), A3c, and A3d.

(2) Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian management area is prohibited, except as provided in subsection c below and Section 25.09.320.

c. Riparian Management Area Vegetation.

(1) If the vegetation in the riparian management area protects the fish habitat and wildlife habitat as they exist on the site at the time development is proposed, including preventing erosion and protecting water quality, the existing vegetation shall remain undisturbed, except as allowed under Section 25.09.320.

(2) If the riparian management area is not functioning in the manner set out in subsection A3c(1) above, the applicant shall prepare and carry out a tree and vegetation plan that augments the existing vegetation with native vegetation to the extent commensurate with the impact of the development on the riparian management area. The plan shall be prepared and executed consistent with Section 25.09.320. Vegetation in the riparian management area shall not be removed or otherwise disturbed until the applicant is ready to immediately replant according to the approved plan. A monitoring plan shall be prepared to monitor the establishment of the vegetation. The plan shall cover five (5) growing seasons or the period needed to successfully carry out the plan, whichever is earlier.

d. In addition to subsections A3b(2) and A3c, development is allowed in the riparian management area on lots existing at the time this ordinance takes effect if the applicant demonstrates that:

(1) the development is in the limited riparian development area, which is the area in the riparian corridor but outside of the watercourse and more than seventy-five feet (75') from the top of the watercourse bank for Type 2 and 3 waters with anadromous fish present for any part of the year, fifty feet (50') from the top of the watercourse bank for Type 2 and 3 waters where anadromous fish are not present for any part of the year and more than fifty feet (50') from the top of the watercourse bank for Type 4 and 5 waters;

(2) the development complies with Section 22.802.016, regardless of the area of land disturbing activity or the size of the addition or replacement of impervious surface, except as provided in subsection 3e; and

(3) any development, including but not limited to coverage by impervious surface, does not exceed 35% of the total area of the limited riparian development area, provided that the maximum lot coverage does not exceed that allowed under Title 23, and except as provided in subsection 3e.

e. When compliance with Section 22.802.016 is required solely based on subsection 3d(2) above, the Director may approve a restoration plan in lieu of requiring compliance with subsections 3d(2) and (3) if the applicant demonstrates that the plan meets the following criteria:

(1) The watercourse or riparian management area function will be restored so that it prevents erosion, protects water quality, and provides diverse habitat; and

(2) The restoration results in greater protection of the watercourse and riparian management area than compliance with subsections 3d(2) and (3).

4. Daylighting Water in Pipes and Culverts.

a. To encourage daylighting pipes and culverts directly connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert, the Director may

modify development standards as set out in subsection 4b below when the applicant submits a plan for daylighting the pipe or culvert that meets the following criteria:

(1) the plan is prepared by a qualified professional;

(2) the ecological functions of the daylighted waters and adjacent area are improved so the new riparian corridor area is compatible with and protects the ecological functions of the existing riparian corridor upstream and downstream and does not contribute to flooding; ecological functions include preventing erosion, protecting water quality, and providing diverse habitat; and

(3) if the plan proposes daylighting the pipe or culvert in a different location on the parcel from its current location or off the parcel, the ecological functions required in subsection (2) above are provided as effectively as they would be without the relocation.

b. If the Director finds the conditions in subsection 4a are met, the Director may modify the following development standards. The modification shall be the minimum to provide sufficient area to meet the standards in subsection 4a and shall be in the following order of priority:

(1) Yard and/or setback requirements on the property may be reduced, unless reducing them is injurious to safety.

(2) The riparian corridor watercourse and adjacent area maintained as a riparian management area under the approved plan may count toward open space requirements for all multifamily or commercial zone requirements.

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced.

5. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Department of Fish and

Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant is encouraged to make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.

B. Development Standards for Shoreline Habitat.

1. The provisions of this subsection B apply to all parcels with shoreline habitat defined in subsection 25.09.020 D6 or its buffer.

2. In addition, the provisions of subsection C below apply to parcels with shoreline habitat or its buffer, except subsection C2 with respect to fish. In the event of an irreconcilable conflict between the provisions of this subsection B and subsection C, the provision most protective of wildlife habitat applies.

3. Development is prohibited in shoreline habitat, except when all of the following criteria are met:

a. The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

b. Mitigation is provided for all impacts to the ecological functions of fish habitat on the parcel resulting from any permitted increase in or alteration of existing overwater coverage.

4. Buffers.

a. Shoreline habitat has a one hundred foot (100') buffer from the ordinary high water mark.

b. Bioengineered solutions, such as using plants or other approved natural material, to stabilize the shoreline are allowed in the buffer, provided they are allowed under Title 23, including chapter 23.60, the Shoreline Master Program.

c. Other development for water dependent and water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, the amount of impervious surface is not increased, and no surface that is permeable by water at the time of the application will be covered with an impervious surface so that impervious surface will be closer to the ordinary high water mark; or

(3) if any of the actions described in subsection c(2) above occur and that action impacts the ecologic function of the shoreline, those impacts are mitigated as set out in subsection e below.

If the standards in subsections c(1) and (2) are met, then the application is not subject to the application submittal requirements in Section 25.09.330 and the general development standards in Section 25.09.060.

d. Other development for non-water dependent and non-water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) for non-residential uses

(a) the lot was in existence before the effective date of this ordinance; and

(b) the development is twenty five feet (25') or more from the ordinary high water mark unless the development is allowed in the shoreline habitat under Title 23, including chapter 23.60, the Shoreline Master Program; and

(c) (i)no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(ii) if any of the actions described in subsection d(2)(c)(i) above occur, all impacts on the ecological function are mitigated as set out in subsection e below; or

(3) for residential uses the residence is twenty five feet (25') or more from the ordinary high water mark

(a) and no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(b) if any of the actions described in subsection d(3)(a) above occur, all impacts on the ecological function are mitigated as set out in subsection e below.

e. Mitigation.

(1) Mitigation must prevent net loss of ecological function. Mitigation must achieve the equivalent ecologic functions as the conditions existing in the shoreline habitat buffer at the time of development. Mitigation under this section is not intended to duplicate mitigation for the same ecologic function that is required under other City regulations or under state and federal permits. The permit condition most protective of the ecologic function shall be enforced.

(2) For the purpose of this section, mitigation is action that replaces ecological functions lost as a result of a project impact. Depending on the type of lost ecological function these include:

(a) providing habitat, or

(b) creating new pervious ground or

(c) replicates the function of the pervious ground through methods that are engineered and designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

(3) Mitigation for habitat impacts in the buffer shall occur in the following order of preference:

(a) on the parcel within the buffer as close to the ordinary high water mark as possible;

(b) within the buffer as close to the ordinary high water mark as possible on a parcel that abuts the ordinary high watermark within one quarter (¼) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred;

(c) farther along the shoreline within the buffer as close to the ordinary high water mark as possible.

(4) The following mitigation ratios are required for habitat impacts in the buffer under subsection 2(a) and 2(b); the first number specifies the area of replacement habitat, and second specifies the area of altered habitat:

(a) 1:1 for areas on the parcel or on a parcel that abuts the ordinary high water mark within one quarter (1/4) mile along the shoreline from where the vegetation removal,

placement of impervious surface or other loss of habitat occurred. If the applicant demonstrates that the ecological function can be replaced at a different ratio, the Director may approve that ratio.

(b) 3:1 farther along the shoreline, provided that if a five (5) year bonded monitoring program is provided that monitors the effectiveness of mitigation measures and provides a means for ensuring the attainment of the goals of the program, the Director may approve a 2:1 ratio.

5. Bulkheads.

a. New bulkheads are prohibited, except when the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use.

b. Major repair of existing bulkheads is prohibited, except when

(1) the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use; or

(2) a bioengineered solution, such as using plants or other approved natural material to stabilize the shore, will not achieve the same level of shoreline stabilization and property protection.

6. Streets.

a. Existing public or private streets are excluded from these buffer regulations, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat and to keep degradation of water quality for habitat to a minimum.

b. New streets are allowed when the following criteria are met:

(1) the street is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, impervious surface is not increased, and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(3) if the actions described in subsection (b)(2) above occur, any impacts on the ecological function are mitigated as set out in subsection 4e above.

7. The following provisions apply to all parcels containing shoreline habitat and buffers to prevent impacts to the habitat and buffer:

a. Any increases in surface runoff from development shall be kept to a minimum, and surface water run off shall be controlled, treated and released so that receiving water quality and any shore properties and features are not adversely affected. Control measures may include, but are not limited to, dikes, catch basins or settling ponds, interceptor drains and planted buffers. Allowable means to achieve this include bioswales, catch basin filters, and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

b. Pavement in the habitat and buffer shall be kept to a minimum and permeable surfacing, where practicable, shall be used to keep surface water accumulation and runoff into the habitat and buffer to a minimum. Recommended methods are found in Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code. Permeable surfaces include, but are not limited to, porous asphalt, concrete, brick, or pavers; or plastic confinement systems with grass or gravel filler.

c. Best management practices shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water. Direct runoff of these materials is prohibited. Best management practices shall be employed for prompt and effective clean-up of any spills that do occur. A spill prevention and response plan may be required by the Director.

d. Any cleaning or resurfacing operation occurring over water that may result in the entry of debris, such as paint chips, shall employ tarpaulins securely affixed above the water line

to prevent material from entering the water. Prior to removing the tarpaulins, the accumulated contents shall be removed by vacuuming or an equivalent method that prevents material from entering the water.

e. No over-water application of paint, preservative treatment, or other chemical compounds is permitted, except in accordance with best management practices.

f. Wooden components that will be in contact with standing water or floodwaters shall not contain polycyclic aromatic hydrocarbons (PAH), creosote, pentachlorophenol, or similar toxic substances. Durable, non-toxic components is the preferred material for in-water and over-water structures. Where treated wood is considered necessary, it shall be applied and used in accordance with the American Wood Preserver Association (AWPA) standards for aquatic use.

g. For projects involving concrete, a concrete truck chute cleanout area shall be established to contain wet concrete. No concrete or clean out shall be allowed to enter the water body. This does not prohibit piers or other concrete structures authorized by a valid permit.

h. All inlets and catch basins shall be protected from fresh concrete, paving, paint stripping and other high-risk pollution generating activities during construction.

i. Construction staging areas shall be as far from the ordinary high water mark as practicable.

j. Planting native vegetation may be required to mitigate impacts of development on the shoreline habitat or buffer.

k. If at any time project-related activities cause a fish kill to occur, the permitee shall stop all work relating to the fish kill and immediately notify the Department of Planning and Development, Washington Department of Fish and Wildlife, and the Washington Department of Ecology.

1. In- and over-water structures shall be designed and located to keep impacts from shading of any bank and shallow water habitat to a minimum.

8. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in shoreline habitat or its buffer is prohibited, except as authorized under subsections 1-6 above and section 25.09.320.

C. 1. Development on parcels containing fish and wildlife habitat conservation areas shall comply with any species habitat management plan set out in a Director's Rule. The Director may establish by rule a species habitat management plan to protect any priority species identified by the Washington State Department of Fish and Wildlife or to protect species of local importance.

2. Any person proposing development on a parcel containing fish and wildlife habitat conservation areas shall consult with the Washington State Department of Fish and Wildlife and comply with any requirements of that agency, except as limited in subsections A and B above.

D. Based on information provided by a qualified wildlife biologist, the Director may condition development on parcels containing wildlife habitat or corridors defined in subsection 25.09.020 D3 to encourage preserving fish or wildlife habitat corridors. Conditions may include, but are not limited to:

1. Establishment of buffer zones;

2. Preservation of important vegetation and habitat features;

3. Limitation of access to habitat areas;

4. Seasonal restriction of construction activities;

5. Preservation of the ability for fish to pass between fish habitat in Type 1-5 waters upstream and downstream of the parcel. The application requirements and general conditions of this chapter, Sections 25.09.330 and 25.09.060, do not apply if the person

responsible for development of the parcel has either a Hydraulic Project Approval from the Washington Department of Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers.

E. Designating Species of Local Importance and their Habitat.

1. The Director on an annual basis shall accept and consider nominations for species of wildlife and their habitat to be designated as locally important. The designation of a species of local importance and its habitat shall require an amendment to this chapter.

2. Species or habitat to be designated shall exhibit the following characteristics:

a. Local populations of native species are in danger of extinction based on existing trends:

(1) Local populations of native species that are likely to become endangered; or

(2) Local populations of native species that are vulnerable or declining;

b. The species has recreational, commercial, game, tribal, or other special value;

c. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat;

d. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in Seattle;

e. Areas nominated to protect a particular habitat or species have either high-quality habitat or habitat with a high potential to recover to a suitable quality, and the habitat is limited in quantity, highly vulnerable to alteration, or connects habitats.

3. Species and habitats may be nominated for designation by any person. Nominations shall be in writing, address the characteristics listed in subsection 2, and state whether specific habitat features are being nominated (for example, nest sites, breeding areas, and nurseries), or whether the habitat or ecosystem is being nominated in its entirety. Where restoration of habitat is proposed, a specific plan for restoration shall be provided with the application, or the nomination shall include management strategies for the species or habitats. Restoration plans and management strategies shall be supported by the best available science.

4. The Director shall determine whether the nomination proposal is complete, and if complete, shall evaluate it under the criteria in subsection (2) and make a recommendation to the Mayor and Council based on that information. If the nomination is adopted, the Director may establish habitat restoration plans and habitat and species management strategies by rule.

25.09.220 Development standards for abandoned landfills.

A. Regulation of Development on Abandoned Landfills. Development on abandoned landfills ((~~shall be~~)) is subject to Seattle-King County Health Department requirements for the applicant to submit an excavation and development work plan, prepared by a licensed engineer with experience in landfill construction and/or management, and comply with other applicable requirements to prevent damage from methane gas buildup, subsidence, and earthquake induced ground shaking as contained in ((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and regulations pertaining to development on abandoned landfill sites. Technical studies shall be required to indicate whether these areas pose a threat to development on an abandoned landfill site.

B. Areas within One Thousand Feet (1,000') of Methane-producing Landfills. Areas within one thousand feet (1,000') of methane-producing landfills may be susceptible to ((~~methane leakage~~))

accumulations of hazardous levels of methane gas in enclosed spaces. Methane barriers or appropriate ventilation may be required in these areas as specified in((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and Seattle-King County Health Department regulations.

25.09.240 Short subdivisions and subdivisions.

A. This section applies to ((~~A~~))all applications for short subdivisions and subdivisions, excluding unit lot subdivisions, ((~~proposals located in~~)) on parcels containing any part of a riparian corridor, ((~~buffers,~~)) shoreline habitat, shoreline habitat buffers, wetlands, ((~~and~~)) wetland buffers, or ((~~and~~)) steep slope((~~s~~)) areas (((~~over forty percent (40%)) shall comply with the following specified development standards~~)) in addition to the standards ((~~set forth~~)) in ((~~Subtitle III, Platting Requirements, of SMC~~)) Title 23((~~, Land Use Code:~~)).

((~~A~~))B. ((~~New lots shall contain~~)) Parcels shall be divided so that each lot contains ((~~at least one (1)~~)) an area for ((~~building site~~)) the principal structure, all accessory structures, and necessary walkways and for access to ((~~the site~~)) this area that ((~~is~~)) are outside ((~~the identified~~)) all environmentally critical areas and ((~~its required~~)) buffers identified in subsection A above except as follows:

1. The required area and access may be located in the footprint of an existing lawful principal structure used for residential use that encroaches into an environmentally critical area or buffer identified in subsection A, provided it does not further alter or increase the impact to the environmentally critical area or buffer.

2. ((~~that a~~))Access may be provided by a bridge over a riparian corridor ((~~watercourse and buffer as long as~~)) when the Director determines no other access is available and (a) access is provided by ((~~it is~~)) a freestanding structure that maintains the natural channel and floodway of

the watercourse and ((~~minimizes~~)) (b) the disturbance of the riparian corridor and any other adjacent environmentally critical area or buffer ((~~to the greatest extent practicable.~~)) is kept to a minimum. ((~~Covenants shall be recorded with the subdivision or short subdivision that restrict development to the areas specified on the approved site plan.~~))

3. Development may encroach into that portion of a steep slope area or its buffer for which the Director has determined that criteria in subsection 25.09.180 B2a, b, or c are met for the particular short subdivision, or subdivision under consideration.

4. Development may encroach into the Shoreline habitat buffer provided that

a. a condition is recorded on the plat restricting the development in the buffer to water dependent or water related uses or to single family residential uses; and

b. for single family residential uses the condition requires each residence to be no further waterward than twenty five feet (25') from the ordinary high water mark; and

c. a condition is recorded on the plat (1) requiring mitigation at the time of development for removal of vegetation, addition of impervious surface, and all other harm to the ecological function of the buffer and habitat resulting from development and (2) setting out on the plat the mitigation standards in subsection 25.09.200 B4e.

C. Lots shall be configured to preserve the environmentally critical areas and their buffers identified in subsection A by:

1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or

2. Establishing non-disturbance areas on individual lots.

D. The environmentally critical areas and buffers identified in subsection A above, except for areas qualifying for development under subsection B1-4, shall be designated non-disturbance areas

on the final plat. A notice that these non-disturbance areas are located on the lots, including the definition of "non-disturbance area," shall recorded in the King County Office of Records and Elections along with the final plat in a form approved by the Director. At the same time, a covenant protecting non-disturbance areas shall be recorded as set out in Section 25.09.335.

((~~B. Lots shall be configured to preserve the identified environmentally critical area and its buffer by:~~))

((~~1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or~~))

((~~2. Establishing buffer easements on individual lots.~~))

((~~C~~))E. In computing the number of lots a parcel in a single family zone may contain, the Director shall exclude the following areas:

1. Easements and/or fee simple property used for shared vehicular access to proposed lots that are required under Section 23.53.005. ((~~shall not be counted when calculating minimum lot area requirements.~~))

((~~D~~))2. The area of the ((~~identified~~)) environmentally critical areas and ((~~their required~~)) buffers identified in subsection A, unless they are on a lot that meets one of the following standards: ((~~areas within a proposed subdivision or short subdivision shall receive no development credit for use in calculating the number of lots permitted.~~))

a. the provisions of subsection B; or

b. an Administrative Conditional Use is obtained under Section 25.09.260, if it is not practicable to meet the requirements of subsection B considering the parcel as a whole.

((~~E~~))F. Application Submittal Requirements. All short subdivision and subdivision ((~~proposals~~)) applications, in addition to the application submission requirements included in ((~~SMC~~))

Title 23((~~, Land Use Code,~~)) shall meet the applicable application submittal requirements of this chapter, ((~~subsection A of~~))Section 25.09.((~~060~~))330, and shall include the information contained in this subsection and Section 25.09.260, as applicable, on the surveyed site plan.

25.09.260 Environmentally critical areas ((~~A~~))**administrative conditional use** ((~~**permit to recover development credit and permit clustered development on-site in single-family zones**~~)).

((~~Up to full development credit on-site (determined by calculating the maximum number of lots allowed based on the underlying single-family zoning and size of the originating property) may be granted by the Director through an administrative conditional use permit, authorized under SMC Section 23.42.042, Conditional uses, in the Land Use Code. Notice of application and review process and procedures for this administrative conditional use and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~

~~B. The Director may approve, condition or deny an application for an administrative conditional use. The Director's decision shall be based on a determination of whether the proposed transfer of development credit within the site meets the criteria for allowing the specific conditional use and whether the use will be materially detrimental to the public welfare or injurious to property in the zone or vicinity in which the property is located.~~

~~C. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions deemed necessary for the protection of other properties in the zone or vicinity in which the property is located.~~

~~D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~

~~E. The Director may approve the transfer of development credit if it can be shown that the development would meet the following conditions and findings:~~

~~1. The transfer of development credit shall not result in any significant increase of negative environmental impacts, including erosion, on the identified environmentally critical area and its buffer;~~

~~2. The development shall be reasonably compatible with neighborhood characteristics. This shall include but not be limited to concerns such as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining;~~

~~3. In no case shall development credit be allowed for the area covered by an open water area of a wetland or riparian corridor;~~

~~4. The development shall retain and protect vegetation on designated undisturbed areas on and off site. Significant species or stands of trees shall be protected, and tree removal shall be minimized. Replacement and establishment of trees and vegetation shall be required where it is not possible to save trees;~~

~~5. The ability of natural drainage systems to control the quality and quantity of stormwater runoff shall not be significantly impaired;~~

~~6. The development shall not adversely affect water quality and quantity, erosion potential, drainage, and slope stability of other environmentally critical areas located in the same drainage basin;~~

~~7. The development's site plan shall include measures to minimize potential negative effects of the development on the undeveloped portion of the site, including the provision of natural barriers;~~

~~8. Adequate infrastructure (streets and utilities) shall be available or will be provided; and~~

~~9. The site design guidelines of Section 25.09.180 C shall be followed for designated steep slope areas.~~

~~F. Clustering of Additional Dwelling Units. The Director may approve more than one (1) dwelling unit per lot and may approve smaller than required lot sizes and yards to accommodate recovery of development credit, and to encourage larger buffers, reduce impermeable surfaces, and decrease size of affected areas. Where dwelling units are attached, they shall not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone. Full development credit on-site shall not be increased beyond that permitted by the underlying single-family zone.~~

~~G. The Director may require that structures be located on the site in order to preserve or enhance topographical conditions, adjacent uses and the layout of the project and to maintain a compatible scale and design with the surrounding community. In order to approve clustered dwelling units in all environmentally critical areas, the following criteria shall be met:~~

~~1. Clustering of units shall help to protect the following critical areas: riparian corridors, wetlands and steep slopes;~~

~~2. Clustering of units shall require siting of structures to minimize disturbance of the environment;~~

~~3. Clustering of units shall help to protect priority species or stands of mature trees;~~

~~4. Clustering of units shall ensure maximum retention of topographic features;~~

~~5. Clustering of units shall limit location of access and circulation to maximize the protection of an area's natural character and environmental resource;~~

~~6. Clustering of units shall help protect the visual continuity of natural greenery, tree canopy, and wildlife habitat;~~

~~7. Clustering of units shall not have an adverse impact on the character, design and scale of the surrounding neighborhood; and~~

~~8. Clustering of units shall promote expansion, restoration or enhancement of a riparian corridor and its buffer, a wetland and its buffer or a steep-slope area and its buffer.~~

~~H. Additional Conditional Use Provisions for Steep Slopes and Steep-slope Buffers.~~

~~1. In steep-slope areas and their buffers, the Director may allow clustering on the steep-slope portions of the site when the site is predominantly characterized by steep slopes. However, the preference shall be to cluster away from steep-slope and buffer areas.~~

~~2. The Director shall require clear and convincing evidence that the clustering criteria and findings of this subchapter are met when a transfer in development credit within a steep-slope area is also characterized by or adjacent to:~~

~~a. A wetland over fifteen hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor; or~~

~~b. A large (over five (5) acres) undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or areas with significant tree cover providing valuable wildlife habitat.~~

~~3. Any development permitted through the conditional use process on steep slopes of forty (40) percent shall be subject to the landslide-prone area provisions of this Chapter, Section 25.09.080.~~))

A. When the applicant demonstrates it is not practicable to comply with the requirements of Section 25.09.240 B considering the parcel as a whole, the applicant may apply for an administrative

conditional use permit, authorized under Section 23.42.042, under this section to allow the Director to count environmentally critical areas and their buffers that would otherwise be excluded in calculating the maximum number of lots and units allowed on the parcel under Section 25.09.240 E.

B. Standards. The Director may approve an administrative conditional use for smaller than required lot sizes and yards, and/or more than one (1) dwelling unit per lot if the applicant demonstrates that the proposal meets the following standards:

1. Environmental Impacts on Critical Areas.

a. No development is in a riparian corridor, shoreline habitat, shoreline habitat buffer, wetland, or wetland buffer.

b. No riparian management area, shoreline habitat buffer, or wetland buffer is reduced.

c. No development is on a steep slope area or its buffer unless the property being divided is predominantly characterized by steep slope areas, or unless approved by the Director under Section 25.09.180 B2a, b or c.

(1) The preference is to cluster units away from steep slope areas and buffers.

(2) The Director shall require clear and convincing evidence that the provisions of this subsection B are met when clustering units on steep slope areas and steep slope area buffers with these characteristics:

(a) a wetland over fifteen hundred (1,500) square feet in size or a watercourse designated part of a riparian corridor; or

(b) an undeveloped area over five (5) acres characterized by steep slopes; or

(c) areas designated by the Washington Department of Fish and Wildlife as urban natural open space habitat areas with significant tree cover providing valuable wildlife habitat.

d. The proposal protects Washington State Department of Fish and Wildlife priority species and maintains wildlife habitat.

e. The open water area of a shoreline habitat, wetland or riparian corridor shall not be counted in determining the permitted number of lots.

f. The proposal does not result in unmitigated negative environmental impacts, including drainage and water quality, erosion, and slope stability on the identified environmentally critical area and its buffer.

g. The proposal promotes expansion, restoration or enhancement of the identified environmentally critical area and buffer.

2. General Environmental Impacts and Site Characteristics.

a. The proposal keeps potential negative effects of the development on the undeveloped portion of the site to a minimum and preserves topographic features.

b. The proposal retains and protects vegetation on designated nondisturbance areas, protects stands of mature trees, keeps tree removal to a minimum, removes noxious weeds and protects the visual continuity of vegetated areas and tree canopy.

3. Neighborhood Compatibility.

a. The total number of lots permitted on-site shall not be increased beyond that permitted by the underlying single-family zone.

b. Where dwelling units are proposed to be attached, they do not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone.

c. The development is reasonably compatible with and keeps the negative impact on the surrounding neighborhood to a minimum. This includes, but is not limited to, concerns such as neighborhood character, land use, design, height, bulk, scale, yards, pedestrian environment, and preservation of the tree canopy and other vegetation.

C. Conditions.

1. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions necessary to protect riparian corridors, wetlands and their buffers, shoreline habitats and their buffers, and steep slope areas and their buffers, and to protect other properties in the zone or vicinity in which the property is located.

2. In addition to any conditions imposed under subsection 1, the following conditions apply to all administrative conditional uses approved under this subsection:

a. Replacement and establishment of native vegetation shall be required where it is not possible to save trees or vegetation.

b. Where new lots are created, the provisions of Section 23.22.062, Unit lot subdivisions, or Section 23.24.045, Unit lot subdivisions, apply, regardless of whether the proposal is a unit lot subdivision, so that subsequent development on a single lot does not result in the development standards of this chapter being exceeded for the short subdivision or subdivision as a whole.

D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The process and procedures for notice of decision and appeal of this administrative conditional use shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.280 ((~~Environmentally critical areas--~~))Yard and setback reduction and variance ((~~for existing lots~~)) to preserve ECA buffers and riparian corridor management areas.

A. The Director may authorize ((~~A~~)) a twenty-five percent (25%) reduction, up to a maximum of five feet (5'), in yard or setback requirements for front or rear yards on a lot in existence as a legal building site prior to October 31, 1992, ((~~shall be permitted when necessary~~)) in order to maintain the full width of ((~~a~~)) the riparian management area ((~~corridor~~)) and of wetland or steep-slope area buffers.

B. The Director may approve ((~~Any~~)) a yard or setback reduction greater than five feet (5') ((~~that is necessary~~)) in order to maintain the full width of the ((~~a~~)) riparian management area, ((~~corridor~~)) wetland buffer or steep-slope area buffer ((~~shall require approval~~)) through an environmentally critical areas yard or setback reduction variance ((~~.Notice of application and review process and procedures for an environmentally critical areas yard or setback reduction variance and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76. An environmentally critical areas yard reduction variance shall be authorized only~~)) when ((~~all~~)) the following facts and conditions ((~~are found to~~)) exist:

1. The lot has been in existence as a legal building site prior to October 31, 1992.

((~~1~~))2. Because of the location of the subject property in or abutting an environmentally critical area or areas((~~,~~)) and the size and extent of any required environmentally critical areas buffer, the strict application of the applicable yard or setback requirements of ((~~Chapter 25.09~~)) Title 23 would cause unnecessary hardship; and

((~~2~~))3. The requested variance does not go beyond the minimum ((~~necessary to maintain~~)) to stay out of the full width of the riparian management area or required buffer and to afford relief; and

((~~3~~))4. The granting of the variance will not be injurious to safety or to the property or improvements in the zone or vicinity in which the property is located; and

((4))5. The yard or setback reduction will not result in a development that is materially detrimental to the character, design and streetscape of the surrounding neighborhood, considering such factors as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining; and

((~~5~~))6. The requested variance would be consistent with the spirit and purpose of the environmentally critical policies and regulations.

C. When an environmentally critical areas variance is authorized, the Director may attach conditions ((~~may be attached~~)) regarding the location, character and other features of a proposed ((~~structure or use~~)) development ((~~as may be deemed necessary~~)) to carry out the spirit and purpose of ((~~SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)) this chapter.

D. The process and procedures for notice of decision and appeal of an environmentally critical areas yard or setback reduction variance shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~))

25.09.300 Environmentally critical area exception.

A. An applicant for a City permit to develop real property that ((~~abuts or upon which~~)) is located in an environmentally critical area or buffer may apply to the Director for an exception to ((~~modification of~~)) modify environmentally critical area development standards, provided that an exception cannot be applied for to allow development or to obtain development credit under subsection 25.09.240E or to relocate lot lines under Section 23.28.030. ((~~Notice of application and review process and procedures for an environmentally critical areas exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~)) Before an application for relief under this section will be accepted, the Director must

determine that no other applicable ((~~environmentally critical areas administrative~~)) administrative remedies ((~~prescribed~~)) in Chapter 25.09 or Title 23 will provide sufficient relief.

B. 1. An applicant requesting modification shall provide the Director with the following information:

a. Documentation showing that no other applicable administrative remedy in Title 25.09 or Title 23 will provide sufficient relief;

((~~1~~))b. Technical studies and other data that describe the possible injurious effects of the proposed development on occupiers of the land, on other properties, on public resources, and on the environment. Possible injurious effects must be described even when the injurious effect will become significant only in combination with similar effects from other developments; ((~~and~~))

c. Technical studies and other data by qualified persons showing that the proposed development will protect the occupiers of the land, other properties, public resources, and the environment to the same extent as the development standards that are proposed to be modified and explaining how this will occur;

d. Plans showing what can be developed in compliance with all environmentally critical area development standards and standards in Title 23, including the yard and setback standards for front and rear yards;

((~~2~~))e. An explanation with supporting evidence of how and why compliance with ((~~the unmodified~~)) all environmentally critical areas development standards as shown on the plans required in subsection (d) would not permit any reasonable use of the property((~~.~~)), including, but not limited to, submission of the following evidence:

(1) The date the applicant purchased the property or obtained the right to develop or use it;

(2) The price the applicant paid for the rights described in subsection (1); and

(3) Restrictions or conditions on use or development in existence when the applicant acquired the rights described in subsection (1).

2. The Director may require the applicant to provide additional information prepared by qualified persons on the topics described in subsection B1.

3. All technical studies and data shall be accompanied by sufficiently detailed information to allow the Director to evaluate it under the standards for scientific information set out in Washington Administrative Code (WAC) 365-195-905.

C. The Director may modify or waive an environmentally critical areas development standard and/or the yard and setback standard for front or rear yards when an applicant demonstrates ((~~to the Director's satisfaction~~)) by clear and convincing evidence that strict application of the development standards would ((~~be unreasonable~~)) not permit any reasonable use of the property and that development undertaken pursuant to the modified or waived standards would not cause significant injury to occupiers of the land, to other properties, and to public resources, or to the environment.

D. The relief granted by reduction, waiver, or other modification of an environmentally critical areas development standard and of the yard and setback standards for front or rear yards shall be the minimum to allow reasonable use of the property. Preference shall be given to modifying or waiving the yard and setback standards for front or rear yards. In modifying a ((~~development standard~~))regulation, the Director may impose reasonable conditions that prevent or mitigate the same harm that the modified or waived regulation was intended to prevent or mitigate. In granting an exception to the development standards in Section 25.09.160, Wetlands, the Director shall apply the avoidance and mitigation standards in subsection 25.09.160 E when imposing any conditions.

E. The Director's decision must be consistent with the scientific approach used by the City in developing the environmentally critical area development standard at issue.

F. 1. The process and procedures for notice of decision and appeal of an environmentally critical areas exception shall be provided in the manner prescribed for Type II land use decisions in Chapter 23.76.

((~~E~~))2. ((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions by SMC Section 23.76.022.~~)) The Director's decision ((~~as to whether development pursuant to a modified development standard will cause significant injury~~)) shall be affirmed unless found to be clearly erroneous((~~. The Director's decision as to whether strict application of a development standard is reasonable shall be given no deference~~)), and the burden of proof of justifying the environmentally critical areas exception shall be on the applicant.

25.09.320 ((~~Vegetation and tree removal permit in environmentally critical areas~~))Trees and vegetation.

((~~A. Removal, clearing or any action detrimental to trees or vegetation within wetlands, wetland buffers and riparian corridor buffers is prohibited unless the Director has given prior approval to a restoration plan pursuant to buffer restoration, reduction, exemption, or exception provisions contained in this chapter.~~

~~B. Removal, clearing or any action detrimental to trees (including, but not limited to, tree-topping) or vegetation within land-slide- prone, steep-slope, and fish and wildlife habitat areas shall require a permit from the Director when any of the following thresholds are exceeded:~~

~~1. Any tree of six (6) inch caliper or greater, measured three (3) feet above the ground; or~~

~~2. Any combination of trees over one and one-half (1.5) inch caliper, measured three (3) feet above the ground, which total a cross-section area greater than twenty-eight (28) square inches or equivalent to a tree cross-section of six (6) inches; or~~

~~3. Any other combination of trees and other vegetation covering an area of seven hundred and fifty (750) square feet or more.~~

~~C. A vegetation and tree removal permit shall always be required even in cases where an application for a building permit or Master Use Permit has not been submitted. The permit shall only be required for that portion of the site which is designated as environmentally critical as listed in subsection B.~~

~~D. A vegetation and tree removal permit shall not be required when the Director determines there is an emergency that threatens the public health, safety and welfare.~~

~~E. The Director shall consider the following circumstances and conditions in rendering a decision on a vegetation and tree removal permit:~~

~~1. The applicant shall justify the need for tree and/or vegetation removal;~~

~~2. The applicant shall demonstrate that any tree and/or vegetation removal shall not adversely affect stability, erosion potential, existing drainage conditions, and/or fish and wildlife habitat areas on-site, on adjacent sites, or within the drainage basin;~~

~~3. The applicant shall demonstrate that the activity shall not be a precursor of a later development proposal, unless a plan is approved by the Director for public safety reasons and/or except to conduct soil testing subject to DCLU's Director's Rule for Investigative Field Work in Environmentally Critical Areas; and~~

~~4. The Director may require a vegetation and tree removal and replacement plan and may otherwise condition the permit to protect the public health and safety and prevent harm to the affected environmentally critical area.~~

~~F. Normal and routine pruning, maintenance and vegetation management and revegetation on private property which does not exceed the thresholds established in subsection B shall be exempt from a vegetation and tree removal permit.~~

~~G. Normal and routine pruning operations, maintenance, and tree and vegetation management and revegetation of public parkland and open spaces by responsible public agencies or departments shall be exempt when undertaken pursuant to best management practices to avoid impacts on environmentally critical areas.~~

~~H. Tree or vegetation removal shown as part of an issued building or grading permit shall not require a separate vegetation or tree removal permit.~~))

A. 1. Removing, clearing, or any action detrimental to habitat, vegetation or trees is prohibited, except as provided below, within the following areas: landslide-prone critical areas, (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers.

2. Tree-topping is prohibited.

3. The vegetation and tree removal and revegetation activities listed in subsections 3a-d are allowed. The application submittal requirements and general development standards in Sections 25.09.330 and 25.09.060 do not apply to actions under subsections 3a, b(1), c(2)(a) or d, provided that no other development is carried out for which a permit is required.

a. Normal and routine pruning and maintenance of:

(1) up to seven hundred and fifty (750) square feet of trees and vegetative cover lawfully maintained prior to the effective date of this ordinance;

(2) trees and vegetation approved by permit prior to the effective date of this ordinance, provided the conditions of the permit are complied with;

(3) lawns, paths and landscaping lawfully maintained prior to the effective date of this ordinance that were not in a environmentally critical area or buffer listed in subsection A1 above prior to the effective date of this ordinance, but are in a listed area or buffer under this ordinance;

(4) steep slope areas described in subsection 25.09.180 B2a-c;

(5) other trees and vegetative cover, provided that when the area of work is over seven hundred fifty (750) square feet in area, a plan is filed with the Department that complies with subsections B2 and 3.

b. Removing trees or vegetation as part of an issued building or grading permit consistent with a tree and revegetation plan, provided that

(1) when the area of work is under one thousand five hundred (1,500) square feet in area, a plan is filed with the Department that complies with subsections B1 and 2;or

(2) when the area of work is one thousand five hundred (1,500) square feet or more in area, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

c. Restoring or improving vegetation and trees, including removing non-native vegetation or invasive plants and noxious weeds by hand, to promote maintenance or creation of a naturally functioning condition that prevents erosion, protects water quality, or provides diverse habitat when

(1) the restoration or improvement is a condition to obtaining a permit or approval from the Director; or

(2) the restoration or improvement is not already a condition to obtaining a permit or approval from the Director, and

(a) when the area of work is under one thousand five hundred (1,500) square feet in area calculated cumulatively over three (3) years, a plan is filed with the Department that complies with subsections B1 and 2; or

(b) when the area of work is one thousand five hundred (1,500) square feet or more in area calculated cumulatively over three (3) years, or if the removal of invasive plants or noxious weeds is by machine or chemicals, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

d. Removing trees or vegetation when the Director determines the tree or vegetation is a threat to health or safety based on a report prepared by a qualified professional and the removal is performed by or under the direction of a qualified professional.

B. Standards for Plans.

1. Plans prepared under this subsection shall be consistent with the Department's standard tree and vegetation plans.

2. When the area of work exceeds seven hundred fifty (750) square feet in a landslide-prone area, the plan shall be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and

vegetation removal on landslide prone areas. These plans shall be consistent with best management practices.

3. Plans prepared under this subsection shall be prepared by a qualified professional with experience related to the type of environmentally critical area or buffer where work will occur. These plans shall be consistent with best management practices.

25.09.330 Application submittal requirements.

All activities identified in Section 25.09.015 and not exempt from permit application requirements under Sections 25.09.045, 25.09.055, 25.09.200 A4, and 25.09.320 A3 shall meet the following application submittal requirements in addition to the application submittal requirements specified in other codes:

A. Topographic Survey. A topographic site plan, prepared and stamped by a State of Washington licensed surveyor, is required for sites that include landslide-prone, flood-prone, riparian corridor, shoreline habitat or its buffer, wetland or its buffer, and steep slope areas or their buffers. The topographic site plan shall include the following existing physical elements:

1. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

2. Terrain and stormwater-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

3. Location of areas with significant amounts of vegetation, and specific location and description of all trees with trunks six inches (6") or greater in diameter measured four feet, six inches (4'6") above the ground, and noting their species;

4. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of developmental coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);

5. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands on the site, within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;

6. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and

7. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.

B. Additional Site Plan Information. The following site plan information shall also be required for sites that include landslide-prone, flood-prone, riparian corridor, wetland, and steep slope areas or their buffers. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.

1. Location and boundaries of all critical areas on the site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;

2. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;

3. Location and boundaries of non-disturbance areas on the site that have been required by previous approvals.

4. Proposed location and boundaries of all required undisturbed fenced areas and buffers on the site and on adjacent lands within twenty-five feet (25') of the site's property lines;

5. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);

6. Location of all proposed grading activities and all proposed drainage control facilities or systems on the site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

7. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and

8. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of this chapter.

C. Technical Reports. Technical reports and other studies and submittals shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, and other pertinent site information. The reports, studies and submittals shall be used to condition

development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.

25.09.335 Posting, Covenants, and Recording Conditions.

A. During construction, the Director may require conditions to be posted on the site that are visible from public rights-of-way.

B. The Director shall require a permanent covenant and a survey, if a survey has been prepared, be recorded in the King County Office of Records and Elections that describes and delineates all required non-disturbance areas, that prohibits development on and any disturbance of them, and that prohibits considering them for development credit in future plats or development proposals.

C. 1. The Director shall require the boundaries of the following environmentally critical areas and/or their buffers and any permanent conditions imposed be legibly shown and described in a permanent covenant with the property, which shall be recorded in the King County Office of Records and Elections:

a. Fish and wildlife habitat conservation areas;

b. Wetland critical areas and their buffers; and

c. Steep slope areas and their buffers.

2. The covenant may be combined with the covenant required under subsection B, if that subsection applies. The covenant shall be recorded prior to the issuance of any permit or at the time a plat is recorded.

D. The Director may require placement of small permanent visible markers to delineate the areas described in subsections B and C. The location of the markers shall be legibly shown and described in the permanent covenant.

((~~**SMC 25.09.340 Administration.**~~

~~A. The Director, in consultation with the Director of the Seattle Engineering Department, shall review and analyze a permit application to determine whether the proposed development meets the requirements and standards of this chapter. The Director may also consult with other City departments and regional public agencies as necessary to obtain additional technical and environmental review assistance. The Director shall review and approve all nonexempt public projects in public rights-of-way in environmentally critical areas and may institute interdepartmental charges to recover the cost of such review.~~

~~B. Permit applications shall only be approved after the Director is satisfied that the proposed development meets the requirements and development standards of this chapter, does not harm the general public health, safety and welfare, and prevents degradation and harm to the environment. If the general conditions and development standards or exemption and exception provisions contained in this chapter are not met, the Director shall deny the application.~~))

((**~~SMC 25.09.345Permit renewals in landslide-prone areas.~~**

~~A. In addition to satisfying the provisions of SMC Chapter 23.76 and Section 106.9 of the Building Code, an applicant seeking to renew a building permit for new or additional development in a landslide-prone area, as described in SMC Section 25.09.020 B1a, must submit a Letter of Certification (LC) from the current project Engineer of Record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:~~

~~1. In the project engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to DCLU as part of the application for the permit being renewed; or that~~

~~2. In the project engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria or the permit, and that in the project engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been submitted.~~

~~The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections A1 or A2 above, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans, but the Director may renew a permit with different conditions or revised plans only if the project as revised is within the scope and intent of the original Master Use Permit.~~

~~B. In the event a Letter of Certification as described in subsection A above is not submitted, the permit shall not be renewed.~~

~~C. An applicant for renewal also must demonstrate that any required bond or insurance still is in effect, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.~~

~~D. From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for renewal of a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section~~

~~25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice: In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

((**~~SMC 25.09.350 Processing applications in landslide-prone areas.~~**

~~Prior to issuance of a permit, the Director may require an applicant to submit a Letter of Certification as authorized by Section 25.09.345 and to satisfy the standards of that section. The Director's decision to require such a letter shall be based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.~~))

((**~~SMC 25.09.352 Issued permits in landslide-prone areas.~~**

~~If the Director has reasonable ground to believe that significant changes in conditions at a project site or in the surrounding area may have occurred since a building permit was issued, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a~~

~~Letter of Certification as authorized by Section 25.09.345 and satisfied the standards of that section for permit renewal.~~))

((**~~SMC 25.09.355 Third-party review.~~**

~~At the Director's discretion, permits for new or additional development in landslide-prone areas, as described in SMC Section 25.09.020 B1a, may be required to undergo third-party review as described in Section 25.09.080 C.~~

~~A. In addition to the criteria in Section 25.09.080 C, the Director's decision to require third-party review shall be based upon, but shall not be limited to, such factors as whether there has been incomplete submittal of data or apparently inadequate design work, whether the project is large scale, or whether the development site is complex.~~

~~B. The Director's discretion as exercised pursuant to this section shall supersede the staged review process as described in Section 25.09.080 B.~~))

((**~~SMC 25.09.356 Acknowledgment of City policy.~~**

~~From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:~~

> ~~In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services~~

~~provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

25.09.360 State Environmental Policy Act.

This chapter establishes minimum standards ((~~which are~~)) to be applied to specific land use and platting actions in order to prevent further degradation of environmentally critical areas in the City, and is not intended to limit the application of the State Environmental Policy Act (SEPA). Projects subject to SEPA shall be reviewed and may also be conditioned or denied pursuant to ((~~Seattle Municipal Code~~)) Chapter 25.05.

25.09.380 Compliance with environmentally critical areas regulations.

Notwithstanding the provisions of Chapter 23.76 ((~~, Seattle Municipal Code,~~)) authorizing issuance of Master Use Permits and Council Land Use Decisions upon compliance with the criteria and procedures of that chapter, no permit for a development proposal or for actions described in ((~~Seattle Municipal Code~~)) Section 25.09.((~~040~~))015 shall be issued unless it also complies with the regulations of this chapter.

25.09.400 Violations ((~~and penalties~~)).

((~~A. It shall be a violation of this chapter for any person, firm or corporation to erect, construct, modify, improve, enlarge, repair, move, remove, convert or demolish, occupy or maintain any property, vegetation, building or structure contrary to or in violation of any provision of this chapter. It shall be a violation of the chapter for any person, firm or corporation to knowingly aid and abet, counsel,~~

~~encourage, hire, commend, induce or otherwise procure another to violate or fail to comply with this chapter.~~

~~B. Civil Penalties.~~

~~1. Any person, firm or corporation who fails to comply with any provision of this chapter or any notice, decision or order issued by the Director pursuant to this chapter shall be subject to a cumulative civil penalty in the amount of Five Hundred Dollars ($500) per day for each day of noncompliance, measured from the date the violation begins or occurs until the owner, person, firm or corporation complies with the requirements of this chapter. The Director shall notify the City Attorney in writing of the name of any person subject to the penalty, and shall assist the City Attorney in collecting the penalty.~~

~~2. Violations causing significant damage as defined by the following acts shall be assessed penalties at an amount reasonably determined by the Director to be equivalent to the economic benefit that the violator derives from the violation as measured by the greater of the resulting increase in market value of the property or the value received by the violator, or savings of construction costs realized by the violator:~~

~~a. Grading (filling and/or excavation), clearing of vegetation and trees, and draining of riparian corridors, wetlands and their buffers; or~~

~~b. Destruction of trees, including tree-topping detrimental to trees, over twelve (12) inches caliper; or~~

~~c. Any six (6) foot vertical cut or fill within a potential landslide area.~~

~~C. Stop-work Order. Whenever a continuing violation of this chapter will materially impair the Director's ability to secure compliance with this chapter, when the continuing violation threatens the health or safety of the public, or when the continuing violation threatens or harms the environment, the~~

~~Director may issue a stop-work order specifying the violation and prohibiting any work or other activity at the site. The posting of the stop-work order on the site shall be deemed adequate notice of the stop-work order. A failure to comply with a stop-work order shall constitute a violation of this chapter.~~

~~D. Emergency Order. Whenever any use or activity in violation of this chapter threatens the health and safety of the occupants of the premises or property or any member of the public, the Director may issue an emergency order directing that the use or activity be discontinued and the condition causing the threat to the public health and safety or threat and harm to the environment be corrected. The emergency order shall specify the time for compliance and shall be posted in a conspicuous place on the property, if posting is physically possible. A failure to comply with an emergency order shall constitute a violation of this chapter. Any condition described in the emergency order which is not corrected within the time specified is hereby declared to be a public nuisance and the Director is authorized to abate such nuisance summarily by such means as may be available. The cost of such abatement shall be recovered from the owner or person responsible or both in the manner provided by law.~~

~~E. Criminal Penalty.~~

~~1. Anyone violating or failing to comply with any order issued by the Director pursuant to this chapter shall, upon conviction thereof, be punished by a fine of not more than One Thousand Dollars ($1,000.00) or by imprisonment for not more than three hundred sixty (360) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~

~~2. Anyone violating or failing to comply with any of the provisions of this chapter and who within the past five (5) years has had a judgement against them pursuant to subsection B shall upon conviction thereof, be fined in a sum not to exceed Five Hundred Dollars ($500.00) or by~~

~~imprisonment for not more than one hundred and eighty (180) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~))

A. It is a violation of this chapter to fail to comply with any provision of this chapter or with any term of any permit condition or approval issued pursuant to this chapter.

B. It is a violation of this chapter to fail to comply with any order issued pursuant to this chapter or to remove or deface any sign, notice, complaint or order required by or posted in accordance with this chapter.

C. It is a violation of this chapter to misrepresent any material fact in any application, on plans, or in any other information submitted to obtain any determination, authorization, permit condition, or approval under this chapter.

D. It is a violation of this chapter to aid and abet, counsel, encourage, hire, command, induce or otherwise procure another to violate or fail to comply with this chapter.

25.09.410 Authority to Enforce.

A. The Director is authorized to enforce this chapter and may call upon other appropriate City departments to assist in enforcement.

B. The Director may, with the consent of the owner or occupier of any land, premises, building, or structure, or pursuant to a lawfully issued inspection warrant, enter at reasonable times any land, watercourse, premises, building, or structure subject to the consent or warrant.

C. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner, occupier, or other person responsible for the condition of the vegetation, land, watercourse, premises, building, or structure within the scope of this chapter.

D. No provision of or term used in this chapter is intended to impose any duty upon the City or any of its officers or employees that would subject them to damages in a civil action.

25.09.420 Investigation and Notice of Violation.

A. The Director is authorized to investigate the condition of any vegetation, land, watercourse, premises, building, structure, activity, or use that the Director reasonably believes does not comply with the provisions of this chapter. The Director's investigation and determination that a violation exists is not limited by determinations made by determinations made by other City agencies.

B. If after investigation the Director determines that any provision of this chapter has been violated, the Director may serve a notice of violation upon any person that the Director believes is responsible for the violation. The notice of violation may identify the violation by code section; and may state what corrective action (including restoration), if any, is necessary to comply with the provisions of this chapter, set a reasonable time for compliance; and state the penalty for violating this chapter. The Director may require that the restoration plan be prepared by a qualified professional, at the violator's expense. Wetland mitigation shall be consistent with Section 25.09.160.

C. Any notice issued pursuant to subsection B shall be served upon the owner, occupier or other person responsible for the violation by personal service in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail, addressed to the last known address of such person(s). Service is complete at the time of personal service, or if mailed, three (3) days following the date of mailing. If a notice of violation sent by first class mail is returned as undeliverable, then service of the notice upon such person or persons may be made by posting the notice at a conspicuous place on the property where the violation occurred.

D. If a notice of violation or order is recorded with the King County Department of Records and Elections, a notice of violation or order for the same violation need not be served upon a new owner.

If a new notice of violation or order is not issued and served upon a new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner, starting on the date that the conveyance is completed.

E. Nothing in this section shall be deemed to limit or preclude any action or proceeding pursuant to Sections 25.09.430 and 25.09.450 of this chapter, and nothing in this section requires the Director to issue a notice of violation prior to the imposition of civil or criminal penalties.

25.09.430 Stop-Work Order.

A. The Director may issue a stop-work order whenever any use, activity, work or development (1) is being done without a permit, determination, or authorization required by this chapter, (2) is being done contrary to any determination, authorization, permit, or approval of DPD and the use, activity, work or development will immediately impact an environmentally critical area or materially impair the Director's ability to secure compliance with this chapter, or (3) immediately threatens the public health, safety, and welfare with respect to the interests protected under this section.

B. The stop-work order shall describe the violation in writing and be posted on the premises or served on any person responsible for the violation. Except emergency work necessary to stabilize the site that may be required by the Director, it is unlawful for any work on the property to be done after the posting or service of a stop-work order until authorization to proceed is given by the Director.

C. The stop-work order may require that vegetation, land, watercourse, premises, building, structure, or portion thereof, be vacated within a reasonable time, depending on the degree of danger, specified in the order. No person shall occupy the vegetation, land, premises, building, structure, or portion thereof after the date on which it is required to be vacated until the vegetation, land, watercourse, premises, building, structure, or portion thereof, is restored to a safe condition as determined by the Director.

25.09.450 Review by the Director.

A. Any person significantly affected by a notice of violation or stop-work order issued by the Director pursuant to this chapter may obtain an administrative review of the notice or order by requesting such review in writing to the Director within ten (10) days of the date of the notice or order. When the last day of the period so computed is a Saturday, Sunday, or federal or City holiday, the period shall run until five (5:00) p.m. on the next business day. A request for administrative review is an administrative remedy that must be exhausted before judicial review of the notice or order may be sought.

B. Upon receipt of the request, the Director shall notify by mail any persons served within the notice or order and any person requesting review, advising them of the request for review, of the date of the review, and of the deadline for submitting additional written information for consideration. The deadline for submitting additional written information shall be ten (10) days from the date the notice of administrative review is mailed, unless otherwise agreed to by all persons served with the notice or order. The Director and all persons served with the notice or order may also agree to review the matter within a shorter period or time that shall not be less than three (3) days from the date the notice or order was issued.

C. The Director shall conduct the administrative review and issue a decision on the request for administrative review in the form of an Order of the Director. The Director shall review all written information received by the submission deadline and any additional evidence or information available to DPD staff and placed in the case file. The Director may also request clarification of information received and a site visit. After review of the case file and of the additional written information and/or after a site visit, the Director shall issue an Order of Director that may:

1. Sustain the notice or order;

2. Withdraw the notice or order;

3. Continue the review to a date certain for receipt of additional information; or

4. Modify the notice or order, which may include an extension of the compliance date, if any.

D. The Director shall issue the Order of the Director no later than ten (10) days from the deadline for submitting additional information. The Order of the Director is mailed by first class mail to the person or persons named on the notice of violation or order and to any person who requested the administrative review. If the original notice or order was recorded with the King County Department of Records and Elections the Order of the Director shall also be recorded.

25.09.460 Civil Penalty.

A. Any person who violates or fails to comply with any provision of this chapter is subject to a civil penalty in an amount not to exceed Five Hundred Dollars ($500) per day for each violation, and in the event of a continuing violation shall be subject to a cumulative civil penalty of $500 per day for each violation from the time the violation occurs or begins until compliance is achieved. In cases where the Director has issued a notice of violation with a compliance date, the violation is deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation. For removing, clearing, or taking any action detrimental to a tree over six inches in caliper an additional civil penalty of Five Thousand Dollars ($5,000) shall be assessed.

B. Violations causing significant damage may be assessed an additional penalty in an amount reasonably determined to be equivalent to the economic benefit that the violator derived from the violation, measured as the greater of, the resulting increase in market value of the property, the value received by the violator, or the savings of construction costs realized.

C. The penalty imposed by this section may be collected by civil action brought in the name of the City. The Director notifies the City Attorney in writing of the name of any person subject to the penalty, and the City Attorney, with the assistance of the Director, takes appropriate action to collect the penalty. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an Order following an administrative review by the Director is not itself evidence that a violation exists.

25.09.470 Alternative Criminal Penalty.

Any person who violates or fails to comply with this chapter shall be guilty of a gross misdemeanor subject to the provisions of Chapters 12A.02 and 12A.04, except that absolute liability shall be imposed for such a violation or failure to comply and none of the mental states described in Section 12A.04.030 need be proved. The Director may request the City Attorney prosecute such violations criminally as an alternative to the civil penalty provision outlined in this chapter. Each day that a person continues to violate or fail to comply with the provisions of this chapter and each occurrence of a prohibited activity constitutes a separate offense.

25.09.480 Additional Relief.

The Director may seek legal or equitable relief to enjoin any acts or practices and abate any condition that constitutes or will constitute a violation of this chapter.

25.09.((~~420~~))520 Definitions.

"Best management practices" ((~~are~~)) means

a. the practices defined in ((~~SMC~~)) Section 22.801.030, Stormwater, Grading and Drainage Control Code((.)); and

b. structural, nonstructural and managerial techniques identified by the Director, or by the director of a City agency when that agency is making determinations under this chapter, as the most effective and practical means in an urban environment to mitigate adverse environmental effects on environmentally critical areas and buffers and their functions.

"Biologist" means a person who has earned a degree in biological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing biologist.

"Buffer" means a designated area adjacent to and/or a part of an environmentally critical area and intended to protect the environmentally critical area.

"City agency" means The City of Seattle or any of its subdivisions, including but not limited to, any City board, commission, committee, officer or department.

"Construction activity area" ((~~refers to~~)) means all areas of land disturbing activity within a site or on adjacent sites or rights-of-way used during construction including, but not limited to, developmental coverage areas and construction access and storage areas.

"Detention" is defined in ((~~SMC~~)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.

"Development" means ((~~and refers to~~)) all components and activities related to construction((~~,~~)) or disturbance ((~~and/or use~~)) of a site, including but not limited to land disturbing activities.

"Development standard" means a regulation establishing a limit on development.

((~~"Developmental coverage" is defined in SMC Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Director" means the Director of the Department of ((~~Construction and Land Use~~))Planning and Development or his or her designee.

((~~"Discharge point" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Downtown zones" means all Downtown Office Core, Downtown Retail Core, Downtown Mixed Commercial, Downtown Mixed Residential, Downtown Harbor Front, International District Mixed, International District Residential, Pike Market Mixed, and Pioneer Square Mixed, as defined in Chapter 23.30.

((~~"Drainage control" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control facility" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage-control plan" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control system" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage water" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Ecological Function" means the work performed or role played individually or collectively by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the natural environment.

"Exception" refers to the environmentally critical areas exception, Section 25.09.300.

"Exemption" means to release a project either fully or partially from compliance with the environmentally critical areas regulations, or from specific development standards of this chapter, as provided in Section 25.09.045.

"Geologist" means a person who has earned a degree in geology from an accredited college or university and has at least five (5) years' experience as a practicing geologist or four (4) years of experience and at least two (2) years of postgraduate study, research or teaching. The practical experience shall include at least three (3) years of work in applied geology and evaluation, in close association with qualified practicing geologists or geotechnical/civil engineers.

"Geotechnical/civil engineer" means a practicing geotechnical/civil engineer licensed as a professional civil engineer by the State of Washington who has at least four (4) years of professional experience as a geotechnical engineer including experience with landslide evaluation.

((~~"Hydrologist" means a person who has earned a degree in hydrological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing hydrologist.~~))

"Impervious surface" is defined in ((~~SMC~~))Section 22.801.100, Stormwater, Grading and Drainage Control Code.

"Improved public road right-of-way" means a right-of-way which either contains utilities or is paved.

"Invasive plants" means the plants listed for Western Washington in Washington State Department of Ecology Publication # 04-06-025.

"Land disturbing activity"((~~is defined in SMC Section 22.801.130, Stormwater, Grading and Drainage Control Code.~~)) means any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land disturbing activities include, but are not limited to, clearing, grubbing, grading, filling, excavation, or addition or replacement of impervious surface.

"Lot" means a platted or unplatted parcel or parcels of land abutting upon and accessible from a private or public street sufficiently improved for vehicle travel or abutting upon and accessible from an exclusive, unobstructed permanent access easement. A lot may not be divided by a street or alley.

"Native fish" means a species of fish identified by the United States Fish and Wildlife Service as occurring in the Puget Sound area as part of its indigenous fresh water or marine aquatic fauna.

"Native vegetation" means vegetation, including trees, comprised of plant species ((~~which~~)) that are indigenous and noninvasive, naturalized to the Puget Sound region and ((~~which~~)) that reasonably can be expected to naturally occur on a site. Native vegetation does not include noxious weeds.

"Non-disturbance areas" means areas where development is not to be allowed.

"Normal pruning and maintenance" means for trees, shrubs and other woody plants compliance with American National Standards Institute A300 pruning standards.

"Noxious weeds" means weeds listed by the King County Noxious Weed Control Board.

"Ordinary high water mark" means, on all lakes, streams, and tidal water, that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, or as it may naturally change thereafter or as it may change thereafter in accordance with permits issued by the Director of the Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Parcel means a lot, unplatted property or combination thereof in the City of Seattle.

"Person" means any individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, co-partnership, joint venture, club, company, joint stock company,

business trust, municipal corporation, political subdivision of the State of Washington, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, the United States or any instrumentality thereof, and any entity of whatever type.

"Pesticide" means, but is not limited to:

(a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, and any other form of plant or animal life or virus, except virus on or in a living person or other animal which is normally considered to be a pest or which the Director may declare to be a pest;

(b) Any substance or mixture of substances intended to be used as a plant regulator, defoliant or desiccant; and

(c) Any spray adjuvant.

"Provisions of this chapter" means all sections of this chapter.

"Retaining structure" means any improvement built up or composed of parts joined together in some definite manner and affixed to the ground for the purposes of retaining earth or rocks, including but not limited to concrete retaining walls, mechanically stabilized earth systems, soil nails, terracing, or flower bed frames.

"Riparian watercourse" means a natural channel through which water flows as defined in subsection 25.09.020 D5.

"Shoreline habitat" means Type 1waters defined in WAC 222-16-031 that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

"Short subdivision" means the division or redivision of land into nine (9) or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease, development or financing, and shall include all

resubdivision of previously platted land and properties divided for the purpose of sale or lease of townhouse units.

"Site" means the unit of land for which an applicant is receiving permission to carry out development.

"Species of local importance" means those species ((~~that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.~~)) of wildlife designated under Section 25.09.200E.

"Stabilize" means to possess permanent characteristics, either naturally or by manmade improvements, which can be shown to have sufficient resistance to forces normally expected to occur, and those forces ((~~which~~)) that may occur as a result of a one (1) in one-hundred (100) year event.

"Steep slopes" means slopes of forty percent (40%) inclination or more within a vertical elevation change of at least ten feet (10'). For the purpose of this definition, a slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten feet (10')of elevation difference. Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five (25) feet.

"Steep slope area" means an area described in subsection 25.09.020 A 3.

"Street" means a right-of-way which is intended to provide or which provides a roadway for general vehicular circulation, is the principal means of vehicular access to abutting properties and includes space for utilities, pedestrian walkways, sidewalks and drainage.

"Subdivision" means the division or redivision of land into ten (10) or more lots, tracts, parcels, sites, or divisions for the purpose of sale, lease and transfer of ownership.

((~~"Urban natural open space habitat" means and refers to those fish and wildlife habitat areas mapped by the Washington State Department of Wildlife.~~))

"Vegetation" means any and all organic plant life growing on, below, or above the soil surface.

"Watercourse" is defined in Section 22.801.240.

"Wetland Creation" means the creation of a wetland within an upland area.

((~~"Wetland of exceptional value" means and refers to wetlands with the following values:~~

~~1. Rare or unique species listed by the federal or State government as endangered or threatened and needing special protection;~~

~~2. Presence of plants or group of plants that occur infrequently in the Seattle or Puget Sound region;~~

~~3. Habitat diversity;~~

~~4. Sensitivity to disturbance; and~~

~~5. Difficulty in replacement of ecological functions unique to Seattle.~~

~~"Degraded wetland" means and refers to those wetlands which have been altered or damaged by past human activities and/or biologically diminished by invasive, non-native plants so that the natural biofiltration and habitat values have been rendered inefficient or nonfunctional.~~))

"Wetland Restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland.

"Wildlife" means ((~~and includes all undomesticated animals~~)) all species of the animal kingdom as defined in RCW 77.08.010.

"Wildlife habitat" means and refers to those areas that support individual or populations of animals defined as wildlife for all or part of an annual cycle.

25.09.((~~440~~))530 Construction.

In any case where the provisions of this chapter conflict with the provisions of the underlying zoning or the Seattle Shoreline Master Program, the provisions of this chapter ((~~shall~~)) apply. For purposes of this chapter, the singular ((~~shall~~)) includes the plural and vice versa, and the masculine gender ((~~shall~~)) includes the feminine and neutral genders.

Section 2. Section 23.28.030 of the Seattle Municipal Code is amended as follows:

SMC 23.28.030 Criteria for approval.

A. The Director shall approve an application for a lot boundary adjustment if it is determined that:

1. No additional lot, tract, parcel, site or division will be created by the proposed adjustment;

2. No lot is created which contains insufficient area and dimensions to meet the minimum requirements for development as calculated under the development standards of the zone in which the lots affected are situated, except as provided in Section 23.44.010, and under any applicable regulations for siting development on parcels with riparian corridors, shoreline habitat, shoreline habitat buffers,

wetlands, wetland buffers or steep slopes in chapter 25.09. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335;

3. No lot is created which does not have adequate drainage, water supply and sanitary sewage disposal, and access for vehicles, utilities and fire protection;

4. The lot boundary adjustment is consistent with applicable provisions of the Land Use Code, Title 23((~~, and SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

B. An application for a lot boundary adjustment on a parcel containing and environmentally critical area or buffer shall include the information described in Section 25.09.330, unless the Director determines that some of the information listed is not necessary for reviewing the application.

Section 3. Section 23.22.058 of the Seattle Municipal Code is amended as follows:

23.22.058 Environmentally critical areas.

No plat shall be approved by the Hearing Examiner covering any land situated in a riparian corridor ((~~buffer~~)), wetland and wetland buffer, or steep slope and steep slope buffer unless in compliance with the applicable provisions of ((~~SMC~~)) Section 25.09.240, Short subdivisions and subdivisions, in environmentally critical areas.

Section 4. Subsection 23.44.008 G of the Seattle Municipal Code is amended as follows:

23.44.008 Development standards for uses permitted outright.

* * * *

G. Development standards governing lots ((~~located in~~)) containing an environmentally critical area or buffer may be modified according to the provisions of ((~~SMC~~))Chapter 25.09((~~, Regulations for Environmentally Critical Areas~~)).

Section 5. Subsection 23.44.010 B5 of the Seattle Municipal Code is amended as follows:

23.44.10 Lot requirements.

* * * *

B. Exceptions to Minimum Lot Area. The following exceptions to minimum lot area are subject to the limits of subsection B5. A lot which does not satisfy the minimum lot area requirements of its zone may be developed or redeveloped as a separate building site according to the following:

* * * *

5. Development may occur on a substandard lot containing a riparian corridor ((~~buffer~~)), a shoreline habitat and shoreline habitat buffer, a wetland and wetland buffer, or a steep slope and steep slope buffer pursuant to the provisions of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, if the following conditions apply:

a. The substandard lot is not held in common ownership with an adjacent lot or lots at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, or

b. The substandard lot is held in common ownership with an adjacent lot or lots, or has been held in common ownership at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas,2 but proposed and future development will not intrude upon the environmentally critical area or buffer;

* * * *

Section 6. Subsection 23.44.014 D15 of the Seattle Municipal Code is amended as follows:

23.44.014 Yards.

* * * *

D. Exceptions from Standard Yard Requirements. No structure shall be placed in a required yard except pursuant to the following subsections:

* * * *

15. Front and rear yards ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of)~~) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 7. Subsections A and C of Section 23.44.024 of the Seattle Municipal Code is amended as follows:

SMC 23.44.024 Clustered housing planned developments.

* * * *

A. Site Requirements.

1. The minimum size of a CHPD shall be two (2) acres. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, and submerged land shall not be used to meet minimum size requirements.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use clustered development provisions under Section 25.09.260 shall apply, superseding the standards of this section.

3. The Director may exclude land from a CHPD if it is separated from the site by topographical conditions, if it has a poor functional relationship with the site, or if inclusion of the land would negatively impact adjacent single-family zoned lots.

* * * *

C. Number of Dwelling Units Permitted.

1. The number of dwelling units permitted in a CHPD shall be calculated by dividing the CHPD land area by the minimum lot size permitted by subsection A of Section 23.44.010 in the single-family zone in which the CHPD is located. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer and submerged land shall be excluded from the land used to calculate density in a CHPD. For CHPDs which include more than one (1) zone, the number of dwelling units shall be calculated based on the proportion of land area in each zone.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use provisions for regaining development credit and clustering under Section 25.09.260 shall apply.

3. One (1) additional detached single-family structure may be permitted if the development includes recreational, meeting and/or day care facilities open to the surrounding community.

* * * *

Section 8. Subsection 23.45.014 H of the Seattle Municipal Code is amended as follows:

23.45.014 Setback requirements -- Lowrise zones.

* * * *

H. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to the provisions of ((~~subsection A~~))of Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 9. Subsection 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to ((~~the provisions of subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 10. Subsection 23.45.072 D3 of the Seattle Municipal Code is amended as follows:

SMC 23.45.072 Highrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks on lots containing certain ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~))pursuant to the provisions of ((~~subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Subsection 23.53.010 B3 of the Seattle Municipal Code is amended to read:

SMC 23.53.010 Improvement requirements for new streets in all zones

* * * *

B. Required Right-of-way Widths for New Streets.

* * * *

3. Exceptions to Required Right-of-way Widths. The Director, after consulting with the Director of Transportation, may reduce the required right-of-way width for a new street when location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes the required right-of-way width impractical or undesirable.

Section 12. Subsection 23.53.015 D3a of the Seattle Municipal Code is amended to read:

SMC 23.53.015 Improvement requirements for existing streets in residential and commercial zones.

* * * *

D. Exceptions.

* * * *

3. Exceptions from Required Street Improvements. The Director may waive or modify the requirements for paving and drainage, dedication, setbacks, grading, no-protest agreements, landscaping and curb and sidewalk installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 13. Subsection 23.53.020 E3a of the Seattle Municipal Code is amended to read:

SMC 23.53.020 Improvement requirements for existing streets in industrial zones.

* * * *

E. Exceptions.

* * * *

3. Exceptions From Required Street Improvement Requirements. The Director may waive or modify the requirements for paving, dedication, setbacks, grading, no-protest agreements,

landscaping and sidewalk and pedestrian walkway installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 14. Subsection 23.53.025 H of the Seattle Municipal Code is amended to read:

SMC 23.53.025 Access easement standards.

* * * *

H. Exceptions From Access Easement Standards. The Director, in consultation with the Fire Chief, may modify the requirements for easement width and surfacing for properties located in environmentally critical areas or their buffers when it is determined that:

1. Such modification(s) would reduce adverse effects to identified environmentally critical areas or buffers; and

2. Adequate access and provisions for fire protection can be provided for structures served by the easement.

Section 15. Subsection 23.53.030 G1 of the Seattle Municipal Code is amended to read:

SMC 23.53.030 Alley improvements in all zones.

* * * *

G. Exceptions. The Director, after consulting with the Director of the Department of Transportation, may modify or waive the requirements for dedication, paving and drainage, setbacks,

grading and no-protest agreements, if it is determined that one (1) or more of the following conditions are met. The Director may require access to be from a street if alley improvements are also waived.

1. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable;

* * * *

Section 16. Section 23.84.010 of the Seattle Municipal Code is amended to read:

23.84.010 "E"

* * * *

"Environmentally critical area" means those areas ((~~designated by~~)) defined in ((~~the City of Seattle Environmentally Critical Areas Policies and regulated and mapped in~~))SMC Chapter 25.09, Regulations for Environmentally Critical Areas((~~, and other city codes~~)).

* * * *

Section 17. Subsection C of SMC Section 23.90.002 of the Seattle Municipal Code is amended as follows:

23.90.002 Violations

* * * * *

C. It is a violation of Title 23 to remove or deface any sign, notice, complaint or order required by or posted in accordance with Title 23 ((~~or Title 25~~)).

* * * *

Section 18. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the ____ day of _____, 20__, and signed by me in open session in authentication of its passage this _____ day of _____, 20__.

_____
President _____of the City Council

Approved by me this ____ day of _____, 20__.

_____
Gregory J. Nickels, Mayor

Filed by me this ____ day of _____, 20__.

_____
City Clerk

(Seal)

Eleanore Baxendale/rlh
8/31/05
ECA Amendments
(Ver. 2)

ORDINANCE _____

AN ORDINANCE amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

WHEREAS, the City of Seattle wishes to adopt regulations to promote safe, stable, and compatible development and to protect critical areas pursuant to the authority of Chapter 36.70A RCW (the "Growth Management Act"), including the statewide planning goals, and pursuant to the City's police power authority independent of the Growth Management Act to adopt planning and zoning regulations; and

WHEREAS, the City of Seattle wishes to adopt regulations to implement the City's Comprehensive Plan; and

WHEREAS, the City of Seattle has engaged in public participation, has considered the best available science, the statewide planning goals, and the City's Comprehensive Plan, and has determined that it is appropriate to amend its environmentally critical areas regulations and Title 23 based on the information and analysis set out in the Director's Report and Recommendations;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Title 25.09 of the Seattle Municipal Code is amended as follows:

25.09.010 ((~~Moratorium on development in landslide-prone areas~~))Purpose of the chapter.

((~~Notwithstanding any other provision of this chapter or of Chapter 23.76, all public and private development that is subject to this chapter and proposed for landslide-prone areas, as described in Section 25.09.020 B1a, is prohibited during the term of this section, except that the Director may approve the following:~~

~~A. Work that will not disturb the ground, such as interior repairs to existing structures;~~

~~B. Work that is necessary to stabilize a site that has been rendered unstable by recent slide activity, so as to lessen the risk of new or additional damage;~~

FILED
CITY
CLERK

~~C. Work that is necessary to repair damaged structures or utilities, as long as the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property;~~

~~D. Work that would be exempted pursuant to Section 25.09.040, provided that work that would be exempted pursuant to subsections B, C, and F may be approved only if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property; and~~

~~E. Work that would be exempted pursuant to Section 25.09.180 D1 if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property.~~))

This chapter is based on and implements The City of Seattle Comprehensive Plan, as amended from time to time. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person, or class, or group of persons who will or should be especially protected or assisted by the terms or provisions of this chapter. This chapter is intended to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin.

25.09.015 Application of chapter.

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer.

CITY CLERK

B. This chapter applies to altering vegetation, trees, or habitat carried out by any person in landslide-prone critical areas (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers on publicly or privately owned parcels.

C. Section 25.09.200 A4 applies to daylighting pipes and culverts defined in that subsection.

25.09.017 Administration.

A. The Director shall administer and interpret the provisions of this chapter, except as specifically provided. The provisions of Section 23.88.020 apply to a decision by the Director as to the meaning, application, or intent of any provision of this chapter.

B. The Director shall determine whether development, platting, or alteration of vegetation, trees, or habitat is subject to this chapter. The Director may also consult with other City departments and state and federal agencies as necessary to obtain additional technical and environmental review assistance.

C. The Director shall review and analyze all applications for all permits or approvals subject to this chapter that are issued by the Department of Planning and Development. Such applications shall be approved only after the Director is satisfied the applications comply with this chapter.

D. Every other City department issuing a permit for development on parcels containing an environmentally critical area or its buffer or for altering vegetation, trees, or habitat in the areas set out in subsection 25.09.015 B shall require the use of best management practices to prevent impacts to environmentally critical areas and their buffers and to meet the intent of this chapter. Departments shall require mitigation to address unavoidable impacts. All such City departments shall maintain records documenting compliance with this subsection D.

2005 CITY CLERK

E. The Director shall identify techniques that are best management practices for actions administered by the Director. The Director may do this by Director's Rule. The directors of other City departments applying these regulations or issuing permits for development in environmentally critical areas or their buffers may identify techniques that are best management practices and may do this by Director's Rule.

25.09.020 Environmentally critical areas definitions.

((~~A. This chapter is based on and implements the Seattle Environmentally Critical Areas Policies as adopted by Resolution 28559, and as amended from time to time. This chapter shall apply to all development and platting located in environmentally critical areas as defined below and characterized by specific site conditions. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person or class or group of persons who will or should be especially protected or benefited by the terms or provisions of this chapter.~~))

((~~B.~~)) The following ((~~shall constitute~~)) are environmentally critical areas regulated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

((~~1~~))A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas and landslide-prone areas described in subsections 2 and 3. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

2005 CITY CLERK

((a))3. Landslide-prone Areas. The following are ((~~L~~))landslide-prone areas ((~~are characterized by the following~~)):

(((~~1~~)))a. Known landslide areas identified by documented history, or ((~~any~~)) areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris ((~~that occurred~~)) deposited during this period; or

(((~~2~~)))b. Potential landslide areas: ((~~Potential landslide areas based on documented geological characteristics, and based on a combination of geologic, topographic and hydrologic factors, including the following:~~

~~(a) Areas over fifteen (15) percent slope which have at least one (1) of the following characteristics:~~

~~(i) Impermeable soils (typically silt and clay) interbedded with permeable granular soils (predominantly sand and gravel); or impermeable soils overlain with permeable soils. This includes the area within one hundred (100) feet either side of the contact between Esperance Sand and either Lawton Clay or Pre-Lawton sediments as is shown on the area noted as Class Four (4) on the Slope Stability Map of Seattle, in Causes, Mechanisms and Prediction of Landsliding in Seattle, by Donald Willis Tubbs, Ph.D. Dissertation, University of Washington, 1975 ("Tubbs Map"), or as otherwise mapped, or~~

~~(ii) Identified relatively unstable soils in either Lawton Clay or Pre-Lawton sediments, as is shown on the area noted as Class Three (3) of the Tubbs Map, or as otherwise mapped, or~~

~~(iii) Springs or groundwater seepage;~~))

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000, 2003), or as more accurately mapped.

2005 CITY CLERK

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(((~~(b)~~)))(5) ((~~Steep s~~))Slopes with an incline of forty (40) percent ((~~average slope or greater as defined by the Director. A slope must have a vertical elevation change of at least ten (10) feet to be considered a steep slope, although the ten (10) feet may cross the boundaries of a site. Slopes that meet)) these characteristics shall be considered steep slope environmentally critical areas in addition to being classified as potential landslide areas;~~)) or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

SEATTLE CITY CLERK

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(((~~e~~)))(6) Areas that would be covered under ((~~either (a) or (b)~~)) one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

((~~d~~))(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

((~~b. Liquefaction-prone Areas. Liquefaction-prone areas are areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table which lose substantial strength during earthquakes.~~))

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that the area is only a landslide prone area when such a slope is (a) on a parcel in a Downtown zone or highrise zone, or (b) on only one side of a retaining structure higher than ten feet (10').

((~~2~~))B. Flood-prone Areas. Flood-prone areas are those areas that would likely be covered with or carry water as a result of a one hundred (100) year flood event ((~~storm~~)), or that would have a one percent (1%) or greater chance of being covered with or of carrying water in any given year based on current circumstances or maximum development permitted under existing zoning. This includes areas identified as flood-prone on the Seattle Floodplain Development Ordinance or on FEMA maps, and streams identified by the Washington State Department of Fisheries Catalog of Washington

CITY CLERK

Streams, and areas with ((~~drainage~~)) stormwater runoff problems known to ((~~the~~)) Seattle ((~~Drainage and Wastewater Utility.~~)) Public Utilities.

((~~3. Riparian Corridors. Riparian corridors include all areas within one hundred (100) feet measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark of the watercourse and water body, or a one-hundred (100) year floodplain as mapped by FEMA, as regulated by the Seattle Floodplain Development Ordinance, whichever is greater, and are classified as either a Class A Riparian Corridor or a Class B Riparian Corridor. Class A Riparian Corridors are stable, established streams and lakes that flow year-round and/or support salmonids, and include, but are not limited to, corridors that have an established floodplain as mapped by the FEMA Flood Insurance Program, and include Longfellow, Thornton, Pipers, Venema, Mohlendorph, Fauntleroy, Ravenna, Mapes, DeadHorse/Mill, Maple Leaf and Little Brook Creeks, and Haller and Bitter Lakes. Class B Riparian Corridors are not mapped by FEMA and are intermittent streams without salmonids that still demonstrate a high water mark. Riparian corridors do not normally include those artificial drainage areas intentionally created from grass-lined swales, canals, detention facilities, wastewater treatment facilities, and landscape amenities.~~))

((4))C. Wetlands. Wetlands are those 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 stormwater 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

Filed CITY CLERK

artificial wetlands intentionally created from nonwetland areas to mitigate conversion of wetlands.

((f))The method for delineating wetlands shall follow ((~~the most current version of~~)) the "Washington State Wetlands Identification and Delineation Manual" as adopted by the State Department of Ecology (Publication #96-94.)

((~~5~~))D. Fish and Wildlife Habitat Conservation Areas. The following are ((~~F~~))fish and wildlife habitat conservation areas ((~~include, but are not limited to, the following~~)):

1. Areas mapped by the Washington State Department of Fish and Wildlife ("WDFW") as urban natural open space habitat areas.

((~~a~~))2. Areas designated ((~~identified~~)) by ((~~the Washington State Department of Wildlife~~)) WDFW as priority habitats and species areas, including native eel grass beds, kelp beds, and recreational shellfish areas. ((~~or urban natural open space habitat areas;~~))

(((~~1~~)3. Corridors connecting ((~~other~~)) priority habitats and species areas or habitat areas for species of local importance when either: ((~~especially areas that would otherwise be isolated;~~))

a. WDFW or the Department's species habitat management plan identifies the parcel as part of a corridor connecting habitat areas for priority species or species of local importance; or

b. the parcel is adjacent to or connects parcels containing priority species or species of local importance and the Director determines that the parcel is part of a wildlife corridor based on information provided by a qualified wildlife biologist.

(((~~(2) Areas that remain an isolated remnant of natural habitat of ten (10) acres or more and surrounded by urban development, with local consideration given to areas smaller than ten (10) acres;~~))

SEATTLE CITY CLERK

((~~b. All bodies of water that provide migration corridors and habitat for fish, especially salmonids, including Lake Washington, Lake Union and the Lake Washington Ship Canal, Duwamish River , and that portion of Elliot Bay within the City's jurisdiction;~~))

((e)) ((~~Commercial and Recreational shellfish areas and kelp and eelgrass beds and~~))

((~~d~~))4. Areas ((~~which~~)) that provide habitat for species of local importance.

5.a Riparian corridors, which are the riparian watercourse and the riparian management area. The riparian watercourse is the watercourse of Type 2-5 waters defined in WAC 222-16-031 that have fish or wildlife habitat. Water in surface water ditches and stormwater conveyances, pipes, culverts, flow control facilities and water quality facilities are not regulated as riparian watercourses. The riparian management area is the area within one hundred feet (100') measured horizontally landward from the top of each bank of the watercourse, or from the ordinary high water mark of the watercourse as surveyed in the field, if the top of the bank cannot be determined. In watercourses with braided channels or alluvial fans, the ordinary high water mark shall be determined so as to include the entire stream feature.

b. When a pipe or culvert connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert is daylighted, the waters formerly in the pipe or culvert will be regulated as a riparian watercourse, and the area adjacent to that watercourse will be regulated as a riparian management area, as defined in subsection 5. This subsection 5b does not apply when the pipe or culvert is removed to provide a publicly–owned facility designed primarily for water quality treatment, flow control or stormwater conveyance.

EDS CITY CLERK

6. Shoreline habitat, which is Type 1 waters, defined in WAC 222-16-031, that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

((~~6~~))E. Abandoned Landfills. Abandoned landfills include those abandoned solid waste landfills identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project, additional sites identified by public or historical research, and areas within one thousand feet (1,000') of methane-producing landfills.

((~~C. Environmentally Critical Areas Maps. Environmentally critical areas defined and identified in subsections A and B shall be mapped whenever possible. These maps shall be advisory and used by the Director to provide guidance in determining applicability of the standards to a property. Sites that include environmentally critical areas which are not mapped shall be subject to the provisions of this chapter.~~))

((~~The Director may update or amend the environmentally critical areas maps by Director's Rule, according to Seattle Municipal Code Chapters 3.02 and 3.06, as new information and improved mapping resources become available. Mapping amendments may occur at a frequency not to exceed once every year.~~))

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. These maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an

CITY CLERK

environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary.

25.09.040 ((~~Application of standards~~)) Permits and Approvals Required.

((~~The standards of this chapter shall apply to all public and private proposals for new structures, additions to structures, short subdivisions and subdivisions, grading and drainage activity, and tree and vegetation removal per Section 25.09.320 located on either public or private property within environmentally critical areas and their buffers. Public projects proposed by any public agency shall comply with the standards of this chapter. Projects shall be exempted from the requirements of the chapter when the following situations and/or conditions apply:~~))

A. Prior to undertaking development or platting on a parcel containing an environmentally critical area or buffer, the person responsible shall submit an application complying with the provisions of Section 25.09.330, unless the person complies with the provisions of Section 25.09.045, 25.09.055, or 25.09.320.

B. Prior to undertaking actions under Section 25.09.045, 25.09.055, or 25.09.200 A4, the person responsible shall comply with provisions of the applicable section.

C. Prior to altering vegetation, trees, or habitat protected by this chapter the person responsible shall comply with the provisions of Section 25.09.320, unless that person complies with Section 25.09.045 or 25.09.055.

25.09.045 Exemptions.

CITY CLERK

A. 1. When the Director determines that criteria in subsections D to J below are met, those activities are exempt from the provisions of this chapter, except Sections 25.09.017 and .030 B and as otherwise provided in this section.

2. An application for an exemption may be made only as a component of a specific proposed development.

3. a. The applicant for an exemption shall provide all information requested by the Director and demonstrate that the work qualifies for the exemption. The Director shall determine whether work is exempt and may impose conditions on the work to protect environmentally critical areas and buffers or other property.

b. City agencies taking the action under any subsection of this section and the public agency taking the action under subsection J do not need to make an application to the Director provided that if no application is made, they shall comply with all provisions of this Section 25.09.045, make all determinations required to be made by the Director, including required conditions, and shall maintain records documenting compliance with all provisions.

4. There shall be no notice or administrative appeal of decisions made under this section.

B. All exempt activities shall be undertaken using best management practices; the applicant shall maintain records documenting compliance with this subsection B.

C. The enforcement provisions of this chapter apply to all activities exempted under this section. The Director's determination that a violation exists is not limited by determinations made by other City agencies or public agencies under subsection A3b, above.

D. Development that does not temporarily or permanently encroach within, alter, or increase the impact to the environmentally critical area or buffer on the parcel where the development occurs is

ENS CITY CLERK

exempt from the provisions of this chapter; if existing development that encroaches within or impacts the environmentally critical area or buffer is removed, then new development that encroaches within, alters or impacts the environmentally critical area or buffer is not exempt.

(((~~A~~)))E. ((~~When the Director determines there is an emergency threatening the public health, safety and welfare;~~)) Work directly related to ending a condition that (1) is an immediate threat to the public health, safety and welfare, or creates an immediate risk of damage to public or private property and (2) requires remedial or preventive action in a timeframe too short to allow compliance with the application provisions of this chapter is exempt from those provisions, provided that the work is the minimum work necessary to end the condition and the work is consistent with the development standards of this chapter to the extent practicable. Once the Director determines that the condition no longer meets these criteria, all work is subject to the provisions of this chapter, including but not limited to its application requirements, its development standards, and any requirements for technical reports and reviews for work that was exempt at the time it was performed.

((~~B~~))F. Maintenance, repair, renovation, or structural alteration of an existing structure ((~~structures in existence on October 31, 1992, the effective date of the ordinance codified in this chapter, unless otherwise prohibited by law.~~))that does not increase the impact to, or encroach further within, or further alter an environmentally critical area or buffer is exempt from the provisions of this chapter. ((~~Expansion or extension in any manner which increases the extent of nonconformity with the environmentally critical area provisions of the chapter shall not be permitted. When these structures are damaged by an act of nature, they may be rebuilt or replaced within one (1) year or the act of nature provided that the new construction or related activity does not further intrude into an environmentally critical area or required buffer and is subject to the flood hazard areas reconstruction restrictions;~~))

CITY CLERK

((~~C. New accessory structures and additions to structures whose developmental coverage does not exceed a cumulative addition of seven hundred and fifty (750) square feet of impervious surface after October 31, 1992, the effective date of the ordinance codified in this chapter, provided the addition is not constructed over a watercourse, water body or wetland;~~))

((~~D. When the applicant demonstrates to the satisfaction of the Director, through site surveys, topographic maps, technical environmental analysis, and other means as determined necessary by the Director that either one of the following situations apply:~~))

((~~1. The site contains no environmentally critical areas as defined in Section 25.09.020, or~~))

((~~2. The proposed development and associated land disturbing activity, including developmental coverage, does not occur within the area of the site designated as environmentally critical and any required buffer as defined in Section 25.09.020;~~))

((~~E. Normal and routine operation, maintenance, remodeling, and repair of existing public facilities and utilities, including the maintenance, vegetation management and revegetation of public parkland and open spaces, when undertaken pursuant to best management practices to avoid impacts to environmentally critical areas;~~

~~F. The following electric, natural gas, cable communications, telephone, public facility and utility, and right-of-way improvement projects, with the Director's approval of the location and limits of the project, only when the project is not a prerequisite to development. The exemption shall only be approved when the project is undertaken pursuant to best management practices to avoid impacts to environmentally critical areas, and when it can be demonstrated that:~~

~~1. No practicable alternative exists;~~

2005 CITY CLERK

~~2. The encroachment into a critical area is minimized to the greatest extent practicable; and~~

~~3. Mitigation measures are employed before, during and after construction:~~))

G. Rebuilding or replacing structures, except retaining walls and similar structures, that are destroyed by an act of nature is exempt from the provisions of this chapter, provided that action toward the rebuilding or replacement is commenced within one (1) year of the act of nature, that the rebuilding or replacement is diligently pursued, and that the new construction or related activity does not further encroach into, or increase the impact to, or further alter an environmentally critical area or buffer and complies with restrictions on flood hazard areas reconstruction.

H. 1. The activities identified in subsection 3 below are exempt from the provisions of this chapter when the applicant demonstrates:

a. The work is not a prerequisite to other development;

b. No practicable alternative to the work with less impact on the environmentally critical area or buffer exists; and

c. The work does not pose an unreasonable threat to the public health, safety or welfare on or off the parcel.

2. The Director's decision shall:

a. include the approved location and limits of the work; and

b. shall require specific mitigation measures for impacts to all environmentally critical areas and their buffers before, during, and after construction.

3. The provisions of this subsection H apply to the following activities:

CITY CLERK

a. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less only when required by a governmental agency,

b. Relocation of natural gas, cable communications, gas, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances only when required by a governmental agency,

c. Installation or construction in improved public road rights-of-way, and replacement, operation or alteration, of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less,

d. Installation or construction in improved public road rights-of-way, and replacement, operation, repair or alteration of all natural gas, cable communications, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances,

e. Public projects designed to enhance ((~~streams~~)) riparian corridors, shoreline habitat and its buffer, and wetlands and their buffers, including ((~~drainage~~))stormwater-related functions, that require either a Hydraulic Project Approval from ((~~either~~))the Washington Department((s)) of ((~~Fisheries or Wildlife~~))Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers, and

f. Public projects ((~~that promote a public objective,~~)) where the intrusion into the environmentally critical area or buffer benefits the public, such as trails providing access to a creek or wetland area, when located and designed to ((~~minimize~~)) keep environmental disturbance to ((~~the greatest extent possible~~)) a minimum. The applicant shall protect vegetation and trees pursuant to a tree and vegetation plan consistent with best management practices. The plan shall be prepared by a qualified expert with experience related to the type of environmentally critical area or buffer where work

SEA CITY CLERK

will occur. In landslide-prone areas of the plan shall also be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on steep slopes.

I. Normal and routine operation, maintenance, remodeling, repair, and removal of existing public facilities and utilities is exempt from the provisions of this chapter when these activities do not result in substantial disturbance of environmentally critical areas or buffers.

J. Normal and routine (a) pruning, (b) tree and vegetation maintenance and management, and (c) revegetation are exempt from the provisions of this chapter when they do not result in substantial disturbance of environmentally critical areas or buffers and when they are carried out in parks, public utility right of ways, and publicly owned open spaces by the public agencies, including City agencies, that are responsible for them.

25.09.050 City Projects.

"City project" means all work described in Section 25.09.015 that is undertaken by a City agency. A City project shall comply with all provisions of this chapter unless the project is exempt under Section 25.09.045.

25.09.055 Small Project Waiver.

A. The Director may approve new accessory structures or additions to existing structures in environmentally critical areas and buffers, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

CITY CLERK

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

B. Director's Decision.

1. The Director shall require the use of fencing with a highly durable protective barrier during the construction to protect the remainder of the environmentally critical area and/or buffer.

2. The Director shall require planting native vegetation in an area equal in size to the area of any native vegetation in a riparian corridor, wetland buffer, steep slope, or steep slope buffer that is removed or adversely impacted by the development. Any invasive species shall be removed from the planting area. The planting area shall be on site and, whenever possible, in the same environmentally critical area or buffer. When this is not possible, the Director may authorize all or a portion of the

BNS CITY CLERK

planting to be outside the environmentally critical area or buffer or on another parcel, when the Director determines this will mitigate the impact.

3. The Director may require additional measures to protect the remainder of the environmentally critical area and/or buffer.

4. There shall be no notice or administrative appeal of decisions made under this section.

25.09.060 ((~~Application submittal requirements, general requirements and development standards~~)) General Development Standards.

((~~All proposals listed in Section 25.09.040 shall meet the following application submittal requirements, general requirements and development standards:~~

~~A. Application Submittal Requirements. In addition to the application submittal requirements specified in other codes, development proposals subject to this chapter shall include the following additional information as applicable:~~

~~1. Surveyed Site Plan. A surveyed site plan, prepared and stamped by a State of Washington licensed surveyor, shall be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. The surveyed site plan shall include the following existing physical elements:~~

~~a. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~b. Terrain and drainage flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

CITY CLERK

~~c. General location of areas with significant amounts of vegetation, and specific location and description of all trees and shrubs over six inch (6") caliper measured three feet (3') above the base of the trunk, and noting their species;~~

~~d. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of development coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);~~

~~e. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and~~

~~g. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~2. Additional Site Plan Information. The following site plan information shall also be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified~~

EDS CITY CLERK

~~professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.~~

~~a. Location and boundaries of all critical areas on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;~~

~~b. Proposed location and boundaries of all required undisturbed fenced areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines;~~

~~c. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);~~

~~d. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;~~

~~e. Location of all proposed grading activities, and all proposed drainage control facilities or systems on site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and~~

CITY CLERK

~~g. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~3. Technical Reports. Technical reports shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, vegetation, and other pertinent site information. The reports shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.~~

~~B. General Requirements for the Lot, Adjacent Lots, Surrounding Area, and Drainage Basin.~~

~~1. The developer shall ensure safe, stable and compatible development which avoids adverse environmental impacts and potential harm on the lot, to adjacent lots, the surrounding neighborhood, and the drainage basin. Detailed analysis of impacts, including cumulative impacts of development, of the proposed development upon wetlands, riparian corridors, native vegetation and wildlife habitats, water quality, fisheries, natural water temperature, slope and soil conditions, and surface water drainage may be required by the Director when lot and area conditions indicate the need for such analysis. Supplemental technical reports may be required by the Director to specify measures to preserve, protect, and maintain adjacent sites and the drainage basin and ensure safe, stable and compatible development.~~

~~2. All conditions of approval associated with an approved development application and permit shall be recorded as official permit conditions at the Department of Construction and Land Use. During construction, the Director may require conditions to be posted on the site in such a manner as to be visible from public rights-of-way.~~

~~3. If applicable, as determined by the Director, the following environmentally critical areas and/or their associated buffers located on a development site, together with any permanent~~

ENS CITY CLERK

~~conditions, shall be described in a permanent covenant with the property which shall be recorded in the King County Office of Records and Elections:~~

~~a. Riparian corridor buffers; and/or~~

~~b. Wetlands and steep-slope environmentally critical areas and their required buffers.~~

~~If applicable, the Director may require placement of small permanent visible markers to delineate riparian corridor buffers and/or wetlands and steep-slope environmentally critical areas and their required buffers. The location of the markers shall be described in the permanent covenant.~~))

((~~C. General Development Standards. General development standards as applicable shall include, but are not limited to the following:~~)) The following general development standards apply to development on parcels containing environmentally critical areas or their buffers, except as specifically provided in this chapter:

A. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335.

B. The project shall avoid adverse impacts from development on environmentally critical areas and buffers, and the Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable, naturally stable, and least sensitive portion of the site in order to protect the ecological functions and values of wetlands and fish and wildlife habitat areas, prevent erosion from development on steep slope areas, and protect the public health, safety and welfare in landslide-prone, liquefaction–prone, and flood-prone areas. Grading activities and impervious surfaces that may impact environmentally critical areas or buffers shall be kept to a minimum and limited to areas approved by the Director.

SEA CITY CLERK

C. Driveways and utility corridors that may impact environmentally critical areas or buffers shall be kept to a minimum through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access shall be located in a way that keeps impacts to environmentally critical areas and buffers to a minimum.

D.((~~1~~)) All buffers and designated non-disturbance ((~~areas and other designated protected~~))areas shall be fenced with a highly visible and durable protective barrier during construction to prevent access and to protect environmentally critical areas. ((~~No removal of vegetation or wildlife habitat shall be permitted within the protected wetlands and their buffers, riparian corridors and their buffers, and steep slopes and their buffers either during or after construction, except as otherwise permitted by the chapter.~~))

((~~2. All disturbed areas on the site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control drainage and prevent erosion during construction, and revegetated to promote drainage control and prevent erosion after construction. The Director may require an erosion control plan and a vegetation removal and replacement plan when erosion potential is severe. The erosion control plan shall be prepared and followed using best management practices. The vegetation removal and replacement plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of trees, shrubs, and ground cover that does not require permanent irrigation systems for long-term survival and is suitable for the location.~~))

E. ((~~3.~~)) All site clearing ((~~sites~~)) on the lot that may impact environmentally critical areas or buffers shall be carried out ((~~cleared~~)) in stages just prior to construction, and cleared areas shall ((~~only~~)) be kept to the minimum ((~~as large as necessary~~)) for construction. Revegetation shall occur after the

2005 CITY CLERK

particular phase of construction is completed. When required by the Director, ((~~the vegetation removal and replacement~~))a tree and revegetation plan shall establish a staged vegetation removal and replacement program ((~~which minimizes~~)) that keeps the amount of exposed soil during and after construction to a minimum. In drier months, temporary surface irrigation or temporary installation of intermediate plantings may be required until weather or seasonal conditions permit installation of the permanent plantings.

F. Construction activity on the lot that may impact environmentally critical areas or buffers shall adhere to a prepared schedule and mitigation plan approved by the Director prior to the start of construction. This schedule and mitigation plan shall include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation.

G. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless the applicant demonstrates to the satisfaction of the Director based on approved technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st. This provision does not apply to grading in liquefaction-prone areas and abandoned landfills environmentally critical areas unless the parcel contains another environmentally critical area.

H. Best management practices shall be used for all construction activity on parcels with or adjacent to environmentally critical areas or buffers to prevent sediment and other pollutants from entering the riparian corridor watercourses or other fish and wildlife habitat conservation areas on or off the property. Best management practices include, but are not limited to, installation of siltation barriers,

ORIGINAL
CITY CLERK

diversion measures, slope drains, and structural, vegetative stabilization techniques and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

I. The Director may require an erosion control plan and a tree and revegetation plan when erosion potential is severe. The erosion control plan shall be consistent with best management practices, and best management practices shall be followed in implementing it. The tree and revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of native vegetation.

J. The site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control stormwater and prevent erosion during construction, and shall be revegetated to promote stormwater control and prevent erosion after construction, consistent with Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

((~~4. The Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable and naturally stable portion of the site. Grading activities and impervious surfaces shall be minimized and limited to areas approved by the Director.~~

~~5. All drainage associated with the development shall be connected to City-approved drainage control systems with approved discharge points in compliance with the SMC Chapter 22.802-808, Stormwater, Drainage and Erosion Control. If an adequate drainage conveyance system is not available and safety and erosion concerns dictate, the Director may require design of drainage facilities to handle up to a one hundred (100) year storm, and/or require a release rate slower than the rate normally required.~~

~~6. All construction activity on environmentally critical area sites in watersheds containing designated critical watercourses and associated riparian corridors shall follow best management practices. These practices include installation of siltation barriers to minimize erosion and~~

Ens CITY CLERK

~~pollutants entering the watercourse, as well as other methods such as diversion measures, slope drains, and structural and vegetative stabilization techniques.~~))

K.((~~7.~~)). When calculating detention requirements, all disturbed areas on the site shall be calculated as developmental coverage, including revegetated areas, excluding enhanced or restored areas as approved by the Director.

L.((~~8.~~)) Pesticides and fertilizers shall not be used on parcels containing a riparian corridor, shoreline habitat or its buffer, or wetland or its buffer, except as allowed by the Director for the following circumstances:

1. On public and private golf courses when the Director determines a satisfactory substitute is not available.

2. The state or local Health Department recommends or directs their use to address a threat to public health.

3. A county, state, or federal agency with jurisdiction directs their use.

4. When the Director determines the applicant has demonstrated that the use will have no adverse impact to fish and wildlife.

M. The Director may require a development proposal's design to account for a one hundred (100) year seismic and one hundred (100) year flood event, unless a design for a greater event is required by other applicable codes.

((~~9. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless demonstrated to the satisfaction of the Director based on approved~~

ENS CITY CLERK

~~technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st.~~

~~10. Development occurring in riparian corridor, wetland and steep slope sites shall preserve the integrity of wildlife habitat corridors, and minimize the intrusion of development into designated wildlife habitat areas.~~

~~11. Construction activity shall adhere to a prepared schedule and mitigation plan to be approved by the Director prior to the start of construction. This schedule and mitigation plan shall include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation. This plan shall be reviewed with the owner's representative and approved by the Director at a pre-construction meeting prior to the start of construction.~~

N.((~~12.~~)) The Director may require additional construction practices and methods and requirements, including, but not limited to best management practices as outlined in federal, state and Seattle manuals, and limitations on construction equipment permitted on the site, to protect environmentally critical areas and buffers on and off the property. ((~~on site, on adjacent sites, and within the drainage basin of a proposed development.~~))

O. No provision of this chapter shall be construed to require putting new or existing power lines underground.

25.09.080 ((~~Development standards for landslide-prone hazard~~)) Landslide-prone critical areas.

A. ((~~Site.~~)) This section applies to all parcels in or containing a landslide-prone critical area.

B. Site.

Ens CITY CLERK

1. Complete stabilization of all portions of a site ((~~which~~)) that are disturbed or affected by the proposed development, including all developmental coverage and construction activity areas, ((~~shall be~~))is required. Complete stabilization of all portions of a site refers to the process and actions necessary to stabilize ((~~ensure that~~)) proposed site improvements ((~~are stabilized~~)), and ((~~that~~)) all on-site areas and adjacent properties, including adjacent public and private rights-of-way, ((~~which~~)) that are disturbed or ((~~impacted~~)) affected ((~~are stabilized~~)).

2. The proposed development ((~~or use~~)) shall be limited and controlled to avoid adverse impacts and potential harm, and to ((~~ensure~~)) provide safe, stable and compatible development appropriate to site conditions. Other reasonable and appropriate solutions to ((~~solve~~)) provide site stability ((~~problems~~)) may be required by the Director. This may include imposing conditions concerning the type and method of construction that reflect the specific constraints of the site.

3. Removal of, clearing, or any action detrimental to trees or vegetation in landslide prone critical areas is prohibited, except as provided in this section and Section 25.09.320.

((~~B. Staged Review Process. Projects proposed in landslide-prone areas shall be subject to a staged review process.~~

~~1. The staged review process may consist of one (1) or more of the following steps:~~

~~a. Site visit and reconnaissance;~~

~~b. Preliminary soils investigations including tests and borings; and~~

~~c. Detailed geotechnical studies and engineering plans.~~

~~2. During the staged review process, more extensive studies and investigations may be required for more hazardous sites, based on the degree of slope, hydrology and underlaying soils and geology. The Director may require detailed site investigation including, but not limited to the following:~~

~~a. Review of available literature regarding the site and surrounding areas;~~

SEATTLE CITY CLERK

~~b. Detailed topographic analysis;~~

~~c. Subsurface data and exploration logs;~~

~~d. Ground surface profiles;~~

~~e. Analysis of relationship of vegetated cover and slope stability;~~

~~f. Site stability analysis;~~

~~g. Geotechnical considerations to reduce risk; and~~

~~h. Construction and post-construction monitoring.~~

~~3. The Director shall determine the amount of additional study necessary depending on the degree of landslide-prone hazard on a site based on the information disclosed during the staged review process. The Director may require third-party review.~~

~~4. As part of the staged review process, the Director shall provide mailed notice to adjacent property owners, and the applicant shall post one (1) land use sign visible to the public at each street frontage abutting the site except, when there is no street frontage or the site abuts an unimproved street, the Director shall require either more than one (1) sign and/or an alternative posting location so that notice is clearly visible to the public. The land use sign may be removed by the applicant within fourteen (14) days after final action on the application has been completed. The purpose of this notice is to allow for an exchange of information between the applicant, adjacent property owners and the Director. Adjacent property owners may review and comment on site investigations and technical studies, and provide information and documentation of any previous landslide problems on the site. Notice will include information on how to find out whether or not third-party review is required.~~))

C. Third-Party Review. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, ((~~T~~))the Director ((~~shall determine when~~)) may require third-party review when the professional opinions of the applicant's representative and the Department's

CITY CLERK

reviewers cannot be reconciled. ((~~shall be required.~~)) Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant. ((~~In determining the need for third-party review, the Director shall consider whether or not the project is to be constructed on deep soft-soil areas, areas identified as being affected by deep slide masses or block movements, sites with excessive groundwater, and sites subject to lateral ground failure due to earthquakes.~~))

D. Bonds and Insurance. The Director may require adequate bonds and/or insurance to cover potential claims for property damage ((~~which~~)) that may arise from or be related to excavation or fill within a landslide-prone area ((~~a. The Director shall require such bonds or insurance~~)) when the depth of the proposed excavation ((~~shall~~)) exceeds four feet (4') and the bottom of the proposed excavation ((~~shall be~~)) is below ((~~a~~)) the one hundred percent (100%) slope line (forty-five (45) degrees from a horizontal line) from the property line. The Director may require such bonds and insurance in other circumstances where the Director determines that there is a potential for significant harm to an environmentally critical area or buffer during the construction process.

E. Permit renewals.

In addition to complying with the permit renewal standards in Chapter 23.76, applications for permit renewal shall comply with the following standards.

1. The Director may renew a permit for development that is in conformance with applicable regulations in effect at the time the renewal is sought.

2. An applicant seeking to renew a permit for new development in a landslide-prone area must submit a letter of certification from the current project geotechnical engineer of record as

SEATTLE CITY CLERK

described in subsection G2. If such a letter of certification is not submitted, the permit shall not be renewed.

3. The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections G, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans.

4. An applicant for renewal also must demonstrate that any required bond or insurance will be in effect during the renewal period, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.

F. Issued permits in landslide-prone areas. If the Director has reasonable grounds to believe that an emergency exists because significant changes in conditions at a project site or in the surrounding area may have occurred since a permit was issued, increasing the risk of damage to the proposed development, to neighboring properties, or to the drainage basin, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a letter of certification as described in subsection G2 and has satisfied the standards of that section.

G. Letter of Certification.

1. The Director may require a letter of certification based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.

DNS CITY CLERK

2. The letter of certification shall be from the current project geotechnical engineer of record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:

a. In the project geotechnical engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to the Department as part of the application for the permit; or that

b. In the project geotechnical engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria, and that in the project geotechnical engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been prepared and submitted.

25.09.100 Development standards for liquefaction-prone areas.

A. The general development standards set out in SMC 25.09.060 do not apply to liquefaction prone areas.

B. Soils engineering studies may ((~~shall~~)) be required for ((~~of all proposed~~)) development in ((~~areas subject to~~)) liquefaction-prone areas to determine the physical properties of the surficial soils, especially the thickness of unconsolidated deposits, and their liquefaction potential, as set out in Title 22, Subtitle I.

((~~B~~))C. If it is determined that the site is subject to liquefaction, mitigation measures may be imposed pursuant to ((~~appropriate to the scale of the development shall be recommended and implemented through requirements of~~)) Title 22, Subtitle ((~~VIII~~))I, ((~~Grading and Drainage Control Ordinance, SMC Title 22, Subtitle I, Building Code, and any~~)) in addition to other applicable codes or regulations pertaining to development ((~~within~~)) in liquefaction-prone areas.

SEAS CITY CLERK

25.09.120 Development standards for flood-prone areas.

A. Development is prohibited within the "floodway" of flood- prone areas. Permitted development within flood-prone areas lying outside the floodway shall not contribute to increased downstream flow of floodwaters and shall comply with the provisions of ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance. (((~~(FEMA) A drainage control plan shall be required for all proposed development.~~)))

B. Drainage-Control Plan. If the site is mapped or determined to be flood-prone, the Director may require a drainage-control plan ((~~shall~~))to be submitted with the permit application showing the flood-prone area, the tributary watershed, and all drainage features, to describe the existing situation and proposed modifications to the drainage system. If required, the ((~~The~~))drainage-control plan shall provide for control of water quality and quantity in compliance with ((~~the~~)) Title 22, Subtitle VIII, Stormwater Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance, and any other subsequent applicable flood-control codes or ordinances to protect the public interest and prevent harm.

C. Elevation Above Base Flood Level. The lowest floor elevation of any structure located in a flood-prone area shall be no less than two feet (2') above the one-hundred (100) year flood elevation ((~~unless otherwise specified by the Director of Seattle Public Utilities~~)).

((~~**25.09.140 Development standards for riparian corridors.**~~

~~A. Riparian Corridor Watercourse. No development shall be permitted within or over the watercourse as delineated by survey and accepted by the Director. If no other access is available to the property, the Director may approve access over the watercourse as long as it maintains the natural channel and floodway of the watercourse and minimizes the disturbance of the buffer to the greatest extent possible.~~

EPS CITY CLERK

~~B. Minimum Riparian Corridor Buffer. In order to prevent harm on-site and downstream, and in order to minimize degradation of water quality, a buffer shall be established within the corridor within which development shall not be permitted. All buffers shall be measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark as surveyed in the field. In cases with braided channels and alluvial fans, the top of the ordinary high water mark shall be determined so as to include the entire stream feature. The buffer shall not extend beyond an existing public road if the road has an adequate storm water catchment facility. The minimum buffer shall be as follows:~~

~~1. Class A Riparian Corridor Buffers; Fifty Feet (50'); and~~

~~2. Class B Riparian Corridor Buffers; Twenty-five feet (25').~~

~~C. Buffer Vegetation and Restoration.~~

~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required.~~

~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately.~~

~~3. Buffer Restoration Exemption. When the site is a single lot, located adjacent to properties where natural vegetation has already been removed for lawns or other residential activities, the Director may conclude that a buffer restoration plan is not to be required or that buffer restoration is~~

EDS CITY CLERK

~~limited to planting trees for creek shading when no significant increase in protection of the water body would result from full restoration of the buffer.~~

~~D. Buffer Reductions on Existing Lots. The Director may reduce a Class A buffer if development of adjacent lots is less than fifty feet (50') from the watercourse. However, the buffer shall not be less than the distance to the watercourse from the adjacent structure that is furthest from the watercourse, or less than twenty-five feet (25'), whichever is greater.~~

~~E. Riparian Corridor Restoration.~~

~~1. To encourage restoration of a riparian corridor presently located in an underground pipe or culvert, the following conditions shall apply:~~

~~a. Every effort shall be made to avoid building over a riparian corridor located in an underground pipe or culvert, except when located under a street right-of-way; and~~

~~b. Uncovering of the riparian corridor should be encouraged and allowed with the Director's approval of the following exceptions to riparian corridor standards:~~

~~i. The minimum buffer may not be required if there is no space available; and~~

~~ii. The open riparian corridor may be located elsewhere on-site or on adjacent sites.~~

~~2. To encourage restoration of a riparian corridor presently located in an open channel or drainage way, the Director may waive the minimum buffer.~~

~~F. More intensive site review and application of stricter development standards may be applied in areas outside of the riparian corridor buffer where any of the following conditions are present:~~

~~1. High, steep slopes that could produce debris slides directly to surface waters; or~~

~~2. Sites with polluted groundwater seeps or springs; or~~

EDS CITY CLERK

~~3. Other areas of potentially extreme adverse impacts.~~

~~G. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant shall be encouraged to make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.~~))

25.09.160 Development standards for wetlands.

((~~A. Wetland. Wetland provisions of this chapter shall apply only to wetlands of one hundred (100) square feet or greater in area, unless a smaller wetland or a combination of adjacent, smaller wetlands are part of a larger drainage system. No grading, filling, draining and/or development shall be permitted within or over a wetland of exceptional value and its buffer as delineated by a survey accepted by the Director. Grading, filling, draining and/or development within wetlands and their buffers, other than wetlands of exceptional value, shall only be allowed under the following limited situations and conditions:~~

~~1. Wetlands altered for use as lawns or playfields prior to the effective date of this ordinance shall not be regulated as wetlands unless the Director determines that the wetland could be restored when new development or redevelopment occurs on the site; and~~))

A. Wetlands are rated according to the Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-25). Illegal grading, filling, draining, or other development will not result in a change to that wetland's rating. Wetlands constructed for mitigation or replacement purposes are subject to the provisions of this chapter.

B. Impacts to Wetlands.

ENS CITY CLERK

1. Development, including but not limited to grading, filling, or draining, is prohibited within or over:

a. Category I, II or III wetlands greater than one hundred (100) square feet;

b. Category IV wetlands one thousand (1,000) square feet or greater;

c. A wetland of any category or size that is part of a larger wetland system or abuts any Type 1-5 water.

2. Development may occur within or over Category IV wetlands less than one thousand (1,000) square feet, other than those wetlands described in subsection B1c, in accordance with subsection C3.

3. When development is authorized on a parcel containing a wetland:

a. All on or offsite runoff shall be routed away from the wetland and wetland buffer; and

b. Direct lighting shall be directed away from the wetland and its buffer.

4. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in wetlands is prohibited, except as provided Section 25.09.320.

((~~2. Wetlands, excluding wetlands of exceptional value, may be considered for alteration if the proposal meets the criteria for an Environmentally Critical Areas Exception, Section 25.09.300 of this chapter, and complies with the following wetland compensation requirements:~~

~~a. Restoration of an existing degraded wetland, or~~

~~b. Creation of additional substitute wetlands, although the Director shall give preference to restoration, and~~

~~c. Restoration of an existing degraded wetland or creation of substitute wetlands shall meet the following conditions:~~

EMS CITY CLERK

~~i. The applicant shall fund the wetland restoration or creation under the direction and authority of the Director,~~

~~ii. To the greatest extent practical, restoration or creation may occur either on or off site, but within the same drainage basin,~~

~~iii. Restoration or creation shall be of a similar type and shall take place before alteration of the original wetland,~~

~~iv. Restoration or creation shall require the original wetland to be replaced at a ratio of two to one (2:1), and~~

~~v. The restored or substitute wetland shall provide comparable water quality benefits and be of at least equal habitat and hydrologic value.~~))

((~~B~~))C. Wetland Buffers and Mitigation. ((~~In order to protect wetland areas and maintain water quality, a minimum wetland buffer of fifty feet (50') shall be established within which no development shall be permitted and all vegetation shall remain undisturbed. The wetland buffer shall be measured horizontally from the edge of the wetland.~~))

1. Establishment of buffers.

a. The wetland buffer is measured horizontally from the edge of the wetland.

b. Wetlands have the following buffers:

Category I and II wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	100 feet 110 feet for moderate level habitat function 200 feet for high level of habitat function

CITY CLERK

Category III wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	60 feet 85 feet for moderate or greater level habitat function
Category IV wetlands one thousand (1,000) square feet or more in total size or of any size with the characteristics described in subsection B1c above	50 feet
Category IV wetlands under one thousand (1,000) square feet in total size that do not have the characteristics described in subsection B1c above	No buffer. Use mitigation under subsection C3.

A wetland with a moderate level of function is one that scores 20 to 28 points for habitat function when rated according to Washington State Ecology publication #04-06-025. A wetland with a high level of function for habitat is one that scores of 29 to 36 points for habitat function when rated according to Washington State Ecology publication #04-06-025.

c. Wetlands constructed in upland areas or non-wetland areas by any person for stormwater control, biofiltration or aesthetic purposes are not subject to the wetland buffer requirements of this chapter. Maintenance activities are not restricted in these types of wetlands.

2. Development is prohibited in wetland buffers, except as approved by the Director under subsection D.

EXHIBIT
CITY CLERK

3. The Director may authorize development in a Category IV wetland under one thousand (1,000) square feet that does not have the characteristics described in subsection B1c above, when the Director finds that one of the following measures, which must occur on site, will mitigate wetland function lost by development:

a. Construct a wetland of equal function to the lost wetland function.

b. Plant an area of native vegetation equal or greater in size to the area of the developed wetland, and remove invasive species in the area to be planted.

c. Construct a bioengineered/ infiltration facility, such as a bioswale, stormwater planter or infiltration planter, that replicates the hydrologic and/or water quality benefit of the developed wetland. This facility shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

d. Construct a eco-roof or roof garden that replicates the hydrologic and/ or water quality benefit of the developed wetland. These facilities shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

((~~C~~)) 4. Buffer Vegetation ((~~and Restoration~~)).

((~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required~~)).

a. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the wetland buffer is prohibited, except as provided in subsection D and Section 25.09.320.

((~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation~~

2005 CITY CLERK

~~plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately~~.

((~~3. Buffer Revegetation Exemptions. The Director shall allow the removal by hand of i~~))

b. Invasive plants and noxious weeds ((~~, such as purple loosestrife,~~)) may be removed by hand. No machines or chemical removal shall be permitted without the Director's approval.

((~~E.~~))D. Buffer Averaging and Buffer Reductions.

1. Buffer Width Averaging. The Director may modify the standard wetland buffer width by averaging buffer widths when a qualified wetlands professional demonstrates to the Director's satisfaction that:

a. It will not reduce wetland functions or values;

b. The total area contained in the buffer area after averaging is no less than that which would be contained within the buffer required in subsection C above; and

c. The buffer width is not reduced to less than the following:

Category IV wetlands	35 feet
Category III wetlands with a high level of function for habitat	60 feet
All other Category III wetlands	40 feet
Category I and II wetlands with a high level of function for habitat	140 feet
All other Category I and II wetlands	75 feet

A high level of function for habitat shall be determined as set out in Subsection C1 above.

((~~D~~))2. Buffer Reductions. ((~~on Existing Lots. Buffer reductions on existing lots may only be allowed after the Director has determined that the front or rear yard or setback reduction or variance provisions of Section 25.09.280 will not provide sufficient relief.~~))

a. The Director may reduce a Category IV wetland buffer when the applicant qualifies for a variance by demonstrating that:

(1) the lot where the buffer is located was in existence before October 31, 1992;

(2) the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full buffer; and

(3) either the site does not meet the criteria for buffer averaging under subsection D1 or such averaging does not relieve the hardship that was found under subsection 25.09.280 B2.

b. If any buffer reduction is authorized by a variance under subsection D2a, the Director shall

(1) require the Category IV wetland to be restored on site in a manner that improves water quality, hydrology and habitat functions. Restoration must comply with subsections F and G below and with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29); and

(2) determine the amount of wetland buffer to reduce by applying the buffer averaging to the extent possible under subsection D1 and reducing the yards and setbacks before

CITY CLERK

reducing the wetland buffer, unless reducing the yards or setbacks is injurious to safety. The wetland buffer shall be reduced by the minimum amount to mitigate the hardship, but never to less than thirty five feet (35');and

(3) impose additional conditions on the location and other features of a proposed development as necessary to carry out the purpose of this chapter and to mitigate the loss or reduction of the yard, setback or buffer.

c. The process and procedure for notice of decision and appeal of a variance under this subsection D2 shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~1. The Director may reduce a wetland buffer on existing lots only if the front or rear yard or setback reduction provision of Section 25.09.280 A does not provide sufficient relief to allow placement of an adequate structure and maintain the full width of the required wetland buffer.~~))

((~~2. The Director may further reduce a front or rear yard or setback through an Environmentally Critical Areas Yard or Setback Reduction Variance pursuant to the provisions of Section 25.09.280 B. If, during the review of this variance, the analysis shows that additional front or rear yard or setback reductions would not meet the criteria for variance approval and/or would not provide sufficient relief to allow placement of an adequate structure and maintain the full wetland buffer requirement, the Director may either approve reduction of the wetland buffer only or reduction of both yards or setbacks and the wetland buffer. The wetland buffer reduction shall be the minimum amount necessary, but never less than the twenty-five-foot (25') minimum buffer, to provide for use of the property and to prevent harm to the wetland.~~))

((~~3. The Director may reduce a wetland buffer only for wetlands which are determined to be degraded under the following circumstances:~~))

Ens CITY CLERK

((~~a. If the degraded portion of the wetland is restored on site at a four to one (4:1) ratio, restored land area to reduced buffer, for wetlands larger than fifteen hundred (1,500) square feet; and at a two to one (2:1) ratio for wetlands under fifteen hundred (1,500) square feet; and~~))

((~~b. Such buffer reduction adjacent to the degraded wetland shall not result in a buffer of less than twenty-five feet (25') and does not apply to the wetland itself.~~))

((~~E~~)) ((~~Constructed Wetlands. Wetlands constructed by a private interest or public agency for stormwater control, biofiltration or aesthetic purposes shall not be subject to the wetland buffer requirements of this chapter. Maintenance activities shall not be restricted. This does not apply to wetlands constructed for mitigation or replacement purposes.~~))

E. Avoidance and Mitigation Standards.

1. The standards for wetland mitigation shall be applied in following order of priority:

a. avoid the impact to the extent practicable by not taking all or part of an action;

b. keep the impact to a minimum by limiting the degree or magnitude of the action and its implementation, and by taking affirmative actions to mitigate the impact over time; and

c. mitigate unavoidable impacts to the designated uses of a wetland by replacement, enhancement, or other approved compensation methods.

2. Mitigation for grading, filling, or draining wetlands shall achieve the equivalent or better biologic functions of the existing wetland. Mitigation plans shall be consistent with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29).

ENS CITY CLERK

3. Wetland mitigation actions shall not result in a net loss of wetland area unless the following criteria are met as determined by a site-specific function assessment:

a. The lost wetland area provides only minimal functions and the mitigation action(s) results in a net gain in wetland functions; or

b. The lost wetland area provides only minimal functions and other replacement areas provide greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

4. Mitigation actions that require compensation by replacing, enhancing, or substitution, shall occur in the following order of preference:

a. Restoring wetlands on sites that were formerly wetlands.

b. Creating wetlands on disturbed sites, such as those with vegetative cover consisting primarily of exotic introduced species.

c. Enhancing wetlands and/or wetland buffers with significantly degraded functions and values. The amount of required enhancement is dependent on the wetland classification in subsection 5.

5. a. The following ratios are required for the restoration, creation or enhancement of wetlands for authorized alterations. As determined by the Director, wetland mitigation may include the preservation and enhancement of habitat if it provides greater ecological function than the existing wetland. The first number specifies the area of replacement wetlands, and second specifies the area of wetlands altered:

	Restoration or Creation Ratios	Enhancement Ratios
Category I	6:1	16:1
Category II	3:1	16:1
Category III	2:1	8:1
Category IV	1.5:1	6:1

CITY CLERK

b. Replacement ratios may be increased under the following circumstances to achieve the equivalent wetland function of the wetland that is altered:

(1) Uncertainty exists as to the probable success of the proposed restoration or creation; or

(2) A significant period of time will elapse between impact and establishment of wetland functions at the mitigation site; or

(3) Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted.

c. Replacement ratios may be decreased when the proposed mitigation actions are conducted in advance of the impact and result in no net loss in wetland functions.

F. Mitigation Timing. Any restoration, creation or enhancement of wetlands that is required as mitigation shall be completed prior to issuance of the certificate of occupancy for the displacing use. If that has not occurred or if no certificate of occupancy is needed, the applicant shall submit plans that establish a specific schedule for completion, which must be approved by the Director, and shall provide a bond of at least one hundred and fifty percent (150%) of the cost of installation, in addition to the monitoring plan and bond required under subsection G. If the required mitigation can be completed for less than five thousand dollars ($5,000), no bond is required under subsection F or G.

G. A monitoring plan shall be prepared to monitor successful re-establishment of the wetland for a period of five growing seasons or the period required to achieve the performance standards of the plan, whichever is earlier. The applicant shall provide a bond in an amount of at least one hundred fifty percent (150%) of the cost to retain a qualified wetlands scientist to assess the wetland and submit a report to the City at least twice yearly, prior to and near the end of each growing season and

EDS CITY CLERK

shall also provide a bond in an amount sufficient to implement additional restoration measures if the replacement wetland does not equal the functions of the wetland displaced at the end of five growing seasons.

((F))H. Other Agency Regulations. Review of projects subject to the wetland provisions of this chapter shall be coordinated by the applicant with the appropriate state and federal agencies. ((~~Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act~~)) The applicant ((~~shall be encouraged to~~)) should make early contact with these agencies to ensure compliance with local, state and federal ((~~riparian corridor~~))regulations.

I. In addition the information provided pursuant to Section 25.09.330 and to Director's Rule, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. The third party review will be conducted by a qualified wetland consultant hired by the Director and paid for by the applicant.

25.09.180 Development standards for steep slope((s)) areas.

A. This section and Section 25.09.080 apply to parcels containing a steep slope area or buffer.

B. ((~~A. Development Limitations on Steep Slopes and Buffers on Existing Lots~~)) Impacts on Steep Slope Areas.

1. Development ((~~shall be avoided on areas over forty percent (40%) slope whenever possible~~)) is prohibited on steep slope areas, unless the applicant demonstrates that the provisions of subsections B2 or E apply.

CITY CLERK

2. ((~~Generally, the Director shall require a~~)) Provided that all the provisions of this chapter and all applicable provisions of Title 23 and Title 22, Subtitle VIII, are met, the development standards in subsection B 1 do not apply when the applicant demonstrates the development meets one of the following criteria. In determining whether these criteria are met, the Director may require a geotechnical report to verify site conditions and to evaluate the impacts of the development in the steep slope area and shall require such a report for criteria (c) and (d).

a. Development is located where existing development is located, if the impact on the steep slope area is not altered or increased; or

b. Development is located on steep slope areas that have been created through previous legal grading activities, including rockeries or retaining walls resulting from rights of way improvements, if no adverse impact on the steep slope area will result; or

c. Development is located on steep slope areas that are less than feet (20') in vertical rise and that are thirty feet (30') or more from other steep slope areas, if no adverse impact on the steep slope area will result; or

d. Development is located on steep slope areas where the Director determines that application of the development standards in subsection B1 would prevent necessary stabilization of a landslide-prone area. The geotechnical report is subject to the provisions for third party review in Section 25.09.080 C.

C. Buffers.

1. Steep slopes have fifteen-foot (15') buffers from the top ((~~or~~))and toe of a slope unless the Director determines ((~~whenever practicable~~)) that a greater or lesser buffer is required ((~~based on geotechnical and hydrological site constraints and the impacts of proposed construction methods on the stability of the slope, increased erosion potential, and disruption of existing topography and~~

Ems CITY CLERK

~~vegetation. The width of the buffer may be increased or decreased as determined by the Director~~)) based on the following considerations:

a. Proposed construction method and its effect on the stability of the slope and ((~~increased~~)) erosion potential;

b. Techniques used to ((~~minimize~~))keep the disruption of existing topography and vegetation to a minimum; and

c. Preparation of technical reports and plans to address and propose remedies regarding soils and hydrology site constraints.

2. Development is prohibited on steep slope area buffers, except as authorized in subsection B2 or to provide access to such an area, which shall be kept to a minimum, and except as provided in subsection E.

((~~3. When it is not practicable to avoid development on areas over forty percent (40%) slope and the buffer area, the following conditions shall apply:~~))

((~~a. Grading and development activity and other land disturbing activity shall not exceed thirty percent (30%) of the areas measured over forty percent (40%) slope. This shall not include vegetation removal for the purposes of replacing existing vegetation with more suitable plants; and~~))

((~~b. The Director may impose conditions concerning the type and method of construction that reflect the specific constraints of the site, as well as the landslide-prone area regulations of this chapter, Section 25.09.080 A.~~))

((~~B. Vegetation Removal and Replanting. Removal of vegetation in steep slope areas shall be minimized. Any replanting that occurs shall consist of trees, shrubs, and ground cover that is compatible~~

CITY CLERK

~~with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival.~~))

D. Vegetation Removal and Replanting. If removal of trees or vegetation in a steep slope area and its buffer is authorized as part of approved development, it shall be kept to a minimum, and shall be carried out pursuant to a tree and revegetation plan described in subsection 25.09.320C. Other removal of, clearing, or any action detrimental to trees or vegetation in a steep slope area or buffer is prohibited, except as provided in Section 25.09.320. In addition to complying with Section 25.09.320, any replanting that occurs shall consist of native vegetation.

((~~C. Site Design Guidelines. The following guidelines shall be followed for development in steep-slope areas:~~

~~1. Structures should be designed and placed on the hillside to minimize negative impacts, such as grading and land disturbing activity;~~

~~2. Driveways and utility corridors should be minimized through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access should be located in a way that minimizes impacts to steep slopes or other critical areas;~~

~~3. Development should be located on the least sensitive portion of the site to preserve the natural land forms, geological features, and vegetation;~~))

((~~4. Terracing of land shall be kept to a minimum; and~~

~~5. Cluster development may be allowed pursuant to the provisions of Section 25.09.260 to emphasize the existing topography and conserve existing resources if compatible with the surrounding residential character.~~

DNS CITY CLERK

~~D. Steep Slope Exemptions.~~

~~1. Highly Developed Areas. Existing lots, short subdivisions and subdivisions may be exempted by the Director from steep slope regulations when located in highly developed and urbanized areas. Highly developed and urbanized areas include all Downtown and Highrise zones. Sites located in Midrise and Commercial 1 and 2 zones may also qualify for this exemption when surrounding lots contain high-density residential development and/or concentrated commercial development which closely matches the development potential for the zone. This exemption shall not apply to single-family, lowrise, neighborhood commercial, industrial, or any other zones. If the site is characterized by or adjacent to at least one (1) of the following areas, this exemption shall not apply:~~

~~a. A wetland over one thousand five hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor;~~

~~b. A large undeveloped steep slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or other large areas with significant tree cover that provides valuable wildlife habitat.~~

~~2. Steep Slopes Resulting from Rights-of-way Improvements. Steep slopes resulting from street, alley, sidewalk and other typical rights-of-way improvements, including rockeries or retaining walls, may be exempted from compliance with the environmentally critical areas regulations. This exemption shall not extend beyond the cut or fill created by the street, alley, sidewalk or other rights-of-way improvement, and does not release the applicant from any applicable geotechnical review requirements under the Stormwater, Grading and Drainage Code. This exemption shall not be allowed for short subdivision or subdivision applications.~~

SEA CITY CLERK

~~3. Previously Developed Sites. Sites that have been previously developed may be exempted by the Director from steep slope requirements under the following conditions:~~

~~a. If the objectives of the steep slope regulations would not be compromised; and~~

~~b. If the degree of nonconformity with the environmentally critical areas regulations, if applicable, is not increased. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~4. Limited Exemptions. Slopes with a vertical elevation change of up to twenty feet (20') and not part of a larger steep slope system, or slopes which have been created through previous, legal grading activities, may be exempted by the Director from the steep slopes regulations based on a geotechnical report demonstrating that no adverse impact will result from the exemption.~~

~~5. Stabilization of Landslide-prone Area. Certain steep slopes may be exempted from the steep slope regulations upon the Director's determination, based on geotechnical expertise, that application of the regulations would prevent necessary stabilization of a landslide-prone area, subject to the provisions of Section 25.09.080 C, Third-party Review.~~

~~6. Any project receiving an exemption shall be subject to steep slope drainage control and vegetation removal regulations, as well as applicable landslide-prone area regulations of this chapter.~~))

E. 1. Steep Slope Area Variance. The Director may reduce the steep slope area buffer and may authorize limited intrusion into the steep slope area and steep slope buffer to the extent allowed in subsection E2 only when the applicant qualifies for a variance by demonstrating that:

a. the lot where the steep slope or steep slope buffer is located was in existence before October 31, 1992; and

Ens CITY CLERK

b. the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full steep slope area buffer.

2. If any buffer reduction or development in the critical area is authorized by a variance under subsection E1, it shall be the minimum to afford relief from the hardship and shall be in the following sequence of priority:

a. reduce the yards and setbacks, to the extent reducing the yards or setbacks is not injurious to safety;

b. reduce the steep slope area buffer;

c. allow an intrusion into not more than thirty percent (30%) of the steep slope area.

3. The Director may impose additional conditions on the location and other features of the proposed development as necessary to carry out the purpose of this chapter and mitigate the reduction or loss of the yard, setback, or steep slope area or buffer.

4. The process and procedures for notice of decision and appeal of a variance under this subsection E shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.200 Development standards for fish and wildlife habitat conservation areas.

((~~The characteristics of fish and wildlife habitat conservation areas shall be used to evaluate development within wetlands, riparian corridors and steep slopes. Preserving the integrity of fish and wildlife habitat corridors, and minimizing the intrusion of development into these designated habitat areas shall be considered in applications for buffer reductions and conditional use permits to transfer development credit to noncritical portions of a site.~~))

A. Development standards for parcels with riparian corridors.

SEA CITY CLERK

1. The provisions of this subsection A apply to all development on parcels containing riparian corridors as defined in Section 25.09.020 D5. In addition, the provisions of subsection C apply to these parcels, except subsection C2 with respect to fish. In the event of an irreconcilable conflict between the provisions of subsection C and this section, the most restrictive provision applies.

2. Riparian Watercourse.

a. Development is prohibited within or over the watercourse, except as provided in subsection A2b. If no other access is available to the property, the Director may approve access over the watercourse, provided that it maintains the natural channel and floodway of the watercourse and that disturbance of the riparian management area is kept to a minimum.

b. On Haller and Bitter Lakes, piers are regulated pursuant to the development standards for similar structures in the Seattle Shoreline Master Program, Chapter 23.60, Part X, The Urban Residential Environment. If a pier is allowed, access to it through the riparian management area is also allowed, provided the impact on the naturally functioning condition of the riparian management area from the pier's location, method of construction, and construction materials is kept to a minimum.

c. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian watercourse is prohibited, except as provided in Section 25.09.320.

3. Riparian Management Area.

a. The riparian management area is defined in subsection 25.09.020 D5. Existing public or private streets are excluded from the regulations for the riparian management area, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control

CITY CLERK

Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat on the parcel and downstream and to keep degradation of water quality for habitat to a minimum.

b. Activities in the riparian management area.

(1) Development is prohibited in the riparian management area, except to provide access to development approved under subsection A2 and except under subsections A3b(2), A3c, and A3d.

(2) Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian management area is prohibited, except as provided in subsection c below and Section 25.09.320.

c. Riparian Management Area Vegetation.

(1) If the vegetation in the riparian management area protects the fish habitat and wildlife habitat as they exist on the site at the time development is proposed, including preventing erosion and protecting water quality, the existing vegetation shall remain undisturbed, except as allowed under Section 25.09.320.

(2) If the riparian management area is not functioning in the manner set out in subsection A3c(1) above, the applicant shall prepare and carry out a tree and vegetation plan that augments the existing vegetation with native vegetation to the extent commensurate with the impact of the development on the riparian management area. The plan shall be prepared and executed consistent with Section 25.09.320. Vegetation in the riparian management area shall not be removed or otherwise disturbed until the applicant is ready to immediately replant according to the approved plan. A monitoring plan shall be prepared to monitor the establishment of the vegetation. The plan shall cover five (5) growing seasons or the period needed to successfully carry out the plan, whichever is earlier.

2005 CITY CLERK

d. In addition to subsections A3b(2) and A3c, development is allowed in the riparian management area on lots existing at the time this ordinance takes effect if the applicant demonstrates that:

(1) the development is in the limited riparian development area, which is the area in the riparian corridor but outside of the watercourse and more than fifty feet (50') from the top of the watercourse bank for Type 2 and 3 waters and more than thirty five feet (35') from the top of the watercourse bank for Type 4 and 5 waters;

(2) the development complies with Section 22.802.016, regardless of the area of land disturbing activity or the size of the addition or replacement of impervious surface, except as provided in subsection 3e; and

(3) any development, including but not limited to coverage by impervious surface, does not exceed 35% of the total area of the limited riparian development area, provided that the maximum lot coverage does not exceed that allowed under Title 23, and except as provided in subsection 3e.

e. When compliance with Section 22.802.016 is required solely based on subsection 3d(2) above, the Director may approve a restoration plan in lieu of requiring compliance with subsections 3d(2) and (3) if the applicant demonstrates that the plan meets the following criteria:

(1) The watercourse or riparian management area function will be restored so that it prevents erosion, protects water quality, and provides diverse habitat; and

(2) The restoration results in greater protection of the watercourse and riparian management area than compliance with subsections 3d(2) and (3).

4. Daylighting Water in Pipes and Culverts.

CITY CLERK

a. To encourage daylighting pipes and culverts directly connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert, the Director may modify development standards as set out in subsection 4b below when the applicant submits a plan for daylighting the pipe or culvert that meets the following criteria:

(1) the plan is prepared by a qualified professional;

(2) the ecological functions of the daylighted waters and adjacent area are improved so the new riparian corridor area is compatible with and protects the ecological functions of the existing riparian corridor upstream and downstream and does not contribute to flooding; ecological functions include preventing erosion, protecting water quality, and providing diverse habitat; and

(3) if the plan proposes daylighting the pipe or culvert in a different location on the parcel from its current location or off the parcel, the ecological functions required in subsection (2) above are provided as effectively as they would be without the relocation.

b. If the Director finds the conditions in subsection 4a are met, the Director may modify the following development standards. The modification shall be the minimum to provide sufficient area to meet the standards in subsection 4a and shall be in the following order of priority:

(1) Yard and/or setback requirements on the property may be reduced, unless reducing them is injurious to safety.

(2) The riparian corridor watercourse and adjacent area maintained as a riparian management area under the approved plan may count toward open space requirements for all multifamily or commercial zone requirements.

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced.

2005 CITY CLERK

5. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Department of Fish and Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant is encouraged to make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.

B. Development Standards for Shoreline Habitat.

1. The provisions of this subsection B apply to all parcels with shoreline habitat defined in subsection 25.09.020 D6 or its buffer.

2. In addition, the provisions of subsection C below apply to parcels with shoreline habitat or its buffer, except that with respect to fish for subsection C2 does not apply. In the event of an irreconcilable conflict between the provisions of this subsection B and subsection C, the provision most protective of wildlife habitat applies.

3. Development is prohibited in shoreline habitat, except when all of the following criteria are met:

a. The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

b. Mitigation is provided for all impacts to the ecological functions of fish habitat on the parcel resulting from any permitted increase in or alteration of existing overwater coverage.

4. Buffers.

a. Shoreline habitat has a one hundred foot (100') buffer from the ordinary high water mark.

EDS CITY CLERK

b. Bioengineered solutions, such as using plants or other approved natural material, to stabilize the shoreline are allowed in the buffer, provided they are allowed under Title 23, including chapter 23.60, the Shoreline Master Program.

c. Other development for water dependent and water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, impervious surface is not increased, and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(3) if the actions described in subsection (c)(2) above occur, any impacts on the ecological function are mitigated as set out in subsection e below.

d. Other development for non-water dependent and non-water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) for non-residential uses

(a) the lot was in existence before the effective date of this ordinance; and

(b) the development is twenty five feet (25') or more from the ordinary high water mark unless the development is allowed in the shoreline habitat under Title 23, including chapter 23.60, the Shoreline Master Program; and

SEA CITY CLERK

(c) (i)no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(ii) if the actions described in subsection d(2)(c)(i) above occur, all impacts on the ecological function are mitigated as set out in subsection e below; or

(3) for residential uses the residence is twenty five feet (25') or more from the ordinary high water mark or within one hundred feet (100') of another residence and not located farther waterward of such residence and

(a) no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(b) if the actions described in subsection d(3)(a) above occur, all impacts on the ecological function are mitigated as set out in subsection e below.

e. Mitigation.

(1) Mitigation must prevent net loss of ecological function. Mitigation must achieve the equivalent ecologic functions as the conditions existing in the shoreline habitat buffer at the time of development.

(2) Mitigation for habitat impacts in the buffer shall occur in the following order of preference:

(a) on the parcel as close to the ordinary high water mark as possible;

(b) on a parcel that abuts the ordinary high watermark within one quarter (¼) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred;

EMS CITY CLERK

(c) farther along the shoreline.

(3) The following mitigation ratios are required for habitat impacts in the buffer:

(a) 1:1 for areas on the parcel or on a parcel that abuts the ordinary high water mark within one quarter (1/4) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred.

(b) 3:1 farther along the shoreline, provided that if a five (5) year bonded monitoring program is provided that monitors the effectiveness of mitigation measures and provides a means for ensuring the attainment of the goals of the program, the Director may approve a 2:1 ratio.

5. Bulkheads.

a. New bulkheads are prohibited, except when the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use.

b. Major repair of existing bulkheads is prohibited, except when

(1) the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use; or

(2) a bioengineered solution, such as using plants or other approved natural material to stabilize the shore, will not achieve the same level of shoreline stabilization and property protection.

6. Streets.

a. Existing public or private streets are excluded from these buffer regulations, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control

ENS CITY CLERK

Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat and to keep degradation of water quality for habitat to a minimum.

b. New streets are allowed when the following criteria are met:

(1) the street is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, impervious surface is not increased, and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(3) if the actions described in subsection (b)(2) above occur, any impacts on the ecological function are mitigated as set out in subsection 4e above.

7. The following provisions apply to all parcels containing shoreline habitat and buffers to prevent impacts to the habitat and buffer:

a. Any increases in surface runoff from development shall be kept to a minimum, and surface water run off shall be controlled, treated and released so that receiving water quality and any shore properties and features are not adversely affected. Control measures may include, but are not limited to, dikes, catch basins or settling ponds, interceptor drains and planted buffers. Allowable means to achieve this include bioswales, catch basin filters, and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

b. Pavement in the habitat and buffer shall be kept to a minimum and permeable surfacing, where practicable, shall be used to keep surface water accumulation and runoff into the habitat and buffer to a minimum. Recommended methods are found in Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code. Permeable surfaces include, but are not limited to, porous asphalt, concrete, brick, or pavers; or plastic confinement systems with grass or gravel filler.

DNS CITY CLERK

c. Best management practices shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water. Direct runoff of these materials is prohibited. Best management practices shall be employed for prompt and effective clean-up of any spills that do occur. A spill prevention and response plan may be required by the Director.

d. Any cleaning or resurfacing operation occurring over water that may result in the entry of debris, such as paint chips, shall employ tarpaulins securely affixed above the water line to prevent material from entering the water. Prior to removing the tarpaulins, the accumulated contents shall be removed by vacuuming or an equivalent method that prevents material from entering the water.

e. No over-water application of paint, preservative treatment, or other chemical compounds is permitted, except in accordance with best management practices.

f. Wooden components that will be in contact with standing water or floodwaters shall not contain polycyclic aromatic hydrocarbons (PAH), creosote, pentachlorophenol, or similar toxic substances. Durable, non-toxic components is the preferred material for in-water and over-water structures. Where treated wood is considered necessary, it shall be applied and used in accordance with the American Wood Preserver Association (AWPA) standards for aquatic use.

g. For projects involving concrete, a concrete truck chute cleanout area shall be established to contain wet concrete. No concrete or clean out shall be allowed to enter the water body. This does not prohibit piers or other concrete structures authorized by a valid permit.

h. All inlets and catch basins shall be protected from fresh concrete, paving, paint stripping and other high-risk pollution generating activities during construction.

i. Construction staging areas shall be as far from the ordinary high water mark as practicable.

EDS CITY CLERK

j. Planting native vegetation may be required to mitigate impacts of development on the shoreline habitat or buffer.

k. If at any time project-related activities cause a fish kill to occur, the permitee shall stop all work relating to the fish kill and immediately notify the Department of Planning and Development, Washington Department of Fish and Wildlife, and the Washington Department of Ecology.

l. In- and over-water structures shall be designed and located to keep impacts from shading of any bank and shallow water habitat to a minimum.

8. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in shoreline habitat or its buffer is prohibited, except as authorized under subsections 1-6 above and section 25.09.320.

C. 1. Development on parcels containing fish and wildlife habitat conservation areas shall comply with any species habitat management plan set out in a Director's Rule. The Director may establish by rule a species habitat management plan to protect any priority species identified by the Washington State Department of Fish and Wildlife or to protect species of local importance.

2. Any person proposing development on a parcel containing fish and wildlife habitat conservation areas shall consult with the Washington State Department of Fish and Wildlife and comply with any requirements of that agency, except as limited in subsections A and B above.

D. Based on information provided by a qualified wildlife biologist, the Director may condition development on parcels containing wildlife habitat or corridors defined in subsection 25.09.020 D3 to encourage preserving fish or wildlife habitat corridors. Conditions may include, but are not limited to:

1. Establishment of buffer zones;

CITY CLERK

2. Preservation of important vegetation and habitat features;

3. Limitation of access to habitat areas;

4. Seasonal restriction of construction activities;

5. Preservation of the ability for fish to pass between fish habitat in Type 1-5 waters upstream and downstream of the parcel. The application requirements and general conditions of this chapter, Sections 25.09.330 and 25.09.060, do not apply if the person responsible for development of the parcel has either a Hydraulic Project Approval from the Washington Department of Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers.

E. Designating Species of Local Importance and their Habitat.

1. The Director on an annual basis shall accept and consider nominations for species of wildlife and their habitat to be designated as locally important. The designation of a species of local importance and its habitat shall require an amendment to this chapter.

2. Species or habitat to be designated shall exhibit the following characteristics:

a. Local populations of native species are in danger of extinction based on existing trends:

(1) Local populations of native species that are likely to become endangered; or

(2) Local populations of native species that are vulnerable or declining;

b. The species has recreational, commercial, game, tribal, or other special value;

EDS CITY CLERK

c. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat;

d. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in Seattle;

e. Areas nominated to protect a particular habitat or species have either high-quality habitat or habitat with a high potential to recover to a suitable quality, and the habitat is limited in quantity, highly vulnerable to alteration, or connects habitats.

3. Species and habitats may be nominated for designation by any person. Nominations shall be in writing, address the characteristics listed in subsection 2, and state whether specific habitat features are being nominated (for example, nest sites, breeding areas, and nurseries), or whether the habitat or ecosystem is being nominated in its entirety. Where restoration of habitat is proposed, a specific plan for restoration shall be provided with the application, or the nomination shall include management strategies for the species or habitats. Restoration plans and management strategies shall be supported by the best available science.

4. The Director shall determine whether the nomination proposal is complete, and if complete, shall evaluate it under the criteria in subsection (2) and make a recommendation to the Mayor and Council based on that information. If the nomination is adopted, the Director may establish habitat restoration plans and habitat and species management strategies by rule.

25.09.220 Development standards for abandoned landfills.

A. Regulation of Development on Abandoned Landfills. Development on abandoned landfills ((~~shall be~~)) is subject to Seattle-King County Health Department requirements for the applicant to submit an excavation and development work plan, prepared by a licensed engineer with experience in landfill construction and/or management, and comply with other applicable requirements to prevent

CITY CLERK

damage from methane gas buildup, subsidence, and earthquake induced ground shaking as contained in ((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and regulations pertaining to development on abandoned landfill sites. Technical studies shall be required to indicate whether these areas pose a threat to development on an abandoned landfill site.

B. Areas within One Thousand Feet (1,000') of Methane-producing Landfills. Areas within one thousand feet (1,000') of methane-producing landfills may be susceptible to ((~~methane leakage~~)) accumulations of hazardous levels of methane gas in enclosed spaces. Methane barriers or appropriate ventilation may be required in these areas as specified in((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and Seattle-King County Health Department regulations.

25.09.240 Short subdivisions and subdivisions.

A. This section applies to ((~~A~~))all applications for short subdivisions and subdivisions, excluding unit lot subdivisions, ((~~proposals located in~~)) on parcels containing any part of a riparian corridor, ((~~buffers,~~)) shoreline habitat, shoreline habitat buffers, wetlands, ((~~and~~)) wetland buffers, or ((~~and~~)) steep slope((~~s~~)) areas (((~~over forty percent (40%)) shall comply with the following specified development standards~~)) in addition to the standards ((~~set forth~~)) in ((~~Subtitle III, Platting Requirements, of SMC~~)) Title 23((~~, Land Use Code:~~)).

((~~A~~))B. ((~~New lots shall contain~~)) Parcels shall be divided so that each lot contains ((~~at least one (1)~~)) an area for ((~~building site~~)) the principal structure, all accessory structures, and necessary walkways and for access to ((~~the site~~)) this area that ((~~is~~)) are outside ((~~the identified~~)) all environmentally critical areas and ((~~its required~~)) buffers identified in subsection A above except as follows:

ENS CITY CLERK

1. The required area and access may be located in the footprint of an existing lawful principal structure used for residential use that encroaches into an environmentally critical area or buffer identified in subsection A, provided it does not further alter or increase the impact to the environmentally critical area or buffer.

2. ((~~that a~~))Access may be provided by a bridge over a riparian corridor ((~~watercourse and buffer as long as~~)) when the Director determines no other access is available and (a) access is provided by ((~~it is~~)) a freestanding structure that maintains the natural channel and floodway of the watercourse and ((~~minimizes~~)) (b) the disturbance of the riparian corridor and any other adjacent environmentally critical area or buffer ((~~to the greatest extent practicable.)~~) is kept to a minimum. ((~~Covenants shall be recorded with the subdivision or short subdivision that restrict development to the areas specified on the approved site plan.~~))

3. Development may encroach into that portion of a steep slope area or its buffer for which the Director has determined that criteria in subsection 25.09.180 B2a, b, or c are met for the particular short subdivision, or subdivision under consideration.

4. Development may encroach into the Shoreline habitat buffer provided that

a. a condition is recorded on the plat restricting the development in the buffer to water dependent or water related uses or to single family residential uses; and

b. for single family residential uses the condition requires each residence to be no further waterward than an adjacent single family residence within on hundred feet (100'), or if the adjacent single family residence is further than one hundred feet (100') away, no further waterward than twenty five feet (25') from the ordinary high water mark; and

c. a condition is recorded on the plat (1) requiring mitigation at the time of development for removal of vegetation, addition of impervious surface, and all other harm to the

ENS CITY CLERK

ecological function of the buffer and habitat resulting from development and (2) setting out on the plat the mitigation standards in subsection 25.09.200 B4e.

C. Lots shall be configured to preserve the environmentally critical areas and their buffers identified in subsection A by:

1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or

2. Establishing non-disturbance areas on individual lots.

D. The environmentally critical areas and buffers identified in subsection A above, except for areas qualifying for development under subsection B1-4, shall be designated non-disturbance areas on the final plat. A notice that these non-disturbance areas are located on the lots, including the definition of "non-disturbance area," shall recorded in the King County Office of Records and Elections along with the final plat in a form approved by the Director. At the same time, a covenant protecting non-disturbance areas shall be recorded as set out in Section 25.09.335.

((~~B. Lots shall be configured to preserve the identified environmentally critical area and its buffer by:~~))

((~~1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or~~))

((~~2. Establishing buffer easements on individual lots.~~))

((~~C~~))E. In computing the number of lots a parcel in a single family zone may contain, the Director shall exclude the following areas:

1. Easements and/or fee simple property used for shared vehicular access to proposed lots that are required under Section 23.53.005. ((~~shall not be counted when calculating minimum lot area requirements.~~))

SMC CITY CLERK

((~~D~~))2. The area of the ((~~identified~~)) environmentally critical areas and ((~~their required~~)) buffers identified in subsection A, unless they are on a lot that meets one of the following standards: ((~~areas within a proposed subdivision or short subdivision shall receive no development credit for use in calculating the number of lots permitted.~~))

a. the provisions of subsection B; or

b. an Administrative Conditional Use is obtained under Section 25.09.260, if it is not practicable to meet the requirements of subsection B considering the parcel as a whole.

((~~E~~))F. Application Submittal Requirements. All short subdivision and subdivision ((~~proposals~~)) applications, in addition to the application submission requirements included in ((~~SMC~~)) Title 23((~~, Land Use Code,~~)) shall meet the applicable application submittal requirements of this chapter, ((~~subsection A of~~))Section 25.09.((~~060~~))330, and shall include the information contained in this subsection and Section 25.09.260, as applicable, on the surveyed site plan.

25.09.260 Environmentally critical areas ((~~A~~))administrative conditional use ((~~permit to recover development credit and permit clustered development on-site in single-family zones~~)).

((~~Up to full development credit on-site (determined by calculating the maximum number of lots allowed based on the underlying single-family zoning and size of the originating property) may be granted by the Director through an administrative conditional use permit, authorized under SMC Section 23.42.042, Conditional uses, in the Land Use Code. Notice of application and review process and procedures for this administrative conditional use and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~

~~B. The Director may approve, condition or deny an application for an administrative conditional use. The Director's decision shall be based on a determination of whether the proposed transfer of development credit within the site meets the criteria for allowing the specific conditional use~~

ENS CITY CLERK

~~and whether the use will be materially detrimental to the public welfare or injurious to property in the zone or vicinity in which the property is located.~~

~~C. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions deemed necessary for the protection of other properties in the zone or vicinity in which the property is located.~~

~~D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~

~~E. The Director may approve the transfer of development credit if it can be shown that the development would meet the following conditions and findings:~~

~~1. The transfer of development credit shall not result in any significant increase of negative environmental impacts, including erosion, on the identified environmentally critical area and its buffer;~~

~~2. The development shall be reasonably compatible with neighborhood characteristics. This shall include but not be limited to concerns such as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining;~~

~~3. In no case shall development credit be allowed for the area covered by an open water area of a wetland or riparian corridor;~~

~~4. The development shall retain and protect vegetation on designated undisturbed areas on and off site. Significant species or stands of trees shall be protected, and tree removal shall be minimized. Replacement and establishment of trees and vegetation shall be required where it is not possible to save trees;~~

CITY CLERK

~~5. The ability of natural drainage systems to control the quality and quantity of stormwater runoff shall not be significantly impaired;~~

~~6. The development shall not adversely affect water quality and quantity, erosion potential, drainage, and slope stability of other environmentally critical areas located in the same drainage basin;~~

~~7. The development's site plan shall include measures to minimize potential negative effects of the development on the undeveloped portion of the site, including the provision of natural barriers;~~

~~8. Adequate infrastructure (streets and utilities) shall be available or will be provided; and~~

~~9. The site design guidelines of Section 25.09.180 C shall be followed for designated steep slope areas.~~

~~F. Clustering of Additional Dwelling Units. The Director may approve more than one (1) dwelling unit per lot and may approve smaller than required lot sizes and yards to accommodate recovery of development credit, and to encourage larger buffers, reduce impermeable surfaces, and decrease size of affected areas. Where dwelling units are attached, they shall not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone. Full development credit on-site shall not be increased beyond that permitted by the underlying single-family zone.~~

~~G. The Director may require that structures be located on the site in order to preserve or enhance topographical conditions, adjacent uses and the layout of the project and to maintain a compatible scale and design with the surrounding community. In order to approve clustered dwelling units in all environmentally critical areas, the following criteria shall be met:~~

SMS CITY CLERK

~~1. Clustering of units shall help to protect the following critical areas: riparian corridors, wetlands and steep slopes;~~

~~2. Clustering of units shall require siting of structures to minimize disturbance of the environment;~~

~~3. Clustering of units shall help to protect priority species or stands of mature trees;~~

~~4. Clustering of units shall ensure maximum retention of topographic features;~~

~~5. Clustering of units shall limit location of access and circulation to maximize the protection of an area's natural character and environmental resource;~~

~~6. Clustering of units shall help protect the visual continuity of natural greenery, tree canopy, and wildlife habitat;~~

~~7. Clustering of units shall not have an adverse impact on the character, design and scale of the surrounding neighborhood; and~~

~~8. Clustering of units shall promote expansion, restoration or enhancement of a riparian corridor and its buffer, a wetland and its buffer or a steep-slope area and its buffer.~~

~~H. Additional Conditional Use Provisions for Steep Slopes and Steep-slope Buffers.~~

~~1. In steep-slope areas and their buffers, the Director may allow clustering on the steep-slope portions of the site when the site is predominantly characterized by steep slopes. However, the preference shall be to cluster away from steep-slope and buffer areas.~~

~~2. The Director shall require clear and convincing evidence that the clustering criteria and findings of this subchapter are met when a transfer in development credit within a steep-slope area is also characterized by or adjacent to:~~

~~a. A wetland over fifteen hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor; or~~

DNS CITY CLERK

~~b. A large (over five (5) acres) undeveloped steep slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or areas with significant tree cover providing valuable wildlife habitat.~~

~~3. Any development permitted through the conditional use process on steep slopes of forty (40) percent shall be subject to the landslide-prone area provisions of this Chapter, Section 25.09.080.~~))

A. When the applicant demonstrates it is not practicable to comply with the requirements of Section 25.09.240 B considering the parcel as a whole, the applicant may apply for an administrative conditional use permit, authorized under Section 23.42.042, under this section to allow the Director to count environmentally critical areas and their buffers that would otherwise be excluded in calculating the maximum number of lots and units allowed on the parcel under Section 25.09.240 E.

B. Standards. The Director may approve an administrative conditional use for smaller than required lot sizes and yards, and/or more than one (1) dwelling unit per lot if the applicant demonstrates that the proposal meets the following standards:

1. Environmental Impacts on Critical Areas.

a. No development is in a riparian corridor, shoreline habitat, shoreline habitat buffer, wetland, or wetland buffer.

b. No riparian management area, shoreline habitat buffer, or wetland buffer is reduced.

c. No development is on a steep slope area or its buffer unless the property being divided is predominantly characterized by steep slope areas, or unless approved by the Director under Section 25.09.180 B2a, b or c.

SEA CITY CLERK

(1) The preference is to cluster units away from steep slope areas and buffers.

(2) The Director shall require clear and convincing evidence that the provisions of this subsection B are met when clustering units on steep slope areas and steep slope area buffers with these characteristics:

(a) a wetland over fifteen hundred (1,500) square feet in size or a watercourse designated part of a riparian corridor; or

(b) an undeveloped area over five (5) acres characterized by steep slopes; or

(c) areas designated by the Washington Department of Fish and Wildlife as urban natural open space habitat areas with significant tree cover providing valuable wildlife habitat.

d. The proposal protects Washington State Department of Fish and Wildlife priority species and maintains wildlife habitat.

e. The open water area of a shoreline habitat, wetland or riparian corridor shall not be counted in determining the permitted number of lots.

f. The proposal does not result in unmitigated negative environmental impacts, including drainage and water quality, erosion, and slope stability on the identified environmentally critical area and its buffer.

g. The proposal promotes expansion, restoration or enhancement of the identified environmentally critical area and buffer.

2. General Environmental Impacts and Site Characteristics.

a. The proposal keeps potential negative effects of the development on the undeveloped portion of the site to a minimum and preserves topographic features.

CITY CLERK

b. The proposal retains and protects vegetation on designated nondisturbance areas, protects stands of mature trees, keeps tree removal to a minimum, removes noxious weeds and protects the visual continuity of vegetated areas and tree canopy.

3. Neighborhood Compatibility.

a. The total number of lots permitted on-site shall not be increased beyond that permitted by the underlying single-family zone.

b. Where dwelling units are proposed to be attached, they do not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone.

c. The development is reasonably compatible with and keeps the negative impact on the surrounding neighborhood to a minimum. This includes, but is not limited to, concerns such as neighborhood character, land use, design, height, bulk, scale, yards, pedestrian environment, and preservation of the tree canopy and other vegetation.

C. Conditions.

1. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions necessary to protect riparian corridors, wetlands and their buffers, shoreline habitats and their buffers, and steep slope areas and their buffers, and to protect other properties in the zone or vicinity in which the property is located.

2. In addition to any conditions imposed under subsection 1, the following conditions apply to all administrative conditional uses approved under this subsection:

a. Replacement and establishment of native vegetation shall be required where it is not possible to save trees or vegetation.

b. Where new lots are created, the provisions of Section 23.22.062, Unit lot subdivisions, or Section 23.24.045, Unit lot subdivisions, apply, regardless of whether the proposal is a

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CITY
CLERK

unit lot subdivision, so that subsequent development on a single lot does not result in the development standards of this chapter being exceeded for the short subdivision or subdivision as a whole.

D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The process and procedures for notice of decision and appeal of this administrative conditional use shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.280 ((~~Environmentally critical areas--~~))Yard and setback reduction and variance ((~~for existing lots~~)) to preserve ECA buffers and riparian corridor management areas.

A. The Director may authorize ((~~A~~)) a twenty-five percent (25%) reduction, up to a maximum of five feet (5'), in yard or setback requirements for front or rear yards on a lot in existence as a legal building site prior to October 31, 1992, ((~~shall be permitted when necessary~~)) in order to maintain the full width of ((~~a~~)) the riparian management area ((~~corridor~~)) and of wetland or steep-slope area buffers.

B. The Director may approve ((~~Any~~)) a yard or setback reduction greater than five feet (5') ((~~that is necessary~~)) in order to maintain the full width of the ((~~a~~)) riparian management area, ((~~corridor~~)) wetland buffer or steep-slope area buffer ((~~shall require approval~~)) through an environmentally critical areas yard or setback reduction variance ((~~.Notice of application and review process and procedures for an environmentally critical areas yard or setback reduction variance and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76. An environmentally critical areas yard reduction variance shall be authorized only~~)) when ((~~all~~)) the following facts and conditions ((~~are found to~~)) exist:

1. The lot has been in existence as a legal building site prior to October 31, 1992.

((~~1~~))2. Because of the location of the subject property in or abutting an environmentally critical area or areas((~~,~~)) and the size and extent of any required environmentally critical areas buffer, the

ENS CITY CLERK

strict application of the applicable yard or setback requirements of ((~~Chapter 25.09~~)) Title 23 would cause unnecessary hardship; and

((~~2~~))3. The requested variance does not go beyond the minimum ((~~necessary to maintain~~)) to stay out of the full width of the riparian management area or required buffer and to afford relief; and

((~~3~~))4. The granting of the variance will not be injurious to safety or to the property or improvements in the zone or vicinity in which the property is located; and

((4))5. The yard or setback reduction will not result in a development that is materially detrimental to the character, design and streetscape of the surrounding neighborhood, considering such factors as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining; and

((~~5~~))6. The requested variance would be consistent with the spirit and purpose of the environmentally critical policies and regulations.

C. When an environmentally critical areas variance is authorized, the Director may attach conditions ((~~may be attached~~)) regarding the location, character and other features of a proposed ((~~structure or use~~)) development ((~~as may be deemed necessary~~)) to carry out the spirit and purpose of ((~~SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)) this chapter.

D. The process and procedures for notice of decision and appeal of an environmentally critical areas yard or setback reduction variance shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~))

25.09.300 Environmentally critical area exception.

ENS CITY CLERK

A. An applicant for a City permit to develop real property that ((~~abuts or upon which~~)) is located in an environmentally critical area or buffer may apply to the Director for an exception to ((~~modification of~~)) modify environmentally critical area development standards, provided that an exception cannot be applied for to allow development or to obtain development credit under subsection 25.09.240E or to relocate lot lines under Section 23.28.030. ((~~Notice of application and review process and procedures for an environmentally critical areas exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~)) Before an application for relief under this section will be accepted, the Director must determine that no other applicable ((~~environmentally critical areas administrative~~)) administrative remedies ((~~prescribed~~)) in Chapter 25.09 or Title 23 will provide sufficient relief.

B. 1. An applicant requesting modification shall provide the Director with the following information:

a. Documentation showing that no other applicable administrative remedy in Title 25.09 or Title 23 will provide sufficient relief;

((~~1~~))b. Technical studies and other data that describe the possible injurious effects of the proposed development on occupiers of the land, on other properties, on public resources, and on the environment. Possible injurious effects must be described even when the injurious effect will become significant only in combination with similar effects from other developments; ((~~and~~))

c. Technical studies and other data by qualified persons showing that the proposed development will protect the occupiers of the land, other properties, public resources, and the environment to the same extent as the development standards that are proposed to be modified and explaining how this will occur;

ENS CITY CLERK

undertaken pursuant to the modified or waived standards would not cause significant injury to occupiers of the land, to other properties, and to public resources, or to the environment.

D. The relief granted by reduction, waiver, or other modification of an environmentally critical areas development standard and of the yard and setback standards for front or rear yards shall be the minimum to allow reasonable use of the property. Preference shall be given to modifying or waiving the yard and setback standards for front or rear yards. In modifying a ((~~development standard~~))regulation, the Director may impose reasonable conditions that prevent or mitigate the same harm that the modified or waived regulation was intended to prevent or mitigate. In granting an exception to the development standards in Section 25.09.160, Wetlands, the Director shall apply the avoidance and mitigation standards in subsection 25.09.160 E when imposing any conditions.

E. The Director's decision must be consistent with the scientific approach used by the City in developing the environmentally critical area development standard at issue.

F. 1. The process and procedures for notice of decision and appeal of an environmentally critical areas exception shall be provided in the manner prescribed for Type II land use decisions in Chapter 23.76.

((~~E~~))2. ((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions by SMC Section 23.76.022.~~)) The Director's decision ((~~as to whether development pursuant to a modified development standard will cause significant injury~~)) shall be affirmed unless found to be clearly erroneous((~~. The Director's decision as to whether strict application of a development standard is reasonable shall be given no deference~~)), and the burden of proof of justifying the environmentally critical areas exception shall be on the applicant.

CITY CLERK

25.09.320 ((~~Vegetation and tree removal permit in environmentally critical areas~~))Trees and vegetation.

((~~A. Removal, clearing or any action detrimental to trees or vegetation within wetlands, wetland buffers and riparian corridor buffers is prohibited unless the Director has given prior approval to a restoration plan pursuant to buffer restoration, reduction, exemption, or exception provisions contained in this chapter.~~

~~B. Removal, clearing or any action detrimental to trees (including, but not limited to, tree-topping) or vegetation within land-slide- prone, steep-slope, and fish and wildlife habitat areas shall require a permit from the Director when any of the following thresholds are exceeded:~~

~~1. Any tree of six (6) inch caliper or greater, measured three (3) feet above the ground; or~~

~~2. Any combination of trees over one and one-half (1.5) inch caliper, measured three (3) feet above the ground, which total a cross-section area greater than twenty-eight (28) square inches or equivalent to a tree cross-section of six (6) inches; or~~

~~3. Any other combination of trees and other vegetation covering an area of seven hundred and fifty (750) square feet or more.~~

~~C. A vegetation and tree removal permit shall always be required even in cases where an application for a building permit or Master Use Permit has not been submitted. The permit shall only be required for that portion of the site which is designated as environmentally critical as listed in subsection B.~~

~~D. A vegetation and tree removal permit shall not be required when the Director determines there is an emergency that threatens the public health, safety and welfare.~~

CITY CLERK

~~E. The Director shall consider the following circumstances and conditions in rendering a decision on a vegetation and tree removal permit:~~

~~1. The applicant shall justify the need for tree and/or vegetation removal;~~

~~2. The applicant shall demonstrate that any tree and/or vegetation removal shall not adversely affect stability, erosion potential, existing drainage conditions, and/or fish and wildlife habitat areas on-site, on adjacent sites, or within the drainage basin;~~

~~3. The applicant shall demonstrate that the activity shall not be a precursor of a later development proposal, unless a plan is approved by the Director for public safety reasons and/or except to conduct soil testing subject to DCLU's Director's Rule for Investigative Field Work in Environmentally Critical Areas; and~~

~~4. The Director may require a vegetation and tree removal and replacement plan and may otherwise condition the permit to protect the public health and safety and prevent harm to the affected environmentally critical area.~~

~~F. Normal and routine pruning, maintenance and vegetation management and revegetation on private property which does not exceed the thresholds established in subsection B shall be exempt from a vegetation and tree removal permit.~~

~~G. Normal and routine pruning operations, maintenance, and tree and vegetation management and revegetation of public parkland and open spaces by responsible public agencies or departments shall be exempt when undertaken pursuant to best management practices to avoid impacts on environmentally critical areas.~~

~~H. Tree or vegetation removal shown as part of an issued building or grading permit shall not require a separate vegetation or tree removal permit.~~))

ENS CITY CLERK

A. 1. Removing, clearing, or any action detrimental to habitat, vegetation or trees is prohibited, except as provided below, within the following areas: landslide-prone critical areas, (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers.

2. Tree-topping is prohibited.

3. The vegetation and tree removal and revegetation activities listed in subsections 3a-d are allowed. The application submittal requirements and general development standards in Sections 25.09.330 and 25.09.060 do not apply to actions under subsections 3a, b(1), c(2)(a) or d, provided that no other development is carried out for which a permit is required.

a. Normal and routine pruning and maintenance of:

(1) up to seven hundred and fifty (750) square feet of trees and vegetative cover lawfully maintained prior to the effective date of this ordinance;

(2) trees and vegetation approved by permit prior to the effective date of this ordinance, provided the conditions of the permit are complied with;

(3) lawns, paths and landscaping lawfully maintained prior to the effective date of this ordinance that were not in a environmentally critical area or buffer listed in subsection A1 above prior to the effective date of this ordinance, but are in a listed area or buffer under this ordinance;

(4) steep slope areas described in subsection 25.09.180 B2a-c;

(5) other trees and vegetative cover, provided that when the area of work is over seven hundred fifty (750) square feet in area, a plan is filed with the Department that complies with subsections B2 and 3.

b. Removing trees or vegetation as part of an issued building or grading permit consistent with a tree and revegetation plan, provided that

EDS CITY CLERK

(1) when the area of work is under one thousand five hundred (1,500) square feet in area, a plan is filed with the Department that complies with subsections B1 and 2;or

(2) when the area of work is one thousand five hundred (1,500) square feet or more in area, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

c. Restoring or improving vegetation and trees, including removing non-native vegetation or invasive plants and noxious weeds by hand, to promote maintenance or creation of a naturally functioning condition that prevents erosion, protects water quality, or provides diverse habitat when

(1) the restoration or improvement is a condition to obtaining a permit or approval from the Director; or

(2) the restoration or improvement is not already a condition to obtaining a permit or approval from the Director, and

(a) when the area of work is under one thousand five hundred (1,500) square feet in area calculated cumulatively over three (3) years, a plan is filed with the Department that complies with subsections B1 and 2; or

(b) when the area of work is one thousand five hundred (1,500) square feet or more in area calculated cumulatively over three (3) years, or if the removal of invasive plants or noxious weeds is by machine or chemicals, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

ENS CITY CLERK

d. Removing trees or vegetation when the Director determines the tree or vegetation is a threat to health or safety based on a report prepared by a qualified professional and the removal is performed by or under the direction of a qualified professional.

B. Standards for Plans.

1. Plans prepared under this subsection shall be consistent with the Department's standard tree and vegetation plans.

2. When the area of work exceeds seven hundred fifty (750) square feet in a landslide-prone area, the plan shall be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on landslide prone areas. These plans shall be consistent with best management practices.

3. Plans prepared under this subsection shall be prepared by a qualified professional with experience related to the type of environmentally critical area or buffer where work will occur. These plans shall be consistent with best management practices.

25.09.330 Application submittal requirements.

All activities identified in Section 25.09.015 and not exempt from permit application requirements under Sections 25.09.045, 25.09.055, 25.09.200 A4, and 25.09.320 A2 shall meet the following application submittal requirements in addition to the application submittal requirements specified in other codes:

A. Topographic Survey. A topographic site plan, prepared and stamped by a State of Washington licensed surveyor, is required for sites that include landslide-prone, flood-prone, riparian corridor, shoreline habitat or its buffer, wetland or its buffer, and steep slope areas or their buffers. The topographic site plan shall include the following existing physical elements:

CITY CLERK

1. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

2. Terrain and stormwater-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

3. Location of areas with significant amounts of vegetation, and specific location and description of all trees with trunks six inches (6") or greater in diameter measured four feet, six inches (4'6") above the ground, and noting their species;

4. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of developmental coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);

5. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands on the site, within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;

6. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and

7. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.

SEA CITY CLERK

B. Additional Site Plan Information. The following site plan information shall also be required for sites that include landslide-prone, flood-prone, riparian corridor, wetland, and steep slope areas or their buffers. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.

1. Location and boundaries of all critical areas on the site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;

2. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;

3. Location and boundaries of non-disturbance areas on the site that have been required by previous approvals.

4. Proposed location and boundaries of all required undisturbed fenced areas and buffers on the site and on adjacent lands within twenty-five feet (25') of the site's property lines;

5. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);

6. Location of all proposed grading activities and all proposed drainage control facilities or systems on the site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

CITY CLERK

7. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and

8. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of this chapter.

C. Technical Reports. Technical reports and other studies and submittals shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, and other pertinent site information. The reports, studies and submittals shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.

25.09.335 Posting, Covenants, and Recording Conditions.

A During construction, the Director may require conditions to be posted on the site that are visible from public rights-of-way.

B. The Director shall require a permanent covenant and a survey, if a survey has been prepared, be recorded in the King County Office of Records and Elections that describes and delineates all required non-disturbance areas, that prohibits development on and any disturbance of them, and that prohibits considering them for development credit in future plats or development proposals.

C. 1. The Director shall require the boundaries of the following environmentally critical areas and/or their buffers and any permanent conditions imposed be legibly shown and described in a permanent covenant with the property, which shall be recorded in the King County Office of Records and Elections:

ENS CITY CLERK

a. Fish and wildlife habitat conservation areas;

b. Wetland critical areas and their buffers; and

c. Steep slope areas and their buffers.

2. The covenant may be combined with the covenant required under subsection B, if that subsection applies. The covenant shall be recorded prior to the issuance of any permit or at the time a plat is recorded.

D. The Director may require placement of small permanent visible markers to delineate the areas described in subsections B and C. The location of the markers shall be legibly shown and described in the permanent covenant.

((~~**SMC 25.09.340 Administration.**~~

~~A. The Director, in consultation with the Director of the Seattle Engineering Department, shall review and analyze a permit application to determine whether the proposed development meets the requirements and standards of this chapter. The Director may also consult with other City departments and regional public agencies as necessary to obtain additional technical and environmental review assistance. The Director shall review and approve all nonexempt public projects in public rights-of-way in environmentally critical areas and may institute interdepartmental charges to recover the cost of such review.~~

~~B. Permit applications shall only be approved after the Director is satisfied that the proposed development meets the requirements and development standards of this chapter, does not harm the general public health, safety and welfare, and prevents degradation and harm to the environment. If the general conditions and development standards or exemption and exception provisions contained in this chapter are not met, the Director shall deny the application.~~))

((~~**SMC 25.09.345 Permit renewals in landslide-prone areas.**~~

CITY CLERK

~~A. In addition to satisfying the provisions of SMC Chapter 23.76 and Section 106.9 of the Building Code, an applicant seeking to renew a building permit for new or additional development in a landslide-prone area, as described in SMC Section 25.09.020 B1a, must submit a Letter of Certification (LC) from the current project Engineer of Record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:~~

~~1. In the project engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to DCLU as part of the application for the permit being renewed; or that~~

~~2. In the project engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria or the permit, and that in the project engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been submitted.~~

~~The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections A1 or A2 above, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans, but the Director may renew a permit with different conditions or revised plans only if the project as revised is within the scope and intent of the original Master Use Permit.~~

~~B. In the event a Letter of Certification as described in subsection A above is not submitted, the permit shall not be renewed.~~

CITY CLERK

~~C. An applicant for renewal also must demonstrate that any required bond or insurance still is in effect, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.~~

~~D. From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for renewal of a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice: In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.))~~

FILED CITY CLERK

((~~**SMC 25.09.350 Processing applications in landslide-prone areas.**~~

~~Prior to issuance of a permit, the Director may require an applicant to submit a Letter of Certification as authorized by Section 25.09.345 and to satisfy the standards of that section. The Director's decision to require such a letter shall be based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.~~))

((~~**SMC 25.09.352 Issued permits in landslide-prone areas.**~~

~~If the Director has reasonable ground to believe that significant changes in conditions at a project site or in the surrounding area may have occurred since a building permit was issued, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a Letter of Certification as authorized by Section 25.09.345 and satisfied the standards of that section for permit renewal.~~))

((~~**SMC 25.09.355 Third-party review.**~~

~~At the Director's discretion, permits for new or additional development in landslide-prone areas, as described in SMC Section 25.09.020 B1a, may be required to undergo third-party review as described in Section 25.09.080 C.~~

~~A. In addition to the criteria in Section 25.09.080 C, the Director's decision to require third-party review shall be based upon, but shall not be limited to, such factors as whether there has been incomplete submittal of data or apparently inadequate design work, whether the project is large scale, or whether the development site is complex.~~

~~B. The Director's discretion as exercised pursuant to this section shall supersede the staged review process as described in Section 25.09.080 B.~~))

((~~**SMC 25.09.356 Acknowledgment of City policy.**~~

ENS CITY CLERK

~~From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:~~

> ~~In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

25.09.360 State Environmental Policy Act.

This chapter establishes minimum standards ((~~which are~~)) to be applied to specific land use and platting actions in order to prevent further degradation of environmentally critical areas in the City, and is not intended to limit the application of the State Environmental Policy Act (SEPA). Projects subject to SEPA shall be reviewed and may also be conditioned or denied pursuant to ((~~Seattle Municipal Code~~)) Chapter 25.05.

25.09.380 Compliance with environmentally critical areas regulations.

ETS CITY CLERK

Notwithstanding the provisions of Chapter 23.76 ((~~, Seattle Municipal Code,~~)) authorizing issuance of Master Use Permits and Council Land Use Decisions upon compliance with the criteria and procedures of that chapter, no permit for a development proposal or for actions described in ((~~Seattle Municipal Code~~)) Section 25.09.((~~040~~))015 shall be issued unless it also complies with the regulations of this chapter.

25.09.400 Violations ((~~and penalties~~)).

((~~A. It shall be a violation of this chapter for any person, firm or corporation to erect, construct, modify, improve, enlarge, repair, move, remove, convert or demolish, occupy or maintain any property, vegetation, building or structure contrary to or in violation of any provision of this chapter. It shall be a violation of the chapter for any person, firm or corporation to knowingly aid and abet, counsel, encourage, hire, commend, induce or otherwise procure another to violate or fail to comply with this chapter.~~

~~B. Civil Penalties.~~

~~1. Any person, firm or corporation who fails to comply with any provision of this chapter or any notice, decision or order issued by the Director pursuant to this chapter shall be subject to a cumulative civil penalty in the amount of Five Hundred Dollars ($500) per day for each day of noncompliance, measured from the date the violation begins or occurs until the owner, person, firm or corporation complies with the requirements of this chapter. The Director shall notify the City Attorney in writing of the name of any person subject to the penalty, and shall assist the City Attorney in collecting the penalty.~~

~~2. Violations causing significant damage as defined by the following acts shall be assessed penalties at an amount reasonably determined by the Director to be equivalent to the economic benefit that the violator derives from the violation as measured by the greater of the resulting increase in~~

DNS CITY CLERK

~~market value of the property or the value received by the violator, or savings of construction costs realized by the violator:~~

~~a. Grading (filling and/or excavation), clearing of vegetation and trees, and draining of riparian corridors, wetlands and their buffers; or~~

~~b. Destruction of trees, including tree-topping detrimental to trees, over twelve (12) inches caliper; or~~

~~c. Any six (6) foot vertical cut or fill within a potential landslide area.~~

~~C. Stop-work Order. Whenever a continuing violation of this chapter will materially impair the Director's ability to secure compliance with this chapter, when the continuing violation threatens the health or safety of the public, or when the continuing violation threatens or harms the environment, the Director may issue a stop-work order specifying the violation and prohibiting any work or other activity at the site. The posting of the stop-work order on the site shall be deemed adequate notice of the stop-work order. A failure to comply with a stop-work order shall constitute a violation of this chapter.~~

~~D. Emergency Order. Whenever any use or activity in violation of this chapter threatens the health and safety of the occupants of the premises or property or any member of the public, the Director may issue an emergency order directing that the use or activity be discontinued and the condition causing the threat to the public health and safety or threat and harm to the environment be corrected. The emergency order shall specify the time for compliance and shall be posted in a conspicuous place on the property, if posting is physically possible. A failure to comply with an emergency order shall constitute a violation of this chapter. Any condition described in the emergency order which is not corrected within the time specified is hereby declared to be a public nuisance and the Director is authorized to abate such nuisance summarily by such means as may be available. The cost of such~~

2005 CITY CLERK

~~abatement shall be recovered from the owner or person responsible or both in the manner provided by law.~~

~~E. Criminal Penalty.~~

~~1. Anyone violating or failing to comply with any order issued by the Director pursuant to this chapter shall, upon conviction thereof, be punished by a fine of not more than One Thousand Dollars ($1,000.00) or by imprisonment for not more than three hundred sixty (360) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~

~~2. Anyone violating or failing to comply with any of the provisions of this chapter and who within the past five (5) years has had a judgement against them pursuant to subsection B shall upon conviction thereof, be fined in a sum not to exceed Five Hundred Dollars ($500.00) or by imprisonment for not more than one hundred and eighty (180) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~))

A. It is a violation of this chapter to fail to comply with any provision of this chapter or with any term of any permit condition or approval issued pursuant to this chapter.

B. It is a violation of this chapter to fail to comply with any order issued pursuant to this chapter or to remove or deface any sign, notice, complaint or order required by or posted in accordance with this chapter.

C. It is a violation of this chapter to misrepresent any material fact in any application, on plans, or in any other information submitted to obtain any determination, authorization, permit condition, or approval under this chapter.

D. It is a violation of this chapter to aid and abet, counsel, encourage, hire, command, induce or otherwise procure another to violate or fail to comply with this chapter.

2005 CITY CLERK

25.09.410 Authority to Enforce.

A. The Director is authorized to enforce this chapter and may call upon other appropriate City departments to assist in enforcement.

B. The Director may, with the consent of the owner or occupier of any land, premises, building, or structure, or pursuant to a lawfully issued inspection warrant, enter at reasonable times any land, watercourse, premises, building, or structure subject to the consent or warrant.

C. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner, occupier, or other person responsible for the condition of the vegetation, land, watercourse, premises, building, or structure within the scope of this chapter.

D. No provision of or term used in this chapter is intended to impose any duty upon the City or any of its officers or employees that would subject them to damages in a civil action.

25.09.420 Investigation and Notice of Violation.

A. The Director is authorized to investigate the condition of any vegetation, land, watercourse, premises, building, structure, activity, or use that the Director reasonably believes does not comply with the provisions of this chapter. The Director's investigation and determination that a violation exists is not limited by determinations made by determinations made by other City agencies.

B. If after investigation the Director determines that any provision of this chapter has been violated, the Director may serve a notice of violation upon any person that the Director believes is responsible for the violation. The notice of violation may identify the violation by code section; and may state what corrective action (including restoration), if any, is necessary to comply with the provisions of this chapter, set a reasonable time for compliance; and state the penalty for violating this

SEATTLE CITY CLERK

chapter. The Director may require that the restoration plan be prepared by a qualified professional, at the violator's expense. Wetland mitigation shall be consistent with Section 25.09.160.

C. Any notice issued pursuant to subsection B shall be served upon the owner, occupier or other person responsible for the violation by personal service in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail, addressed to the last known address of such person(s). Service is complete at the time of personal service, or if mailed, three (3) days following the date of mailing. If a notice of violation sent by first class mail is returned as undeliverable, then service of the notice upon such person or persons may be made by posting the notice at a conspicuous place on the property where the violation occurred.

D. If a notice of violation or order is recorded with the King County Department of Records and Elections, a notice of violation or order for the same violation need not be served upon a new owner. If a new notice of violation or order is not issued and served upon a new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner, starting on the date that the conveyance is completed.

E. Nothing in this section shall be deemed to limit or preclude any action or proceeding pursuant to Sections 25.09.430 and 25.09.450 of this chapter, and nothing in this section requires the Director to issue a notice of violation prior to the imposition of civil or criminal penalties.

25.09.430 Stop-Work Order.

A. The Director may issue a stop-work order whenever any use, activity, work or development (1) is being done without a permit, determination, or authorization required by this chapter, (2) is being done contrary to any determination, authorization, permit, or approval of DPD and the use, activity, work or development will immediately impact an environmentally critical area or materially

FILED CITY CLERK

impair the Director's ability to secure compliance with this chapter, or (3) immediately threatens the public health, safety, and welfare with respect to the interests protected under this section.

B. The stop-work order shall describe the violation in writing and be posted on the premises or served on any person responsible for the violation. Except emergency work necessary to stabilize the site that may be required by the Director, it is unlawful for any work on the property to be done after the posting or service of a stop-work order until authorization to proceed is given by the Director.

C. The stop-work order may require that vegetation, land, watercourse, premises, building, structure, or portion thereof, be vacated within a reasonable time, depending on the degree of danger, specified in the order. No person shall occupy the vegetation, land, premises, building, structure, or portion thereof after the date on which it is required to be vacated until the vegetation, land, watercourse, premises, building, structure, or portion thereof, is restored to a safe condition as determined by the Director.

25.09.450 Review by the Director.

A. Any person significantly affected by a notice of violation or stop-work order issued by the Director pursuant to this chapter may obtain an administrative review of the notice or order by requesting such review in writing to the Director within ten (10) days of the date of the notice or order. When the last day of the period so computed is a Saturday, Sunday, or federal or City holiday, the period shall run until five (5:00) p.m. on the next business day. A request for administrative review is an administrative remedy that must be exhausted before judicial review of the notice or order may be sought.

B. Upon receipt of the request, the Director shall notify by mail any persons served within the notice or order and any person requesting review, advising them of the request for review, of the date of the review, and of the deadline for submitting additional written information for consideration. The

EDS CITY CLERK

deadline for submitting additional written information shall be ten (10) days from the date the notice of administrative review is mailed, unless otherwise agreed to by all persons served with the notice or order. The Director and all persons served with the notice or order may also agree to review the matter within a shorter period or time that shall not be less than three (3) days from the date the notice or order was issued.

C. The Director shall conduct the administrative review and issue a decision on the request for administrative review in the form of an Order of the Director. The Director shall review all written information received by the submission deadline and any additional evidence or information available to DPD staff and placed in the case file. The Director may also request clarification of information received and a site visit. After review of the case file and of the additional written information and/or after a site visit, the Director shall issue an Order of Director that may:

1. Sustain the notice or order;

2. Withdraw the notice or order;

3. Continue the review to a date certain for receipt of additional information; or

4. Modify the notice or order, which may include an extension of the compliance date, if any.

D. The Director shall issue the Order of the Director no later than ten (10) days from the deadline for submitting additional information. The Order of the Director is mailed by first class mail to the person or persons named on the notice of violation or order and to any person who requested the administrative review. If the original notice or order was recorded with the King County Department of Records and Elections the Order of the Director shall also be recorded.

25.09.460 Civil Penalty.

2005 CITY CLERK

A. Any person who violates or fails to comply with any provision of this chapter is subject to a civil penalty in an amount not to exceed Five Hundred Dollars ($500) per day for each violation, and in the event of a continuing violation shall be subject to a cumulative civil penalty of $500 per day for each violation from the time the violation occurs or begins until compliance is achieved. In cases where the Director has issued a notice of violation with a compliance date, the violation is deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation. For removing, clearing, or taking any action detrimental to a tree over six inches in caliper an additional civil penalty of Five Thousand Dollars ($5,000) shall be assessed.

B. Violations causing significant damage may be assessed an additional penalty in an amount reasonably determined to be equivalent to the economic benefit that the violator derived from the violation, measured as the greater of, the resulting increase in market value of the property, the value received by the violator, or the savings of construction costs realized.

C. The penalty imposed by this section may be collected by civil action brought in the name of the City. The Director notifies the City Attorney in writing of the name of any person subject to the penalty, and the City Attorney, with the assistance of the Director, takes appropriate action to collect the penalty. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an Order following an administrative review by the Director is not itself evidence that a violation exists.

25.09.470 Alternative Criminal Penalty.

Any person who violates or fails to comply with this chapter shall be guilty of a gross misdemeanor subject to the provisions of Chapters 12A.02 and 12A.04, except that absolute liability shall be imposed for such a violation or failure to comply and none of the mental states described in Section 12A.04.030 need be proved. The Director may request the City Attorney prosecute such

SEATTLE CITY CLERK

violations criminally as an alternative to the civil penalty provision outlined in this chapter. Each day that a person continues to violate or fail to comply with the provisions of this chapter and each occurrence of a prohibited activity constitutes a separate offense.

25.09.480 Additional Relief.

The Director may seek legal or equitable relief to enjoin any acts or practices and abate any condition that constitutes or will constitute a violation of this chapter.

25.09.((~~420~~))520 Definitions.

"Best management practices" ((~~are~~)) means

a. the practices defined in ((~~SMC~~)) Section 22.801.030, Stormwater, Grading and Drainage Control Code((~~.~~)); and

b. structural, nonstructural and managerial techniques identified by the Director, or by the director of a City agency when that agency is making determinations under this chapter, as the most effective and practical means in an urban environment to mitigate adverse environmental effects on environmentally critical areas and buffers and their functions.

"Biologist" means a person who has earned a degree in biological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing biologist.

"Buffer" means a designated area adjacent to and/or a part of an environmentally critical area and intended to protect the environmentally critical area.

"City agency" means The City of Seattle or any of its subdivisions, including but not limited to, any City board, commission, committee, officer or department.

CITY CLERK

"Construction activity area" ((~~refers to~~)) means all areas of land disturbing activity within a site or on adjacent sites or rights-of-way used during construction including, but not limited to, developmental coverage areas and construction access and storage areas.

"Detention" is defined in ((~~SMC~~)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.

"Development" means ((~~and refers to~~)) all components and activities related to construction((~~,~~)) or disturbance ((~~and/or use~~)) of a site, including but not limited to land disturbing activities.

"Development standard" means a regulation establishing a limit on development.

((~~"Developmental coverage" is defined in SMC Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Director" means the Director of the Department of ((~~Construction and Land Use~~))Planning and Development or his or her designee.

((~~"Discharge point" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Downtown zones" means all Downtown Office Core, Downtown Retail Core, Downtown Mixed Commercial, Downtown Mixed Residential, Downtown Harbor Front, International District Mixed, International District Residential, Pike Market Mixed, and Pioneer Square Mixed, as defined in Chapter 23.30.

((~~"Drainage control" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control facility" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

FILED CITY CLERK

((~~"Drainage control plan" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control system" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage water" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Exception" refers to the environmentally critical areas exception, Section 25.09.300.

"Exemption" means to release a project either fully or partially from compliance with the environmentally critical areas regulations, or from specific development standards of this chapter, as provided in Section 25.09.045.

"Geologist" means a person who has earned a degree in geology from an accredited college or university and has at least five (5) years' experience as a practicing geologist or four (4) years of experience and at least two (2) years of postgraduate study, research or teaching. The practical experience shall include at least three (3) years of work in applied geology and evaluation, in close association with qualified practicing geologists or geotechnical/civil engineers.

"Geotechnical/civil engineer" means a practicing geotechnical/civil engineer licensed as a professional civil engineer by the State of Washington who has at least four (4) years of professional experience as a geotechnical engineer including experience with landslide evaluation.

((~~"Hydrologist" means a person who has earned a degree in hydrological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing hydrologist.~~))

"Impervious surface" is defined in ((~~SMC~~))Section 22.801.100, Stormwater, Grading and Drainage Control Code.

SEAS CITY CLERK

"Improved public road right-of-way" means a right-of-way which either contains utilities or is paved.

"Invasive plants" means the plants listed for Western Washington in Washington State Department of Ecology Publication # 04-06-025.

"Land disturbing activity"((~~is defined in SMC Section 22.801.130, Stormwater, Grading and Drainage Control Code.~~)) means any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land disturbing activities include, but are not limited to, clearing, grubbing, grading, filling, excavation, or addition or replacement of impervious surface.

"Lot" means a platted or unplatted parcel or parcels of land abutting upon and accessible from a private or public street sufficiently improved for vehicle travel or abutting upon and accessible from an exclusive, unobstructed permanent access easement. A lot may not be divided by a street or alley.

"Native fish" means a species of fish identified by the United States Fish and Wildlife Service as occurring in the Puget Sound area as part of its indigenous fresh water or marine aquatic fauna.

"Native vegetation" means vegetation, including trees, comprised of plant species ((~~which~~)) that are indigenous and noninvasive, naturalized to the Puget Sound region and ((~~which~~)) that reasonably can be expected to naturally occur on a site. Native vegetation does not include noxious weeds.

"Non-disturbance areas" means areas where development is not to be allowed.

"Normal pruning and maintenance" means for trees, shrubs and other woody plants compliance with American National Standards Institute A300 pruning standards.

"Noxious weeds" means weeds listed by the King County Noxious Weed Control Board.

"Ordinary high water mark" means, on all lakes, streams, and tidal water, that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so

SDS CITY CLERK

common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, or as it may naturally change thereafter or as it may change thereafter in accordance with permits issued by the Director of the Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Parcel means a lot, unplatted property or combination thereof in the City of Seattle.

"Person" means any individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, co-partnership, joint venture, club, company, joint stock company, business trust, municipal corporation, political subdivision of the State of Washington, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, the United States or any instrumentality thereof, and any entity of whatever type.

"Pesticide" means, but is not limited to:

(a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, and any other form of plant or animal life or virus, except virus on or in a living person or other animal which is normally considered to be a pest or which the Director may declare to be a pest;

(b) Any substance or mixture of substances intended to be used as a plant regulator, defoliant or desiccant; and

(c) Any spray adjuvant.

"Provisions of this chapter" means all sections of this chapter.

2005 CITY CLERK

"Retaining structure" means any improvement built up or composed of parts joined together in some definite manner and affixed to the ground for the purposes of retaining earth or rocks, including but not limited to concrete retaining walls, mechanically stabilized earth systems, soil nails, terracing, or flower bed frames.

"Riparian watercourse" means a natural channel through which water flows as defined in subsection 25.09.020 D5.

"Shoreline habitat" means Type 1waters defined in WAC 222-16-031 that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

"Short subdivision" means the division or redivision of land into nine (9) or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease, development or financing, and shall include all resubdivision of previously platted land and properties divided for the purpose of sale or lease of townhouse units.

"Site" means the unit of land for which an applicant is receiving permission to carry out development.

"Species of local importance" means those species ((~~that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.~~)) of wildlife designated under Section 25.09.200E.

"Stabilize" means to possess permanent characteristics, either naturally or by manmade improvements, which can be shown to have sufficient resistance to forces normally expected to occur, and those forces ((~~which~~)) that may occur as a result of a one (1) in one-hundred (100) year event.

"Steep slopes" means slopes of forty percent (40%) inclination or more within a vertical elevation change of at least ten feet (10'). For the purpose of this definition, a slope is delineated by

SEATTLE CITY CLERK

establishing its toe and top and is measured by averaging the inclination over at least ten feet (10')of elevation difference. Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five (25) feet.

"Steep slope area" means an area described in subsection 25.09.020 A 3.

"Street" means a right-of-way which is intended to provide or which provides a roadway for general vehicular circulation, is the principal means of vehicular access to abutting properties and includes space for utilities, pedestrian walkways, sidewalks and drainage.

"Subdivision" means the division or redivision of land into ten (10) or more lots, tracts, parcels, sites, or divisions for the purpose of sale, lease and transfer of ownership.

((~~"Urban natural open space habitat" means and refers to those fish and wildlife habitat areas mapped by the Washington State Department of Wildlife.~~))

"Vegetation" means any and all organic plant life growing on, below, or above the soil surface.

"Watercourse" is defined in Section 22.801.240.

"Wetland Creation" means the creation of a wetland within an upland area.

((~~"Wetland of exceptional value" means and refers to wetlands with the following values:~~

CITY CLERK

~~1. Rare or unique species listed by the federal or State government as endangered or threatened and needing special protection;~~

~~2. Presence of plants or group of plants that occur infrequently in the Seattle or Puget Sound region;~~

~~3. Habitat diversity;~~

~~4. Sensitivity to disturbance; and~~

~~5. Difficulty in replacement of ecological functions unique to Seattle.~~

~~"Degraded wetland" means and refers to those wetlands which have been altered or damaged by past human activities and/or biologically diminished by invasive, non-native plants so that the natural biofiltration and habitat values have been rendered inefficient or nonfunctional.~~))

"Wetland Restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland.

"Wildlife" means ((~~and includes all undomesticated animals~~)) all species of the animal kingdom as defined in RCW 77.08.010.

"Wildlife habitat" means and refers to those areas that support individual or populations of animals defined as wildlife for all or part of an annual cycle.

25.09.((~~440~~))530 Construction.

In any case where the provisions of this chapter conflict with the provisions of the underlying zoning or the Seattle Shoreline Master Program, the provisions of this chapter ((~~shall~~)) apply. For purposes of this chapter, the singular ((~~shall~~)) includes the plural and vice versa, and the masculine gender ((~~shall~~)) includes the feminine and neutral genders.

Ords CITY CLERK

Section 2. Section 23.28.030 of the Seattle Municipal Code is amended as follows:

SMC 23.28.030 Criteria for approval.

A. The Director shall approve an application for a lot boundary adjustment if it is determined that:

1. No additional lot, tract, parcel, site or division will be created by the proposed adjustment;

2. No lot is created which contains insufficient area and dimensions to meet the minimum requirements for development as calculated under the development standards of the zone in which the lots affected are situated, except as provided in Section 23.44.010, and under any applicable regulations for siting development on parcels with riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, wetland buffers or steep slopes in chapter 25.09. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335;

3. No lot is created which does not have adequate drainage, water supply and sanitary sewage disposal, and access for vehicles, utilities and fire protection;

4. The lot boundary adjustment is consistent with applicable provisions of the Land Use Code, Title 23((~~, and SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

B. An application for a lot boundary adjustment on a parcel containing and environmentally critical area or buffer shall include the information described in Section 25.09.330, unless the Director determines that some of the information listed is not necessary for reviewing the application.

Section 3. Section 23.22.058 of the Seattle Municipal Code is amended as follows:

23.22.058 Environmentally critical areas.

CITY CLERK

No plat shall be approved by the Hearing Examiner covering any land situated in a riparian corridor ((~~buffer~~)), wetland and wetland buffer, or steep slope and steep slope buffer unless in compliance with the applicable provisions of ((~~SMC~~)) Section 25.09.240, Short subdivisions and subdivisions, in environmentally critical areas.

Section 4. Subsection 23.44.008 G of the Seattle Municipal Code is amended as follows:

23.44.008 Development standards for uses permitted outright.

* * * *

G. Development standards governing lots ((~~located in~~)) containing an environmentally critical area or buffer may be modified according to the provisions of ((~~SMC~~))Chapter 25.09((~~, Regulations for Environmentally Critical Areas~~)).

Section 5. Subsection 23.44.010 B5 of the Seattle Municipal Code is amended as follows:

23.44.10 Lot requirements.

* * * *

B. Exceptions to Minimum Lot Area. The following exceptions to minimum lot area are subject to the limits of subsection B5. A lot which does not satisfy the minimum lot area requirements of its zone may be developed or redeveloped as a separate building site according to the following:

* * * *

5. Development may occur on a substandard lot containing a riparian corridor ((~~buffer~~)), a shoreline habitat and shoreline habitat buffer, a wetland and wetland buffer, or a steep slope and steep

2005 CITY CLERK

slope buffer pursuant to the provisions of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, if the following conditions apply:

a. The substandard lot is not held in common ownership with an adjacent lot or lots at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, or

b. The substandard lot is held in common ownership with an adjacent lot or lots, or has been held in common ownership at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas,2 but proposed and future development will not intrude upon the environmentally critical area or buffer;

* * * *

Section 6. Subsection 23.44.014 D15 of the Seattle Municipal Code is amended as follows:

23.44.014 Yards.

* * * *

D. Exceptions from Standard Yard Requirements. No structure shall be placed in a required yard except pursuant to the following subsections:

* * * *

15. Front and rear yards ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

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FILED CITY CLERK

Section 7. Subsections A and C of Section 23.44.024 of the Seattle Municipal Code is amended as follows:

SMC 23.44.024 Clustered housing planned developments.

* * * *

A. Site Requirements.

1. The minimum size of a CHPD shall be two (2) acres. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, and submerged land shall not be used to meet minimum size requirements.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use clustered development provisions under Section 25.09.260 shall apply, superseding the standards of this section.

3. The Director may exclude land from a CHPD if it is separated from the site by topographical conditions, if it has a poor functional relationship with the site, or if inclusion of the land would negatively impact adjacent single-family zoned lots.

* * * *

C. Number of Dwelling Units Permitted.

1. The number of dwelling units permitted in a CHPD shall be calculated by dividing the CHPD land area by the minimum lot size permitted by subsection A of Section 23.44.010 in the single-family zone in which the CHPD is located. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer and

DNS CITY CLERK

submerged land shall be excluded from the land used to calculate density in a CHPD. For CHPDs which include more than one (1) zone, the number of dwelling units shall be calculated based on the proportion of land area in each zone.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use provisions for regaining development credit and clustering under Section 25.09.260 shall apply.

3. One (1) additional detached single-family structure may be permitted if the development includes recreational, meeting and/or day care facilities open to the surrounding community.

* * * *

Section 8. Subsection 23.45.014 H of the Seattle Municipal Code is amended as follows:

23.45.014 Setback requirements -- Lowrise zones.

* * * *

H. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to the provisions of ((~~subsection A~~))of Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 9. Subsection 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

SDS CITY CLERK

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to ((~~the provisions of subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 10. Subsection 23.45.072 D3 of the Seattle Municipal Code is amended as follows:

SMC 23.45.072 Highrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks on lots containing certain ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~))pursuant to the provisions of ((~~subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Subsection 23.53.010 B3 of the Seattle Municipal Code is amended to read:

SMC 23.53.010 Improvement requirements for new streets in all zones

* * * *

Ends CITY CLERK

B. Required Right-of-way Widths for New Streets.

* * * *

3. Exceptions to Required Right-of-way Widths. The Director, after consulting with the Director of Transportation, may reduce the required right-of-way width for a new street when location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes the required right-of-way width impractical or undesirable.

Section 12. Subsection 23.53.015 D3a of the Seattle Municipal Code is amended to read:

SMC 23.53.015 Improvement requirements for existing streets in residential and commercial zones.

* * * *

D. Exceptions.

* * * *

3. Exceptions from Required Street Improvements. The Director may waive or modify the requirements for paving and drainage, dedication, setbacks, grading, no-protest agreements, landscaping and curb and sidewalk installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

2005 CITY CLERK

Section 13. Subsection 23.53.020 E3a of the Seattle Municipal Code is amended to read:

SMC 23.53.020 Improvement requirements for existing streets in industrial zones.

* * * *

E. Exceptions.

* * * *

3. Exceptions From Required Street Improvement Requirements. The Director may waive or modify the requirements for paving, dedication, setbacks, grading, no-protest agreements, landscaping and sidewalk and pedestrian walkway installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area <u>or buffer</u>, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 14. Subsection 23.53.025 H of the Seattle Municipal Code is amended to read:

SMC 23.53.025 Access easement standards.

* * * *

H. Exceptions From Access Easement Standards. The Director, in consultation with the Fire Chief, may modify the requirements for easement width and surfacing for properties located in environmentally critical areas <u>or their buffers</u> when it is determined that:

1. Such modification(s) would reduce adverse effects to identified environmentally critical areas <u>or buffers</u>; and

DNS CITY CLERK

2. Adequate access and provisions for fire protection can be provided for structures served by the easement.

Section 15. Subsection 23.53.030 G1 of the Seattle Municipal Code is amended to read:

SMC 23.53.030 Alley improvements in all zones.

* * * *

G. Exceptions. The Director, after consulting with the Director of the Department of Transportation, may modify or waive the requirements for dedication, paving and drainage, setbacks, grading and no-protest agreements, if it is determined that one (1) or more of the following conditions are met. The Director may require access to be from a street if alley improvements are also waived.

1. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable;

* * * *

Section 16. Section 23.84.010 of the Seattle Municipal Code is amended to read:

23.84.010 "E"

* * * *

"Environmentally critical area" means those areas ((~~designated by~~)) defined in ((~~the City of Seattle Environmentally Critical Areas Policies and regulated and mapped in~~))SMC Chapter 25.09, Regulations for Environmentally Critical Areas((~~, and other city codes~~)).

* * * *

2005 CITY CLERK

Section 17. Subsection C of SMC Section 23.90.002 of the Seattle Municipal Code is amended as follows:

23.90.002 Violations

* * * * *

C. It is a violation of Title 23 to remove or deface any sign, notice, complaint or order required by or posted in accordance with Title 23 ((~~or Title 25~~)).

* * * *

Section 18. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the ____ day of _____, 20__, and signed by me in open session in authentication of its passage this _____ day of _____, 20__.

_____
President _____of the City Council

Approved by me this ____ day of _____, 20__.

_____
Gregory J. Nickels, Mayor

Filed by me this ____ day of _____, 20__.

_____
City Clerk

(Seal)

DNS CITY CLERK

ORDINANCE _____

AN ORDINANCE amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

WHEREAS, the City of Seattle wishes to adopt regulations to promote safe, stable, and compatible development and to protect critical areas pursuant to the authority of Chapter 36.70A RCW (the "Growth Management Act"), including the statewide planning goals, and pursuant to the City's police power authority independent of the Growth Management Act to adopt planning and zoning regulations; and

WHEREAS, compliance with the Growth Management Act requires balancing of competing goals which cannot always be reconciled easily in a single regulatory ordinance; and

WHEREAS, Council recognizes that the successful implementation of the Environmentally Critical Areas ordinance increases the ongoing local and regional need to develop and implement policies that provide adequate housing capacity and identify suitable buildable lands; and

WHEREAS, the City of Seattle wishes to adopt regulations to implement the City's Comprehensive Plan; and

WHEREAS, the City of Seattle has engaged in public participation, has considered the best available science, the statewide planning goals, and the City's Comprehensive Plan, and has determined that it is appropriate to amend its environmentally critical areas regulations and Title 23 based on the information and analysis set out in the Director's Report and Recommendations;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Title 25.09 of the Seattle Municipal Code is amended as follows:

25.09.010 ((~~Moratorium on development in landslide-prone areas~~))<u>Purpose of the chapter</u>.

((~~Notwithstanding any other provision of this chapter or of Chapter 23.76, all public and private development that is subject to this chapter and proposed for landslide-prone areas, as described in Section 25.09.020 B1a, is prohibited during the term of this section, except that the Director may approve the following:~~

~~A. Work that will not disturb the ground, such as interior repairs to existing structures;~~

~~B. Work that is necessary to stabilize a site that has been rendered unstable by recent slide activity, so as to lessen the risk of new or additional damage;~~

~~C. Work that is necessary to repair damaged structures or utilities, as long as the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property;~~

~~D. Work that would be exempted pursuant to Section 25.09.040, provided that work that would be exempted pursuant to subsections B, C, and F may be approved only if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property; and~~

~~E. Work that would be exempted pursuant to Section 25.09.180 D1 if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property.~~))

This chapter is based on and implements The City of Seattle Comprehensive Plan, as amended from time to time. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person, or class, or group of persons who will or should be especially protected or assisted by the terms or provisions of this chapter. This chapter is intended to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin.

25.09.015 Application of chapter.

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer.

B. This chapter applies to altering vegetation, trees, or habitat carried out by any person in landslide-prone critical areas (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers on publicly or privately owned parcels.

C. Section 25.09.200 A4 applies to daylighting pipes and culverts defined in that subsection.

25.09.017 Administration.

A. The Director shall administer and interpret the provisions of this chapter, except as specifically provided.

B. The Director shall determine whether development, platting, or alteration of vegetation, trees, or habitat is subject to this chapter. The Director may also consult with other City departments and state and federal agencies as necessary to obtain additional technical and environmental review assistance.

C. The Director shall review and analyze all applications for all permits or approvals subject to this chapter that are issued by the Department of Planning and Development. Such applications shall be approved only after the Director is satisfied the applications comply with this chapter.

D. Every other City department issuing a permit for development on parcels containing an environmentally critical area or its buffer or for altering vegetation, trees, or habitat in the areas set out in subsection 25.09.015 B shall require the use of best management practices to prevent impacts to environmentally critical areas and their buffers and to meet the intent of this chapter. Departments shall

require mitigation to address unavoidable impacts. All such City departments shall maintain records documenting compliance with this subsection D.

E. The Director shall identify techniques that are best management practices for actions administered by the Director. The Director may do this by Director's Rule. The directors of other City departments applying these regulations or issuing permits for development in environmentally critical areas or their buffers may identify techniques that are best management practices and may do this by Director's Rule.

F. The provisions of Section 23.88.020 apply to a decision by the Director as to the meaning, application, or intent of any provision of this chapter. Other administrative appeal provisions set out in Title 23 do not apply to decisions under this chapter, except as specifically provided.

25.09.020 Environmentally critical areas definitions.

((~~A. This chapter is based on and implements the Seattle Environmentally Critical Areas Policies as adopted by Resolution 28559, and as amended from time to time. This chapter shall apply to all development and platting located in environmentally critical areas as defined below and characterized by specific site conditions. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person or class or group of persons who will or should be especially protected or benefited by the terms or provisions of this chapter.~~))

((~~B.~~)) The following ((~~shall constitute~~)) are environmentally critical areas regulated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

((~~1~~))A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas and landslide-prone areas described in subsections 2 and 3. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4. Seismic hazards are addressed in subsection 5.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

((~~a~~))3. Landslide-prone Areas. The following are ((~~L~~))landslide-prone areas ((~~are characterized by the following~~)):

(((~~1~~)))a. Known landslide areas identified by documented history, or ((~~any~~)) areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris ((~~that occurred~~)) deposited during this period; or

(((~~2~~)))b. Potential landslide areas: ((~~Potential landslide areas based on documented geological characteristics, and based on a combination of geologic, topographic and hydrologic factors, including the following:~~

~~(a) Areas over fifteen (15) percent slope which have at least one (1) of the following characteristics:~~

~~(i) Impermeable soils (typically silt and clay) interbedded with permeable granular soils (predominantly sand and gravel); or impermeable soils overlain with permeable soils. This includes the area within one hundred (100) feet either side of the contact between Esperance Sand and either Lawton Clay or Pre-Lawton sediments as is shown on the area noted as Class Four (4) on the Slope Stability Map of Seattle, in Causes, Mechanisms and Prediction of Landsliding in Seattle,~~

~~by Donald Willis Tubbs, Ph.D. Dissertation, University of Washington, 1975 ("Tubbs Map"), or as otherwise mapped, or~~

~~(ii) Identified relatively unstable soils in either Lawton Clay or Pre-Lawton sediments, as is shown on the area noted as Class Three (3) of the Tubbs Map, or as otherwise mapped, or~~

~~(iii) Springs or groundwater seepage;~~))

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000, 2003), or as more accurately mapped.

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(((~~b~~)))(5) ((~~Steep s~~))Slopes with an incline of forty (40) percent ((~~average slope or greater as defined by the Director. A slope must have a vertical elevation change of at least ten (10) feet to be considered a steep slope, although the ten (10) feet may cross the boundaries of a site. Slopes that meet~~)) ~~these characteristics shall be considered steep-slope environmentally critical areas in addition to being classified as potential landslide areas;~~)) or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(((~~e~~)))(6) Areas that would be covered under ((~~either (a) or (b)~~)) one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

((~~d~~))(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

((~~b. Liquefaction-prone Areas. Liquefaction-prone areas are areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table which lose substantial strength during earthquakes.~~))

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that the area is only a landslide prone area when such a slope is on a parcel in a Downtown zone or highrise zone.

5. There is a known risk from a seismic events in Seattle and the surrounding region. Subsection 1-4 identify areas that constitute a particularly high risk to safety and welfare from such events and are therefore regulated as environmentally critical areas. The risks associated with seismic hazards in the remainder of the City are regulated by the Building Code (SMC Title 22) and not by this Ordinance.

((~~2~~))B. Flood-prone Areas. Flood-prone areas are those areas that would likely be covered with or carry water as a result of a one hundred (100) year flood event ((~~storm~~)), or that would have a one percent (1%) or greater chance of being covered with or of carrying water in any given year based on current circumstances or maximum development permitted under existing zoning. This includes areas identified as flood-prone on the Seattle Floodplain Development Ordinance or on FEMA maps, and streams identified by the Washington State Department of Fisheries Catalog of Washington Streams, and areas with ((~~drainage~~)) stormwater runoff problems known to ((~~the~~)) Seattle ((~~Drainage and Wastewater Utility.~~)) Public Utilities.

((~~3. Riparian Corridors. Riparian corridors include all areas within one hundred (100) feet measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark of the watercourse and water body, or a one-hundred (100) year floodplain as mapped by FEMA, as regulated by the Seattle Floodplain Development Ordinance, whichever is greater, and are classified as either a Class A Riparian Corridor or a Class B Riparian Corridor. Class A Riparian Corridors are stable, established streams and lakes that flow year-round and/or support salmonids, and include, but are not limited to, corridors that have an established floodplain as mapped~~

~~by the FEMA Flood Insurance Program, and include Longfellow, Thornton, Pipers, Venema, Mohlendorph, Fauntleroy, Ravenna, Mapes, DeadHorse/Mill, Maple Leaf and Little Brook Creeks, and Haller and Bitter Lakes. Class B Riparian Corridors are not mapped by FEMA and are intermittent streams without salmonids that still demonstrate a high water mark. Riparian corridors do not normally include those artificial drainage areas intentionally created from grass-lined swales, canals, detention facilities, wastewater treatment facilities, and landscape amenities.~~))

((4))C. Wetlands. Wetlands are those 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 stormwater 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. (((~~f~~))The method for delineating wetlands shall follow ((~~the most current version of~~)) the "Washington State Wetlands Identification and Delineation Manual" as adopted by the State Department of Ecology (Publication #96-94.)

((~~5~~))D. Fish and Wildlife Habitat Conservation Areas. The following are ((~~F~~))fish and wildlife habitat conservation areas ((~~include, but are not limited to, the following~~)):

1. Areas mapped by the Washington State Department of Fish and Wildlife ("WDFW") as urban natural open space habitat areas.

((~~a~~))2. Areas designated ((~~identified~~)) by ((~~the Washington State Department of Wildlife~~)) WDFW as priority habitats and species areas, including native eel grass beds, kelp beds, and recreational shellfish areas. ((~~or urban natural open space habitat areas;~~))

(((~~1~~)3. Corridors connecting ((~~other~~)) priority habitats and species areas or habitat areas for species of local importance when either: ((~~especially areas that would otherwise be isolated;~~))

a. WDFW or the Department's species habitat management plan identifies the parcel as part of a corridor connecting habitat areas for priority species or species of local importance; or

b. the parcel is adjacent to or connects parcels containing priority species or species of local importance and the Director determines that the parcel is part of a wildlife corridor based on information provided by a qualified wildlife biologist.

(((~~2) Areas that remain an isolated remnant of natural habitat of ten (10) acres or more and surrounded by urban development, with local consideration given to areas smaller than ten (10) acres;~~))

((~~b. All bodies of water that provide migration corridors and habitat for fish, especially salmonids, including Lake Washington, Lake Union and the Lake Washington Ship Canal, Duwamish River , and that portion of Elliot Bay within the City's jurisdiction;~~))

((~~c~~)) ((~~Commercial and Recreational shellfish areas and kelp and eelgrass beds and~~))

((~~d~~))4. Areas ((~~which~~)) that provide habitat for species of local importance.

5.a Riparian corridors, which are the riparian watercourse and the riparian management area. The riparian watercourse is the watercourse of Type 2-5 waters defined in WAC 222-16-031 that have fish or wildlife habitat. Water in surface water ditches and stormwater

conveyances, pipes, culverts, flow control facilities and water quality facilities are not regulated as riparian watercourses. The riparian management area is the area within one hundred feet (100') measured horizontally landward from the top of each bank of the watercourse, or from the ordinary high water mark of the watercourse as surveyed in the field, if the top of the bank cannot be determined. In watercourses with braided channels or alluvial fans, the ordinary high water mark shall be determined so as to include the entire stream feature.

b. When a pipe or culvert connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert is daylighted, the waters formerly in the pipe or culvert will be regulated as a riparian watercourse, and the area adjacent to that watercourse will be regulated as a riparian management area, as defined in subsection 5. This subsection 5b does not apply when the pipe or culvert is removed to provide a publicly-owned facility designed primarily for water quality treatment, flow control or stormwater conveyance.

6. Shoreline habitat, which is Type 1 waters, defined in WAC 222-16-031, that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

((~~6~~))E. Abandoned Landfills. Abandoned landfills include those abandoned solid waste landfills identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project, additional sites identified by public or historical research, and areas within one thousand feet (1,000') of methane-producing landfills.

((~~C. Environmentally Critical Areas Maps. Environmentally critical areas defined and identified in subsections A and B shall be mapped whenever possible. These maps shall be advisory and used by the Director to provide guidance in determining applicability of the standards to a property.~~

~~Sites that include environmentally critical areas which are not mapped shall be subject to the provisions of this chapter.~~))

((~~The Director may update or amend the environmentally critical areas maps by Director's Rule, according to Seattle Municipal Code Chapters 3.02 and 3.06, as new information and improved mapping resources become available. Mapping amendments may occur at a frequency not to exceed once every year.~~))

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. These maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary.

25.09.040 ((~~Application of standards~~)) Permits and Approvals Required.

((~~The standards of this chapter shall apply to all public and private proposals for new structures, additions to structures, short subdivisions and subdivisions, grading and drainage activity, and tree and vegetation removal per Section 25.09.320 located on either public or private property within environmentally critical areas and their buffers. Public projects proposed by any public agency shall comply with the standards of this chapter. Projects shall be exempted from the requirements of the chapter when the following situations and/or conditions apply:~~))

A. Prior to undertaking development or platting on a parcel containing an environmentally critical area or buffer, the person responsible shall submit an application complying with the provisions of Section 25.09.330, unless the person complies with the provisions of Section 25.09.045, 25.09.055, or 25.09.320.

B. Prior to undertaking actions under Section 25.09.045, 25.09.055, or 25.09.200 A4, the person responsible shall comply with provisions of the applicable section.

C. Prior to altering vegetation, trees, or habitat protected by this chapter the person responsible shall comply with the provisions of Section 25.09.320, unless that person complies with Section 25.09.045 or 25.09.055.

25.09.045 Exemptions.

A. 1. When the Director determines that criteria in subsections D to J below are met, those activities are exempt from the provisions of this chapter, except Sections 25.09.017 and .030 B and as otherwise provided in this section.

2. An application for an exemption may be made only as a component of a specific proposed development.

3. a. The applicant for an exemption shall provide all information requested by the Director and demonstrate that the work qualifies for the exemption. The Director shall determine whether work is exempt and may impose conditions on the work to protect environmentally critical areas and buffers or other property.

b. City agencies taking the action under any subsection of this section and the public agency taking the action under subsection J do not need to make an application to the Director provided that if no application is made, they shall comply with all provisions of this Section 25.09.045,

make all determinations required to be made by the Director, including required conditions, and shall maintain records documenting compliance with all provisions.

B. All exempt activities shall be undertaken using best management practices; the applicant shall maintain records documenting compliance with this subsection B.

C. The enforcement provisions of this chapter apply to all activities exempted under this section. The Director's determination that a violation exists is not limited by determinations made by other City agencies or public agencies under subsection A3b, above.

D. Development that does not temporarily or permanently encroach within, alter, or increase the impact to the environmentally critical area or buffer on the parcel where the development occurs is exempt from the provisions of this chapter; if existing development that encroaches within or impacts the environmentally critical area or buffer is removed, then new development that encroaches within, alters or impacts the environmentally critical area or buffer is not exempt.

(((~~A~~)))E. ((~~When the Director determines there is an emergency threatening the public health, safety and welfare;~~)) Work directly related to ending a condition that (1) is an immediate threat to the public health, safety and welfare, or creates an immediate risk of damage to public or private property and (2) requires remedial or preventive action in a timeframe too short to allow compliance with the application provisions of this chapter is exempt from those provisions, provided that the work is the minimum work necessary to end the condition and the work is consistent with the development standards of this chapter to the extent practicable. Once the Director determines that the condition no longer meets these criteria, all work is subject to the provisions of this chapter, including but not limited to its application requirements, its development standards, and any requirements for technical reports and reviews for work that was exempt at the time it was performed.

((~~B~~))F. Maintenance, repair, renovation, or structural alteration of an existing structure ((~~structures in existence on October 31, 1992, the effective date of the ordinance codified in this chapter, unless otherwise prohibited by law.~~))that does not increase the impact to, or encroach further within, or further alter an environmentally critical area or buffer is exempt from the provisions of this chapter. ((~~Expansion or extension in any manner which increases the extent of nonconformity with the environmentally critical area provisions of the chapter shall not be permitted. When these structures are damaged by an act of nature, they may be rebuilt or replaced within one (1) year or the act of nature provided that the new construction or related activity does not further intrude into an environmentally critical area or required buffer and is subject to the flood hazard areas reconstruction restrictions;~~))

((~~C. New accessory structures and additions to structures whose developmental coverage does not exceed a cumulative addition of seven hundred and fifty (750) square feet of impervious surface after October 31, 1992, the effective date of the ordinance codified in this chapter, provided the addition is not constructed over a watercourse, water body or wetland;~~))

((~~D. When the applicant demonstrates to the satisfaction of the Director, through site surveys, topographic maps, technical environmental analysis, and other means as determined necessary by the Director that either one of the following situations apply:~~))

((~~1. The site contains no environmentally critical areas as defined in Section 25.09.020, or~~))

((~~2. The proposed development and associated land disturbing activity, including developmental coverage, does not occur within the area of the site designated as environmentally critical and any required buffer as defined in Section 25.09.020;~~))

((~~E. Normal and routine operation, maintenance, remodeling, and repair of existing public facilities and utilities, including the maintenance, vegetation management and revegetation of public~~

~~parkland and open spaces, when undertaken pursuant to best management practices to avoid impacts to environmentally critical areas;~~

~~F. The following electric, natural gas, cable communications, telephone, public facility and utility, and right-of-way improvement projects, with the Director's approval of the location and limits of the project, only when the project is not a prerequisite to development. The exemption shall only be approved when the project is undertaken pursuant to best management practices to avoid impacts to environmentally critical areas, and when it can be demonstrated that:~~

~~1. No practicable alternative exists;~~

~~2. The encroachment into a critical area is minimized to the greatest extent practicable; and~~

~~3. Mitigation measures are employed before, during and after construction:~~))

G. Rebuilding or replacing structures that are destroyed by an act of nature is exempt from the provisions of this chapter, provided that action toward the rebuilding or replacement is commenced within one (1) year of the act of nature, that the rebuilding or replacement is diligently pursued, and that the new construction or related activity does not further encroach into, or increase the impact to, or further alter an environmentally critical area or buffer and complies with restrictions on flood hazard areas reconstruction.

H. 1. The activities identified in subsection 3 below are exempt from the provisions of this chapter when the applicant demonstrates:

a. The work is not a prerequisite to other development;

b. No practicable alternative to the work with less impact on the environmentally critical area or buffer exists; and

c. The work does not pose an unreasonable threat to the public health, safety or welfare on or off the parcel.

2. The Director's decision shall:

a. include the approved location and limits of the work; and

b. shall require specific mitigation measures for impacts to all environmentally critical areas and their buffers before, during, and after construction.

3. The provisions of this subsection H apply to the following activities:

a. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less only when required by a governmental agency,

b. Relocation of natural gas, cable communications, gas, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances only when required by a governmental agency,

c. Installation or construction in improved public road rights-of-way, and replacement, operation or alteration, of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less,

d. Installation or construction in improved public road rights-of-way, and replacement, operation, repair or alteration of all natural gas, cable communications, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances,

e. Public or private projects designed to enhance ((~~streams~~)) riparian corridors, shoreline habitat and its buffer, and wetlands and their buffers, including ((~~drainage~~))stormwater-related functions, that require either a Hydraulic Project Approval from ((~~either~~))the Washington Department((s)) of ((~~Fisheries or Wildlife~~))Fish and Wildlife or a Section 404 permit under

the federal Clean Water Act from the United States Army Corps of Engineers, Aquatic Habitat Matching Grant program, established by City Council Resolution 30719,and

f. Public projects ((~~that promote a public objective,~~)) where the intrusion into the environmentally critical area or buffer benefits the public, such as trails providing access to a creek or wetland area, when located and designed to ((~~minimize~~)) keep environmental disturbance to ((~~the greatest extent possible~~)) a minimum. The applicant shall protect vegetation and trees pursuant to a tree and vegetation plan consistent with best management practices. The plan shall be prepared by a qualified expert with experience related to the type of environmentally critical area or buffer where work will occur. In landslide-prone areas of the plan shall also be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on steep slopes.

I. Normal and routine operation, maintenance, remodeling, repair, and removal of existing public facilities and utilities is exempt from the provisions of this chapter when these activities do not result in substantial disturbance of environmentally critical areas or buffers.

J. Normal and routine (a) pruning, (b) tree and vegetation maintenance and management, and (c) revegetation are exempt from the provisions of this chapter when they do not result in substantial disturbance of environmentally critical areas or buffers and when they are carried out in parks, public utility right of ways, and publicly owned open spaces by the public agencies, including City agencies, that are responsible for them.

25.09.050 City Projects.

"City project" means all work described in Section 25.09.015 that is undertaken by a City agency. A City project shall comply with all provisions of this chapter unless the project is exempt under Section 25.09.045.

25.09.055 Small Project Waiver.

A. The Director may approve new accessory structures or additions to existing structures in environmentally critical areas and buffers, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

B. Director's Decision.

1. The Director shall require the use of fencing with a highly durable protective barrier during the construction to protect the remainder of the environmentally critical area and/or buffer.

2. The Director shall require planting native vegetation in an area equal in size to the area of any native vegetation in a riparian corridor, wetland buffer, steep slope, or steep slope buffer that is removed or adversely impacted by the development. Any invasive species shall be removed from the planting area. The planting area shall be on site and, whenever possible, in the same environmentally critical area or buffer. When this is not possible, the Director may authorize all or a portion of the planting to be outside the environmentally critical area or buffer or on another parcel, when the Director determines this will mitigate the impact.

3. The Director may require additional measures to protect the remainder of the environmentally critical area and/or buffer.

25.09.060 ((~~Application submittal requirements, general requirements and development standards~~)) General Development Standards.

((~~All proposals listed in Section 25.09.040 shall meet the following application submittal requirements, general requirements and development standards:~~

~~A. Application Submittal Requirements. In addition to the application submittal requirements specified in other codes, development proposals subject to this chapter shall include the following additional information as applicable:~~

~~1. Surveyed Site Plan. A surveyed site plan, prepared and stamped by a State of Washington licensed surveyor, shall be required for sites which include landslide-prone, flood-prone,~~

~~riparian corridor, wetland, and steep slope environmentally critical areas. The surveyed site plan shall include the following existing physical elements:~~

~~a. Existing topography at two-foot (2') contour intervals on site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~b. Terrain and drainage flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~c. General location of areas with significant amounts of vegetation, and specific location and description of all trees and shrubs over six inch (6") caliper measured three feet (3') above the base of the trunk, and noting their species;~~

~~d. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of development coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);~~

~~e. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and~~

~~g. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~2. Additional Site Plan Information. The following site plan information shall also be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.~~

~~a. Location and boundaries of all critical areas on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;~~

~~b. Proposed location and boundaries of all required undisturbed fenced areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines;~~

~~c. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);~~

~~d. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;~~

~~e. Location of all proposed grading activities, and all proposed drainage control facilities or systems on site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and~~

~~g. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~3. Technical Reports. Technical reports shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, vegetation, and other pertinent site information. The reports shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.~~

~~B. General Requirements for the Lot, Adjacent Lots, Surrounding Area, and Drainage Basin.~~

~~1. The developer shall ensure safe, stable and compatible development which avoids adverse environmental impacts and potential harm on the lot, to adjacent lots, the surrounding neighborhood, and the drainage basin. Detailed analysis of impacts, including cumulative impacts of development, of the proposed development upon wetlands, riparian corridors, native vegetation and wildlife habitats, water quality, fisheries, natural water temperature, slope and soil conditions, and surface water drainage may be required by the Director when lot and area conditions indicate the need for such analysis. Supplemental technical reports may be required by the Director to specify measures~~

~~to preserve, protect, and maintain adjacent sites and the drainage basin and ensure safe, stable and compatible development.~~

~~2. All conditions of approval associated with an approved development application and permit shall be recorded as official permit conditions at the Department of Construction and Land Use. During construction, the Director may require conditions to be posted on the site in such a manner as to be visible from public rights-of-way.~~

~~3. If applicable, as determined by the Director, the following environmentally critical areas and/or their associated buffers located on a development site, together with any permanent conditions, shall be described in a permanent covenant with the property which shall be recorded in the King County Office of Records and Elections:~~

~~a. Riparian corridor buffers; and/or~~

~~b. Wetlands and steep-slope environmentally critical areas and their required buffers.~~

~~If applicable, the Director may require placement of small permanent visible markers to delineate riparian corridor buffers and/or wetlands and steep-slope environmentally critical areas and their required buffers. The location of the markers shall be described in the permanent covenant.~~))

((~~C. General Development Standards. General development standards as applicable shall include, but are not limited to the following:~~)) The following general development standards apply to development on parcels containing environmentally critical areas or their buffers, except as specifically provided in this chapter:

A. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335.

B. The project shall avoid adverse impacts from development on environmentally critical areas and buffers, and the Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable, naturally stable, and least sensitive portion of the site in order to protect the ecological functions and values of wetlands and fish and wildlife habitat areas, prevent erosion from development on steep slope areas, and protect the public health, safety and welfare in landslide-prone, liquefaction-prone, and flood-prone areas. Grading activities and impervious surfaces that may impact environmentally critical areas or buffers shall be kept to a minimum and limited to areas approved by the Director.

C. Driveways and utility corridors that may impact environmentally critical areas or buffers shall be kept to a minimum through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access shall be located in a way that keeps impacts to environmentally critical areas and buffers to a minimum.

D.((~~1~~)) All buffers and designated non-disturbance ((~~areas and other designated protected~~))areas shall be fenced with a highly visible and durable protective barrier during construction to prevent access and to protect environmentally critical areas. ((~~No removal of vegetation or wildlife habitat shall be permitted within the protected wetlands and their buffers, riparian corridors and their buffers, and steep slopes and their buffers either during or after construction, except as otherwise permitted by the chapter.~~))

((~~2. All disturbed areas on the site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control drainage and prevent erosion during construction, and revegetated to promote drainage control and prevent erosion after construction. The Director may require an erosion control plan and a vegetation removal and replacement plan when~~

~~erosion potential is severe. The erosion control plan shall be prepared and followed using best management practices. The vegetation removal and replacement plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of trees, shrubs, and ground cover that does not require permanent irrigation systems for long-term survival and is suitable for the location.~~))

E. ((~~3.~~)) All site clearing ((~~sites~~)) on the lot that may impact environmentally critical areas or buffers shall be carried out ((~~cleared~~)) in stages just prior to construction, and cleared areas shall ((~~only~~)) be kept to the minimum ((~~as large as necessary~~)) for construction. Revegetation shall occur after the particular phase of construction is completed. When required by the Director, ((~~the vegetation removal and replacement~~))a tree and revegetation plan shall establish a staged vegetation removal and replacement program ((~~which minimizes~~)) that keeps the amount of exposed soil during and after construction to a minimum. In drier months, temporary surface irrigation or temporary installation of intermediate plantings may be required until weather or seasonal conditions permit installation of the permanent plantings.

F. Construction activity on the lot that may impact environmentally critical areas or buffers shall adhere to a prepared schedule and mitigation plan approved by the Director prior to the start of construction. This schedule and mitigation plan shall include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation.

G. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless the applicant demonstrates to the satisfaction of the Director based on approved

technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st. This provision does not apply to grading in liquefaction-prone areas and abandoned landfills environmentally critical areas unless the parcel contains another environmentally critical area.

H. Best management practices shall be used for all construction activity on parcels with or adjacent to environmentally critical areas or buffers to prevent sediment and other pollutants from entering the riparian corridor watercourses or other fish and wildlife habitat conservation areas on or off the property. Best management practices include, but are not limited to, installation of siltation barriers, diversion measures, slope drains, and structural, vegetative stabilization techniques and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

I. The Director may require an erosion control plan and a tree and revegetation plan when erosion potential is severe. The erosion control plan shall be consistent with best management practices, and best management practices shall be followed in implementing it. The tree and revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology and botany education and experience. All revegetation shall consist of native vegetation.

J. The site, including developmental coverage and construction activity areas, shall be managed in a manner sufficient to control stormwater and prevent erosion during construction, and shall be revegetated to promote stormwater control and prevent erosion after construction, consistent with Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

((~~4. The Director shall restrict developmental coverage and construction activity areas to the most environmentally suitable and naturally stable portion of the site. Grading activities and impervious surfaces shall be minimized and limited to areas approved by the Director.~~

~~5. All drainage associated with the development shall be connected to City-approved drainage control systems with approved discharge points in compliance with the SMC Chapter 22.802-808, Stormwater, Drainage and Erosion Control. If an adequate drainage conveyance system is not available and safety and erosion concerns dictate, the Director may require design of drainage facilities to handle up to a one hundred (100) year storm, and/or require a release rate slower than the rate normally required.~~

~~6. All construction activity on environmentally critical area sites in watersheds containing designated critical watercourses and associated riparian corridors shall follow best management practices. These practices include installation of siltation barriers to minimize erosion and pollutants entering the watercourse, as well as other methods such as diversion measures, slope drains, and structural and vegetative stabilization techniques.~~))

K.((~~7.~~)). When calculating detention requirements, all disturbed areas on the site shall be calculated as developmental coverage, including revegetated areas, excluding enhanced or restored areas as approved by the Director.

L.((~~8.~~)) Pesticides and fertilizers shall not be used on parcels containing a riparian corridor, shoreline habitat or its buffer, or wetland or its buffer, except as allowed by the Director for the following circumstances and when that work will be done by a licensed applicator:

1. On public parks and public and private golf courses when the Director, in consultation with Seattle Public Utilities, determines a satisfactory substitute is not available and when the work is done pursuant to best management practices or an integrated pest management plan, except that pesticides and fertilizers shall not be applied within fifty (50) feet of a stream, wetland or shoreline habitat.

2. The state or local Health Department recommends or directs their use to

address a threat to public health.

3. A county, state, or federal agency with jurisdiction directs their use.

4. When the Director, in consultation with Seattle Public Utilities, determines the applicant has demonstrated that the use will have no adverse impact to fish and wildlife.

5. When the Director, in consultation with Seattle Public Utilities, has determined there is no other way to halt the spread of an invasive plant.

6. When the Director, in consultation with Seattle Public Utilities, determines that an emergency situation exists where there is a serious threat to public safety, health, or the environment and that an otherwise prohibited pesticide application must be used as a last resort.

M. The Director may require a development proposal's design to account for a one hundred (100) year seismic and one hundred (100) year flood event, unless a design for a greater event is required by other applicable codes.

((~~9. All grading in environmentally critical areas shall be completed or stabilized by October 31st of each year unless demonstrated to the satisfaction of the Director based on approved technical analysis that no environmental harm or safety problems would result from grading between October 31st and April 1st.~~

~~10. Development occurring in riparian corridor, wetland and steep slope sites shall preserve the integrity of wildlife habitat corridors, and minimize the intrusion of development into designated wildlife habitat areas.~~

~~11. Construction activity shall adhere to a prepared schedule and mitigation plan to be approved by the Director prior to the start of construction. This schedule and mitigation plan shall~~

~~include, but not be limited to, a schedule for compliance with project conditions, limits of construction and work activities, equipment to be used, start and duration of each phase, work sequencing, and shall include the design, implementation, maintenance, and monitoring of mitigation requirements to prevent erosion, siltation, and destruction of vegetation. This plan shall be reviewed with the owner's representative and approved by the Director at a pre-construction meeting prior to the start of construction.~~

N.((~~12.~~)) The Director may require additional construction practices and methods and requirements, including, but not limited to best management practices as outlined in federal, state and Seattle manuals, and limitations on construction equipment permitted on the site, to protect environmentally critical areas and buffers on and off the property. ((~~on-site, on adjacent sites, and within the drainage basin of a proposed development.~~))

O. No provision of this chapter shall be construed to require putting new or existing power lines underground.

25.09.080 ((~~Development standards for landslide-prone hazard~~)) Landslide-prone critical areas.

A. ((~~Site.~~)) This section applies to all parcels in or containing a landslide-prone critical area.

B. Site.

1. Complete stabilization of all portions of a site ((~~which~~)) that are disturbed or affected by the proposed development, including all developmental coverage and construction activity areas, ((~~shall be~~))is required. Complete stabilization of all portions of a site refers to the process and actions necessary to stabilize ((~~ensure that~~)) proposed site improvements ((~~are stabilized~~)), and ((~~that~~)) all on-site areas and adjacent properties, including adjacent public and private rights-of-way, ((~~which~~)) that are disturbed or ((~~impacted~~)) affected ((~~are stabilized~~)).

2. The proposed development ((~~or use~~)) shall be limited and controlled to avoid adverse impacts and potential harm, and to ((~~ensure~~)) provide safe, stable and compatible development appropriate to site conditions. Other reasonable and appropriate solutions to ((~~solve~~)) provide site stability ((~~problems~~)) may be required by the Director. This may include imposing conditions concerning the type and method of construction that reflect the specific constraints of the site.

3. Removal of, clearing, or any action detrimental to trees or vegetation in landslide prone critical areas is prohibited, except as provided in this section and Section 25.09.320.

((~~B. Staged Review Process. Projects proposed in landslide prone areas shall be subject to a staged review process.~~

~~1. The staged review process may consist of one (1) or more of the following steps:~~

~~a. Site visit and reconnaissance;~~

~~b. Preliminary soils investigations including tests and borings; and~~

~~c. Detailed geotechnical studies and engineering plans.~~

~~2. During the staged review process, more extensive studies and investigations may be required for more hazardous sites, based on the degree of slope, hydrology and underlaying soils and geology. The Director may require detailed site investigation including, but not limited to the following:~~

~~a. Review of available literature regarding the site and surrounding areas;~~

~~b. Detailed topographic analysis;~~

~~c. Subsurface data and exploration logs;~~

~~d. Ground surface profiles;~~

~~e. Analysis of relationship of vegetated cover and slope stability;~~

~~f. Site stability analysis;~~

~~g. Geotechnical considerations to reduce risk; and~~

~~h. Construction and post-construction monitoring.~~

~~3. The Director shall determine the amount of additional study necessary depending on the degree of landslide-prone hazard on a site based on the information disclosed during the staged review process. The Director may require third-party review.~~

~~4. As part of the staged review process, the Director shall provide mailed notice to adjacent property owners, and the applicant shall post one (1) land use sign visible to the public at each street frontage abutting the site except, when there is no street frontage or the site abuts an unimproved street, the Director shall require either more than one (1) sign and/or an alternative posting location so that notice is clearly visible to the public. The land use sign may be removed by the applicant within fourteen (14) days after final action on the application has been completed. The purpose of this notice is to allow for an exchange of information between the applicant, adjacent property owners and the Director. Adjacent property owners may review and comment on site investigations and technical studies, and provide information and documentation of any previous landslide problems on the site. Notice will include information on how to find out whether or not third-party review is required.~~))

C. Third-Party Review. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, ((~~T~~))the Director ((~~shall determine when~~)) may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. ((~~shall be required.~~)) Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant. ((~~In determining the need for third-party review, the Director shall consider whether or not the project is to be constructed on deep soft-soil areas, areas identified as being affected~~

~~by deep slide masses or block movements, sites with excessive groundwater, and sites subject to lateral ground failure due to earthquakes.~~))

D. Bonds and Insurance. The Director may require adequate bonds and/or insurance to cover potential claims for property damage ((~~which~~)) that may arise from or be related to excavation or fill within a landslide-prone area ((~~a. The Director shall require such bonds or insurance~~)) when the depth of the proposed excavation ((~~shall~~)) exceeds four feet (4') and the bottom of the proposed excavation ((~~shall be~~)) is below ((~~a~~)) the one hundred percent (100%) slope line (forty-five (45) degrees from a horizontal line) from the property line. The Director may require such bonds and insurance in other circumstances where the Director determines that there is a potential for significant harm to an environmentally critical area or buffer during the construction process.

E. Permit renewals.

In addition to complying with the permit renewal standards in Chapter 23.76, applications for permit renewal shall comply with the following standards.

1. The Director may renew a permit for development that is in conformance with applicable regulations in effect at the time the renewal is sought.

2. An applicant seeking to renew a permit for new development in a landslide-prone area must submit a letter of certification from the current project geotechnical engineer of record as described in subsection G2. If such a letter of certification is not submitted, the permit shall not be renewed.

3. The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections G, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to

the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans.

4. An applicant for renewal also must demonstrate that any required bond or insurance will be in effect during the renewal period, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.

F. Issued permits in landslide-prone areas. If the Director has reasonable grounds to believe that an emergency exists because significant changes in conditions at a project site or in the surrounding area may have occurred since a permit was issued, increasing the risk of damage to the proposed development, to neighboring properties, or to the drainage basin, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a letter of certification as described in subsection G2 and has satisfied the standards of that section.

G. Letter of Certification.

1. The Director may require a letter of certification based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.

2. The letter of certification shall be from the current project geotechnical engineer of record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:

a. In the project geotechnical engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to the Department as part of the application for the permit; or that

b. In the project geotechnical engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria, and that in the project geotechnical engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been prepared and submitted.

25.09.100 Development standards for liquefaction-prone areas.

A. The general development standards set out in SMC 25.09.060 do not apply to liquefaction prone areas.

B. Soils engineering studies may ((~~shall~~)) be required for ((~~of all proposed~~)) development in ((~~areas subject to~~)) liquefaction-prone areas to determine the physical properties of the surficial soils, especially the thickness of unconsolidated deposits, and their liquefaction potential, as set out in Title 22, Subtitle I.

((~~B~~))C. If it is determined that the site is subject to liquefaction, mitigation measures may be imposed pursuant to ((~~appropriate to the scale of the development shall be recommended and implemented through requirements of~~)) Title 22, Subtitle ((~~VIII~~))I, ((~~Grading and Drainage Control Ordinance, SMC Title 22, Subtitle I, Building Code, and any~~)) in addition to other applicable codes or regulations pertaining to development ((~~within~~)) in liquefaction-prone areas.

25.09.120 Development standards for flood-prone areas.

A. Development is prohibited within the "floodway" of flood- prone areas. Permitted development within flood-prone areas lying outside the floodway shall not contribute to increased downstream flow of floodwaters and shall comply with the provisions of ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance. (((~~FEMA) A drainage control plan shall be required for all proposed development.~~))

B. Drainage-Control Plan. If the site is mapped or determined to be flood-prone, the Director may require a drainage-control plan ((~~shall~~))to be submitted with the permit application showing the flood-prone area, the tributary watershed, and all drainage features, to describe the existing situation and proposed modifications to the drainage system. If required, the ((~~The~~))drainage-control plan shall provide for control of water quality and quantity in compliance with ((~~the~~)) Title 22, Subtitle VIII, Stormwater Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~))Chapter 25.06, Seattle Floodplain Development Ordinance, and any other subsequent applicable flood-control codes or ordinances to protect the public interest and prevent harm.

C. Elevation Above Base Flood Level. The lowest floor elevation of any structure located in a flood-prone area shall be no less than two feet (2') above the one-hundred (100) year flood elevation ((~~unless otherwise specified by the Director of Seattle Public Utilities~~)).

((~~**25.09.140 Development standards for riparian corridors.**~~

~~A. Riparian Corridor Watercourse. No development shall be permitted within or over the watercourse as delineated by survey and accepted by the Director. If no other access is available to the property, the Director may approve access over the watercourse as long as it maintains the natural channel and floodway of the watercourse and minimizes the disturbance of the buffer to the greatest extent possible.~~

~~B. Minimum Riparian Corridor Buffer. In order to prevent harm on site and downstream, and in order to minimize degradation of water quality, a buffer shall be established within the corridor within which development shall not be permitted. All buffers shall be measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark as surveyed in the field. In cases with braided channels and alluvial fans, the top of the ordinary high water mark shall be determined so as to include the entire stream feature. The buffer shall not extend beyond an existing~~

~~public road if the road has an adequate storm water catchment facility. The minimum buffer shall be as follows:~~

~~1. Class A Riparian Corridor Buffers; Fifty Feet (50'); and~~

~~2. Class B Riparian Corridor Buffers; Twenty-five feet (25').~~

~~C. Buffer Vegetation and Restoration.~~

~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required.~~

~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately.~~

~~3. Buffer Restoration Exemption. When the site is a single lot, located adjacent to properties where natural vegetation has already been removed for lawns or other residential activities, the Director may conclude that a buffer restoration plan is not to be required or that buffer restoration is limited to planting trees for creek shading when no significant increase in protection of the water body would result from full restoration of the buffer.~~

~~D. Buffer Reductions on Existing Lots. The Director may reduce a Class A buffer if development of adjacent lots is less than fifty feet (50') from the watercourse. However, the buffer shall not be less than the distance to the watercourse from the adjacent structure that is furthest from the watercourse, or less than twenty-five feet (25'), whichever is greater.~~

~~E. Riparian Corridor Restoration.~~

~~1. To encourage restoration of a riparian corridor presently located in an underground pipe or culvert, the following conditions shall apply:~~

~~a. Every effort shall be made to avoid building over a riparian corridor located in an underground pipe or culvert, except when located under a street right-of-way; and~~

~~b. Uncovering of the riparian corridor should be encouraged and allowed with the Director's approval of the following exceptions to riparian corridor standards:~~

~~i. The minimum buffer may not be required if there is no space available; and~~

~~ii. The open riparian corridor may be located elsewhere on-site or on adjacent sites.~~

~~2. To encourage restoration of a riparian corridor presently located in an open channel or drainage-way, the Director may waive the minimum buffer.~~

~~F. More intensive site review and application of stricter development standards may be applied in areas outside of the riparian corridor buffer where any of the following conditions are present:~~

~~1. High, steep slopes that could produce debris slides directly to surface waters; or~~

~~2. Sites with polluted groundwater seeps or springs; or~~

~~3. Other areas of potentially extreme adverse impacts.~~

~~G. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant shall be encouraged to~~

~~make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.~~))

25.09.160 Development standards for wetlands.

((~~A. Wetland. Wetland provisions of this chapter shall apply only to wetlands of one hundred (100) square feet or greater in area, unless a smaller wetland or a combination of adjacent, smaller wetlands are part of a larger drainage system. No grading, filling, draining and/or development shall be permitted within or over a wetland of exceptional value and its buffer as delineated by a survey accepted by the Director. Grading, filling, draining and/or development within wetlands and their buffers, other than wetlands of exceptional value, shall only be allowed under the following limited situations and conditions:~~

~~1. Wetlands altered for use as lawns or playfields prior to the effective date of this ordinance shall not be regulated as wetlands unless the Director determines that the wetland could be restored when new development or redevelopment occurs on the site; and~~))

A. Wetlands are rated according to the Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-25). Illegal grading, filling, draining, or other development will not result in a change to that wetland's rating. Wetlands constructed for mitigation or replacement purposes are subject to the provisions of this chapter.

B. Impacts to Wetlands.

1. Development, including but not limited to grading, filling, or draining, is prohibited within or over:

a. Category I, II or III wetlands greater than one hundred (100) square feet;

b. Category IV wetlands one thousand (1,000) square feet or greater;

c. A wetland of any category or size that is part of a larger wetland system or abuts any Type 1-5 water.

2. Development may occur within or over Category IV wetlands less than one thousand (1,000) square feet, other than those wetlands described in subsection B1c, in accordance with subsection C3.

3. When development is authorized on a parcel containing a wetland:

a. All on or offsite runoff shall be routed away from the wetland and wetland buffer; and

b. Direct lighting shall be directed away from the wetland and its buffer.

4. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in wetlands is prohibited, except as provided Section 25.09.320.

((~~2. Wetlands, excluding wetlands of exceptional value, may be considered for alteration if the proposal meets the criteria for an Environmentally Critical Areas Exception, Section 25.09.300 of this chapter, and complies with the following wetland compensation requirements:~~

~~a. Restoration of an existing degraded wetland, or~~

~~b. Creation of additional substitute wetlands, although the Director shall give preference to restoration, and~~

~~c. Restoration of an existing degraded wetland or creation of substitute wetlands shall meet the following conditions:~~

~~i. The applicant shall fund the wetland restoration or creation under the direction and authority of the Director,~~

~~ii. To the greatest extent practical, restoration or creation may occur either on or off site, but within the same drainage basin,~~

~~iii. Restoration or creation shall be of a similar type and shall take place before alteration of the original wetland,~~

~~iv. Restoration or creation shall require the original wetland to be replaced at a ratio of two to one (2:1), and~~

~~v. The restored or substitute wetland shall provide comparable water quality benefits and be of at least equal habitat and hydrologic value.~~))

((~~B~~))C. Wetland Buffers and Mitigation. ((~~In order to protect wetland areas and maintain water quality, a minimum wetland buffer of fifty feet (50') shall be established within which no development shall be permitted and all vegetation shall remain undisturbed. The wetland buffer shall be measured horizontally from the edge of the wetland.~~))

1. Establishment of buffers.

a. The wetland buffer is measured horizontally from the edge of the wetland.

b. Wetlands have the following buffers:

Category I and II wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	100 feet 110 feet for moderate level habitat function 200 feet for high level of habitat function
Category III wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	60 feet 85 feet for moderate or greater level habitat function

Category IV wetlands one thousand (1,000) square feet or more in total size or of any size with the characteristics described in subsection B1c above	50 feet
Category IV wetlands under one thousand (1,000) square feet in total size that do not have the characteristics described in subsection B1c above	No buffer. Use mitigation under subsection C3.

A wetland with a moderate level of function is one that scores 20 to 28 points for habitat function when rated according to Washington State Ecology publication #04-06-025. A wetland with a high level of function for habitat is one that scores of 29 to 36 points for habitat function when rated according to Washington State Ecology publication #04-06-025.

c. Wetlands constructed in upland areas or non-wetland areas by any person for stormwater control, biofiltration or aesthetic purposes are not subject to the wetland buffer requirements of this chapter. Maintenance activities are not restricted in these types of wetlands.

2. Development is prohibited in wetland buffers, except as approved by the Director under subsection D.

3. The Director may authorize development in a Category IV wetland under one thousand (1,000) square feet that does not have the characteristics described in subsection B1c above, when the Director finds that one of the following measures, which must occur on site, will mitigate wetland function lost by development:

a. Construct a wetland of equal function to the lost wetland function.

b. Plant an area of native vegetation equal or greater in size to the area of the developed wetland, and remove invasive species in the area to be planted.

c. Construct a bioengineered/ infiltration facility, such as a bioswale, stormwater planter or infiltration planter, that replicates the hydrologic and/or water quality benefit of the developed wetland. This facility shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

d. Construct a eco-roof or roof garden that replicates the hydrologic and/ or water quality benefit of the developed wetland. These facilities shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

((~~C~~)) 4. Buffer Vegetation ((~~and Restoration~~)).

((~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required~~)).

a. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the wetland buffer is prohibited, except as provided in subsection D and Section 25.09.320.

((~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately~~.

((~~3. Buffer Revegetation Exemptions. The Director shall allow the removal by hand of i~~))

b. Invasive plants and noxious weeds ((~~, such as purple loosestrife,~~)) may be removed by hand. No machines or chemical removal shall be permitted without the Director's approval.

((~~E.~~))D. Buffer Averaging and Buffer Reductions.

1. Buffer Width Averaging. The Director may modify the standard wetland buffer width by averaging buffer widths when a qualified wetlands professional demonstrates to the Director's satisfaction that:

a. It will not reduce wetland functions or values;

b. The total area contained in the buffer area after averaging is no less than that which would be contained within the buffer required in subsection C above; and

c. The buffer width is not reduced to less than the following:

Category IV wetlands	35 feet
Category III wetlands with a high level of function for habitat	60 feet
All other Category III wetlands	40 feet
Category I and II wetlands with a high level of function for habitat	140 feet
All other Category I and II wetlands	75 feet

A high level of function for habitat shall be determined as set out in Subsection C1 above.

((~~D~~))2. Buffer Reductions. ((~~on Existing Lots. Buffer reductions on existing lots may only be allowed after the Director has determined that the front or rear yard or setback reduction or variance provisions of Section 25.09.280 will not provide sufficient relief.~~))

a. The Director may reduce a Category IV wetland buffer when the applicant qualifies for a variance by demonstrating that:

(1) the lot where the buffer is located was in existence before October 31, 1992;

(2) the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full buffer; and

(3) either the site does not meet the criteria for buffer averaging under subsection D1 or such averaging does not relieve the hardship that was found under subsection 25.09.280 B2.

b. If any buffer reduction is authorized by a variance under subsection D2a, the Director shall

(1) require the Category IV wetland to be restored on site in a manner that improves water quality, hydrology and habitat functions. Restoration must comply with subsections F and G below and with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29); and

(2) determine the amount of wetland buffer to reduce by applying the buffer averaging to the extent possible under subsection D1 and reducing the yards and setbacks before reducing the wetland buffer, unless reducing the yards or setbacks is injurious to safety. The wetland buffer shall be reduced by the minimum amount to mitigate the hardship, but never to less than thirty five feet (35');and

(3) impose additional conditions on the location and other features of a proposed development as necessary to carry out the purpose of this chapter and to mitigate the loss or reduction of the yard, setback or buffer.

c. The process and procedure for a variance under this subsection D2 shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~1. The Director may reduce a wetland buffer on existing lots only if the front or rear yard or setback reduction provision of Section 25.09.280 A does not provide sufficient relief to allow placement of an adequate structure and maintain the full width of the required wetland buffer.~~))

((~~2. The Director may further reduce a front or rear yard or setback through an Environmentally Critical Areas Yard or Setback Reduction Variance pursuant to the provisions of Section 25.09.280 B. If, during the review of this variance, the analysis shows that additional front or rear yard or setback reductions would not meet the criteria for variance approval and/or would not provide sufficient relief to allow placement of an adequate structure and maintain the full wetland buffer requirement, the Director may either approve reduction of the wetland buffer only or reduction of both yards or setbacks and the wetland buffer. The wetland buffer reduction shall be the minimum amount necessary, but never less than the twenty-five-foot (25') minimum buffer, to provide for use of the property and to prevent harm to the wetland.~~))

((~~3. The Director may reduce a wetland buffer only for wetlands which are determined to be degraded under the following circumstances:~~))

((~~a. If the degraded portion of the wetland is restored on site at a four to one (4:1) ratio, restored land area to reduced buffer, for wetlands larger than fifteen hundred (1,500) square feet; and at a two to one (2:1) ratio for wetlands under fifteen hundred (1,500) square feet; and~~))

((~~b. Such buffer reduction adjacent to the degraded wetland shall not result in a buffer of less than twenty-five feet (25') and does not apply to the wetland itself.~~))

((~~E~~)) ((~~Constructed Wetlands. Wetlands constructed by a private interest or public agency for stormwater control, biofiltration or aesthetic purposes shall not be subject to the wetland buffer requirements of this chapter. Maintenance activities shall not be restricted. This does not apply to wetlands constructed for mitigation or replacement purposes.~~))

E. Avoidance and Mitigation Standards.

1. The standards for wetland mitigation shall be applied in following order of priority:

a. avoid the impact to the extent practicable by not taking all or part of an action;

b. keep the impact to a minimum by limiting the degree or magnitude of the action and its implementation, and by taking affirmative actions to mitigate the impact over time; and

c. mitigate unavoidable impacts to the designated uses of a wetland by replacement, enhancement, or other approved compensation methods.

2. Mitigation for grading, filling, or draining wetlands shall achieve the equivalent or better biologic functions of the existing wetland. Mitigation plans shall be consistent with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29).

3. Wetland mitigation actions shall not result in a net loss of wetland area unless the following criteria are met as determined by a site-specific function assessment:

a. The lost wetland area provides only minimal functions and the mitigation action(s) results in a net gain in wetland functions; or

b. The lost wetland area provides only minimal functions and other replacement areas provide greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

4. Mitigation actions that require compensation by replacing, enhancing, or substitution, shall occur in the following order of preference:

a. Restoring wetlands on sites that were formerly wetlands.

b. Creating wetlands on disturbed sites, such as those with vegetative cover consisting primarily of exotic introduced species.

c. Enhancing wetlands and/or wetland buffers with significantly degraded functions and values. The amount of required enhancement is dependent on the wetland classification in subsection 5.

5. a. The following ratios are required for the restoration, creation or enhancement of wetlands for authorized alterations. As determined by the Director, wetland mitigation may include the preservation and enhancement of habitat if it provides greater ecological function than the existing wetland. The first number specifies the area of replacement wetlands, and second specifies the area of wetlands altered:

	Restoration or Creation Ratios	Enhancement Ratios
Category I	6:1	16:1
Category II	3:1	16:1
Category III	2:1	8:1
Category IV	1.5:1	6:1

b. Replacement ratios may be increased under the following circumstances to achieve the equivalent wetland function of the wetland that is altered:

(1) Uncertainty exists as to the probable success of the proposed restoration or creation; or

(2) A significant period of time will elapse between impact and establishment of wetland functions at the mitigation site; or

(3) Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted.

c. Replacement ratios may be decreased when the proposed mitigation actions are conducted in advance of the impact and result in no net loss in wetland functions.

F. Mitigation Timing. Any restoration, creation or enhancement of wetlands that is required as mitigation shall be completed prior to issuance of the certificate of occupancy for the displacing use. If that has not occurred or if no certificate of occupancy is needed, the applicant shall submit plans that establish a specific schedule for completion, which must be approved by the Director, and shall provide a bond of at least one hundred and fifty percent (150%) of the cost of installation, in addition to the monitoring plan and bond required under subsection G. If the required mitigation can be completed for less than five thousand dollars ($5,000), no bond is required under subsection F or G.

G. A monitoring plan shall be prepared to monitor successful re-establishment of the wetland for a period of five growing seasons or the period required to achieve the performance standards of the plan, whichever is earlier. The applicant shall provide a bond in an amount of at least one hundred fifty percent (150%) of the cost to retain a qualified wetlands scientist to assess the wetland and submit a report to the City at least twice yearly, prior to and near the end of each growing season and shall also provide a bond in an amount sufficient to implement additional restoration measures if the replacement wetland does not equal the functions of the wetland displaced at the end of five growing seasons.

((F))H. Other Agency Regulations. Review of projects subject to the wetland provisions of this chapter shall be coordinated by the applicant with the appropriate state and federal agencies.

((~~Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act~~)) The applicant ((~~shall be encouraged to~~)) should make early contact with these agencies to ensure compliance with local, state and federal ((~~riparian corridor~~))regulations.

I. In addition the information provided pursuant to Section 25.09.330 and to Director's Rule, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. The third party review will be conducted by a qualified wetland consultant hired by the Director and paid for by the applicant.

25.09.180 Development standards for steep slope((s)) areas.

A. This section and Section 25.09.080 apply to parcels containing a steep slope area or buffer.

B. ((~~A. Development Limitations on Steep Slopes and Buffers on Existing Lots~~)) Impacts on Steep Slope Areas.

1. Development ((~~shall be avoided on areas over forty percent (40%) slope whenever possible~~)) is prohibited on steep slope areas, unless the applicant demonstrates that the provisions of subsections B2 or E apply.

2. ((~~Generally, the Director shall require a~~)) Provided that all the provisions of this chapter and all applicable provisions of Title 23 and Title 22, Subtitle VIII, are met, the development standards in subsection B 1 do not apply when the applicant demonstrates the development meets one of the following criteria. In determining whether these criteria are met, the Director may require a geotechnical report to verify site conditions and to evaluate the impacts of the development in the steep

slope area and shall require such a report for criteria (c) and (d). The geotechnical report is subject to the provisions for third party review in Section 25.09.080 C.

a. Development is located where existing development is located, if the impact on the steep slope area is not altered or increased; or

b. Development is located on steep slope areas that have been created through previous legal grading activities, including rockeries or retaining walls resulting from rights of way improvements, if no adverse impact on the steep slope area will result; or

c. Development is located on steep slope areas that are less than feet (20') in vertical rise and that are thirty feet (30') or more from other steep slope areas, if no adverse impact on the steep slope area will result; or

d. Development is located on steep slope areas where the Director determines that application of the development standards in subsection B1 would prevent necessary stabilization of a landslide-prone area.

C. Buffers.

1. Steep slopes have fifteen-foot (15') buffers from the top ((~~or~~))and toe of a slope unless the Director determines ((~~whenever practicable~~)) that a greater or lesser buffer is required ((~~based on geotechnical and hydrological site constraints and the impacts of proposed construction methods on the stability of the slope, increased erosion potential, and disruption of existing topography and vegetation. The width of the buffer may be increased or decreased as determined by the Director~~)) based on the following considerations:

a. Proposed construction method and its effect on the stability of the slope and ((~~increased~~)) erosion potential;

b. Techniques used to ((~~minimize~~))keep the disruption of existing topography and vegetation to a minimum; and

c. Preparation of technical reports and plans to address and propose remedies regarding soils and hydrology site constraints.

2. Development is prohibited on steep slope area buffers, except as authorized in subsection B2 or to provide access to such an area, which shall be kept to a minimum, and except as provided in subsection E.

((~~3. When it is not practicable to avoid development on areas over forty percent (40%) slope and the buffer area, the following conditions shall apply:~~))

((~~a. Grading and development activity and other land disturbing activity shall not exceed thirty percent (30%) of the areas measured over forty percent (40%) slope. This shall not include vegetation removal for the purposes of replacing existing vegetation with more suitable plants; and~~))

((~~b. The Director may impose conditions concerning the type and method of construction that reflect the specific constraints of the site, as well as the landslide-prone area regulations of this chapter, Section 25.09.080 A.~~))

((~~B. Vegetation Removal and Replanting. Removal of vegetation in steep-slope areas shall be minimized. Any replanting that occurs shall consist of trees, shrubs, and ground cover that is compatible with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival.~~))

D. Vegetation Removal and Replanting. If removal of trees or vegetation in a steep slope area and its buffer is authorized as part of approved development, it shall be kept to a minimum, and shall be carried out pursuant to a tree and revegetation plan described in section 25.09.320. Other

removal of, clearing, or any action detrimental to trees or vegetation in a steep slope area or buffer is prohibited, except as provided in Section 25.09.320. In addition to complying with Section 25.09.320, any replanting that occurs shall consist of native vegetation.

((~~C. Site Design Guidelines. The following guidelines shall be followed for development in steep-slope areas:~~

~~1. Structures should be designed and placed on the hillside to minimize negative impacts, such as grading and land disturbing activity;~~

~~2. Driveways and utility corridors should be minimized through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access should be located in a way that minimizes impacts to steep slopes or other critical areas;~~

~~3. Development should be located on the least sensitive portion of the site to preserve the natural land forms, geological features, and vegetation;~~))

((~~4. Terracing of land shall be kept to a minimum; and~~

~~5. Cluster development may be allowed pursuant to the provisions of Section 25.09.260 to emphasize the existing topography and conserve existing resources if compatible with the surrounding residential character.~~

~~D. Steep Slope Exemptions.~~

~~1. Highly Developed Areas. Existing lots, short subdivisions and subdivisions may be exempted by the Director from steep slope regulations when located in highly developed and urbanized areas. Highly developed and urbanized areas include all Downtown and Highrise zones. Sites located in Midrise and Commercial 1 and 2 zones may also qualify for this exemption when~~

~~surrounding lots contain high-density residential development and/or concentrated commercial development which closely matches the development potential for the zone. This exemption shall not apply to single-family, lowrise, neighborhood commercial, industrial, or any other zones. If the site is characterized by or adjacent to at least one (1) of the following areas, this exemption shall not apply:~~

~~a. A wetland over one thousand five hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor;~~

~~b. A large undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or other large areas with significant tree cover that provides valuable wildlife habitat.~~

~~2. Steep Slopes Resulting from Rights-of-way Improvements. Steep slopes resulting from street, alley, sidewalk and other typical rights-of-way improvements, including rockeries or retaining walls, may be exempted from compliance with the environmentally critical areas regulations. This exemption shall not extend beyond the cut or fill created by the street, alley, sidewalk or other rights-of-way improvement, and does not release the applicant from any applicable geotechnical review requirements under the Stormwater, Grading and Drainage Code. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~3. Previously Developed Sites. Sites that have been previously developed may be exempted by the Director from steep-slope requirements under the following conditions:~~

~~a. If the objectives of the steep slope regulations would not be compromised; and~~

~~b. If the degree of nonconformity with the environmentally critical areas regulations, if applicable, is not increased. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~4. Limited Exemptions. Slopes with a vertical elevation change of up to twenty feet (20') and not part of a larger steep slope system, or slopes which have been created through previous, legal grading activities, may be exempted by the Director from the steep slopes regulations based on a geotechnical report demonstrating that no adverse impact will result from the exemption.~~

~~5. Stabilization of Landslide-prone Area. Certain steep slopes may be exempted from the steep slope regulations upon the Director's determination, based on geotechnical expertise, that application of the regulations would prevent necessary stabilization of a landslide-prone area, subject to the provisions of Section 25.09.080 C, Third-party Review.~~

~~6. Any project receiving an exemption shall be subject to steep slope drainage control and vegetation removal regulations, as well as applicable landslide-prone area regulations of this chapter.~~))

E. 1. Steep Slope Area Variance. The Director may reduce the steep slope area buffer and may authorize limited intrusion into the steep slope area and steep slope buffer to the extent allowed in subsection E2 only when the applicant qualifies for a variance by demonstrating that:

a. the lot where the steep slope or steep slope buffer is located was in existence before October 31, 1992; and

b. the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full steep slope area buffer.

2. If any buffer reduction or development in the critical area is authorized by a variance under subsection E1, it shall be the minimum to afford relief from the hardship and shall be in the following sequence of priority:

a. reduce the yards and setbacks, to the extent reducing the yards or setbacks is not injurious to safety;

b. reduce the steep slope area buffer;

c. allow an intrusion into not more than thirty percent (30%) of the steep slope area.

3. The Director may impose additional conditions on the location and other features of the proposed development as necessary to carry out the purpose of this chapter and mitigate the reduction or loss of the yard, setback, or steep slope area or buffer.

4. The process and procedures for a variance under this subsection E shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.200 Development standards for fish and wildlife habitat conservation areas.

((~~The characteristics of fish and wildlife habitat conservation areas shall be used to evaluate development within wetlands, riparian corridors and steep slopes. Preserving the integrity of fish and wildlife habitat corridors, and minimizing the intrusion of development into these designated habitat areas shall be considered in applications for buffer reductions and conditional use permits to transfer development credit to noncritical portions of a site.~~))

A. Development standards for parcels with riparian corridors.

1. The provisions of this subsection A apply to all development on parcels containing riparian corridors as defined in Section 25.09.020 D5. In addition, the provisions of subsection C apply to these parcels, except subsection C2 with respect to fish. In the event of an

irreconcilable conflict between the provisions of subsection C and this section, the most restrictive provision applies.

2. Riparian Watercourse.

a. Development is prohibited within or over the watercourse, except as provided in subsection A2b. If no other access is available to the property, the Director may approve access over the watercourse, provided that it maintains the natural channel and floodway of the watercourse and that disturbance of the riparian management area is kept to a minimum.

b. On Haller and Bitter Lakes, piers are regulated pursuant to the development standards for similar structures in the Seattle Shoreline Master Program, Chapter 23.60, Part X, The Urban Residential Environment. If a pier is allowed, access to it through the riparian management area is also allowed, provided the impact on the naturally functioning condition of the riparian management area from the pier's location, method of construction, and construction materials is kept to a minimum.

c. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian watercourse is prohibited, except as provided in Section 25.09.320.

3. Riparian Management Area.

a. The riparian management area is defined in subsection 25.09.020 D5. Existing public or private streets are excluded from the regulations for the riparian management area, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat on the parcel and downstream and to keep degradation of water quality for habitat to a minimum.

b. Activities in the riparian management area.

(1) Development is prohibited in the riparian management area, except to provide access to development approved under subsection A2 and except under subsections A3b(2), A3c, and A3d.

(2) Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian management area is prohibited, except as provided in subsection c below and Section 25.09.320.

c. Riparian Management Area Vegetation.

(1) If the vegetation in the riparian management area protects the fish habitat and wildlife habitat as they exist on the site at the time development is proposed, including preventing erosion and protecting water quality, the existing vegetation shall remain undisturbed, except as allowed under Section 25.09.320.

(2) If the riparian management area is not functioning in the manner set out in subsection A3c(1) above, the applicant shall prepare and carry out a tree and vegetation plan that augments the existing vegetation with native vegetation to the extent commensurate with the impact of the development on the riparian management area. The plan shall be prepared and executed consistent with Section 25.09.320. Vegetation in the riparian management area shall not be removed or otherwise disturbed until the applicant is ready to immediately replant according to the approved plan. A monitoring plan shall be prepared to monitor the establishment of the vegetation. The plan shall cover five (5) growing seasons or the period needed to successfully carry out the plan, whichever is earlier.

d. In addition to subsections A3b(2) and A3c, development is allowed in the riparian management area on lots existing at the time this ordinance takes effect if the applicant demonstrates that:

(1) the development is in the limited riparian development area, which is the area in the riparian corridor but outside of the watercourse and more than seventy-five feet (75') from the top of the watercourse bank for Type 2 and 3 waters with anadromous fish present for any part of the year, fifty feet (50') from the top of the watercourse bank for Type 2 and 3 waters where anadromous fish are not present for any part of the year and more than fifty feet (50') from the top of the watercourse bank for Type 4 and 5 waters;

(2) the development complies with Section 22.802.016, regardless of the area of land disturbing activity or the size of the addition or replacement of impervious surface, except as provided in subsection 3e; and

(3) any development, including but not limited to coverage by impervious surface, does not exceed 35% of the total area of the limited riparian development area, provided that the maximum lot coverage does not exceed that allowed under Title 23, and except as provided in subsection 3e.

e. When compliance with Section 22.802.016 is required solely based on subsection 3d(2) above, the Director may approve a restoration plan in lieu of requiring compliance with subsections 3d(2) and (3) if the applicant demonstrates that the plan meets the following criteria:

(1) The watercourse or riparian management area function will be restored so that it prevents erosion, protects water quality, and provides diverse habitat; and

(2) The restoration results in greater protection of the watercourse and riparian management area than compliance with subsections 3d(2) and (3).

4. Daylighting Water in Pipes and Culverts.

a. To encourage daylighting pipes and culverts directly connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert, the Director may

modify development standards as set out in subsection 4b below when the applicant submits a plan for daylighting the pipe or culvert that meets the following criteria:

(1) the plan is prepared by a qualified professional;

(2) the ecological functions of the daylighted waters and adjacent area are improved so the new riparian corridor area is compatible with and protects the ecological functions of the existing riparian corridor upstream and downstream and does not contribute to flooding; ecological functions include preventing erosion, protecting water quality, and providing diverse habitat; and

(3) if the plan proposes daylighting the pipe or culvert in a different location on the parcel from its current location or off the parcel, the ecological functions required in subsection (2) above are provided as effectively as they would be without the relocation.

b. If the Director finds the conditions in subsection 4a are met, the Director may modify the following development standards. The modification shall be the minimum to provide sufficient area to meet the standards in subsection 4a and shall be in the following order of priority:

(1) Yard and/or setback requirements on the property may be reduced, unless reducing them is injurious to safety.

(2) The riparian corridor watercourse and adjacent area maintained as a riparian management area under the approved plan may count toward open space requirements for all multifamily or commercial zone requirements.

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced.

5. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Department of Fish and

Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant is encouraged to make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.

B. Development Standards for Shoreline Habitat.

1. The provisions of this subsection B apply to all parcels with shoreline habitat defined in subsection 25.09.020 D6 or its buffer.

2. In addition, the provisions of subsection C below apply to parcels with shoreline habitat or its buffer, except subsection C2 with respect to fish. In the event of an irreconcilable conflict between the provisions of this subsection B and subsection C, the provision most protective of wildlife habitat applies.

3. Development is prohibited in shoreline habitat, except when all of the following criteria are met:

a. The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

b. Mitigation is provided for all impacts to the ecological functions of fish habitat on the parcel resulting from any permitted increase in or alteration of existing overwater coverage.

4. Buffers.

a. Shoreline habitat has a one hundred foot (100') buffer from the ordinary high water mark.

b. Bioengineered solutions, such as using plants or other approved natural material, to stabilize the shoreline are allowed in the buffer, provided they are allowed under Title 23, including chapter 23.60, the Shoreline Master Program.

c. Other development for water dependent and water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, the amount of impervious surface is not increased, and no surface that is permeable by water at the time of the application will be covered with an impervious surface so that impervious surface will be closer to the ordinary high water mark; or

(3) if any of the actions described in subsection c(2) above occur and that action impacts the ecologic function of the shoreline, those impacts are mitigated as set out in subsection e below.

If the standards in subsections c(1) and (2) are met, then the application is not subject to the application submittal requirements in Section 25.09.330 and the general development standards in Section 25.09.060.

d. Other development for non-water dependent and non-water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) for non-residential uses

(a) the lot was in existence before the effective date of this ordinance; and

(b) the development is twenty five feet (25') or more from the ordinary high water mark unless the development is allowed in the shoreline habitat under Title 23, including chapter 23.60, the Shoreline Master Program; and

(c) (i)no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(ii) if any of the actions described in subsection d(2)(c)(i) above occur, all impacts on the ecological function are mitigated as set out in subsection e below; or

(3) for residential uses the residence is twenty five feet (25') or more from the ordinary high water mark

(a) and no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(b) if any of the actions described in subsection d(3)(a) above occur, all impacts on the ecological function are mitigated as set out in subsection e below.

e. Mitigation.

(1) Mitigation must prevent net loss of ecological function. Mitigation must achieve the equivalent ecologic functions as the conditions existing in the shoreline habitat buffer at the time of development. Mitigation under this section is not intended to duplicate mitigation for the same ecologic function that is required under other City regulations or under state and federal permits. The permit condition most protective of the ecologic function shall be enforced.

(2) For the purpose of this section, mitigation is action that replaces ecological functions lost as a result of a project impact. Depending on the type of lost ecological function these include:

(a) providing habitat, or

(b) creating new pervious ground or

(c) replicates the function of the pervious ground through methods that are engineered and designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

(3) Mitigation for habitat impacts in the buffer shall occur in the following order of preference:

(a) on the parcel within the buffer as close to the ordinary high water mark as possible;

(b) within the buffer as close to the ordinary high water mark as possible on a parcel that abuts the ordinary high watermark within one quarter (¼) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred;

(c) farther along the shoreline within the buffer as close to the ordinary high water mark as possible.

(4) The following mitigation ratios are required for habitat impacts in the buffer under subsection 2(a) and 2(b); the first number specifies the area of replacement habitat, and second specifies the area of altered habitat:

(a) 1:1 for areas on the parcel or on a parcel that abuts the ordinary high water mark within one quarter (1/4) mile along the shoreline from where the vegetation removal,

placement of impervious surface or other loss of habitat occurred. If the applicant demonstrates that the ecological function can be replaced at a different ratio, the Director may approve that ratio.

(b) 3:1 farther along the shoreline, provided that if a five (5) year bonded monitoring program is provided that monitors the effectiveness of mitigation measures and provides a means for ensuring the attainment of the goals of the program, the Director may approve a 2:1 ratio.

5. Bulkheads.

a. New bulkheads are prohibited, except when the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use.

b. Major repair of existing bulkheads is prohibited, except when

(1) the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use; or

(2) a bioengineered solution, such as using plants or other approved natural material to stabilize the shore, will not achieve the same level of shoreline stabilization and property protection.

6. Streets.

a. Existing public or private streets are excluded from these buffer regulations, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat and to keep degradation of water quality for habitat to a minimum.

b. New streets are allowed when the following criteria are met:

(1) the street is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, impervious surface is not increased, and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(3) if the actions described in subsection (b)(2) above occur, any impacts on the ecological function are mitigated as set out in subsection 4e above.

7. The following provisions apply to all parcels containing shoreline habitat and buffers to prevent impacts to the habitat and buffer:

a. Any increases in surface runoff from development shall be kept to a minimum, and surface water run off shall be controlled, treated and released so that receiving water quality and any shore properties and features are not adversely affected. Control measures may include, but are not limited to, dikes, catch basins or settling ponds, interceptor drains and planted buffers. Allowable means to achieve this include bioswales, catch basin filters, and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

b. Pavement in the habitat and buffer shall be kept to a minimum and permeable surfacing, where practicable, shall be used to keep surface water accumulation and runoff into the habitat and buffer to a minimum. Recommended methods are found in Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code. Permeable surfaces include, but are not limited to, porous asphalt, concrete, brick, or pavers; or plastic confinement systems with grass or gravel filler.

c. Best management practices shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water. Direct runoff of these materials is prohibited. Best management practices shall be employed for prompt and effective clean-up of any spills that do occur. A spill prevention and response plan may be required by the Director.

d. Any cleaning or resurfacing operation occurring over water that may result in the entry of debris, such as paint chips, shall employ tarpaulins securely affixed above the water line

to prevent material from entering the water. Prior to removing the tarpaulins, the accumulated contents shall be removed by vacuuming or an equivalent method that prevents material from entering the water.

e. No over-water application of paint, preservative treatment, or other chemical compounds is permitted, except in accordance with best management practices.

f. Wooden components that will be in contact with standing water or floodwaters shall not contain polycyclic aromatic hydrocarbons (PAH), creosote, pentachlorophenol, or similar toxic substances. Durable, non-toxic components is the preferred material for in-water and over-water structures. Where treated wood is considered necessary, it shall be applied and used in accordance with the American Wood Preserver Association (AWPA) standards for aquatic use.

g. For projects involving concrete, a concrete truck chute cleanout area shall be established to contain wet concrete. No concrete or clean out shall be allowed to enter the water body. This does not prohibit piers or other concrete structures authorized by a valid permit.

h. All inlets and catch basins shall be protected from fresh concrete, paving, paint stripping and other high-risk pollution generating activities during construction.

i. Construction staging areas shall be as far from the ordinary high water mark as practicable.

j. Planting native vegetation may be required to mitigate impacts of development on the shoreline habitat or buffer.

k. If at any time project-related activities cause a fish kill to occur, the permitee shall stop all work relating to the fish kill and immediately notify the Department of Planning and Development, Washington Department of Fish and Wildlife, and the Washington Department of Ecology.

1. In- and over-water structures shall be designed and located to keep impacts from shading of any bank and shallow water habitat to a minimum.

8. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in shoreline habitat or its buffer is prohibited, except as authorized under subsections 1-6 above and section 25.09.320.

C. 1. Development on parcels containing fish and wildlife habitat conservation areas shall comply with any species habitat management plan set out in a Director's Rule. The Director may establish by rule a species habitat management plan to protect any priority species identified by the Washington State Department of Fish and Wildlife or to protect species of local importance.

2. Any person proposing development on a parcel containing fish and wildlife habitat conservation areas shall consult with the Washington State Department of Fish and Wildlife and comply with any requirements of that agency, except as limited in subsections A and B above.

D. Based on information provided by a qualified wildlife biologist, the Director may condition development on parcels containing wildlife habitat or corridors defined in subsection 25.09.020 D3 to encourage preserving fish or wildlife habitat corridors. Conditions may include, but are not limited to:

1. Establishment of buffer zones;

2. Preservation of important vegetation and habitat features;

3. Limitation of access to habitat areas;

4. Seasonal restriction of construction activities;

5. Preservation of the ability for fish to pass between fish habitat in Type 1-5 waters upstream and downstream of the parcel. The application requirements and general conditions of this chapter, Sections 25.09.330 and 25.09.060, do not apply if the person

responsible for development of the parcel has either a Hydraulic Project Approval from the Washington Department of Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers.

E. Designating Species of Local Importance and their Habitat.

1. The Director on an annual basis shall accept and consider nominations for species of wildlife and their habitat to be designated as locally important. The designation of a species of local importance and its habitat shall require an amendment to this chapter.

2. Species or habitat to be designated shall exhibit the following characteristics:

a. Local populations of native species are in danger of extinction based on existing trends:

(1) Local populations of native species that are likely to become endangered; or

(2) Local populations of native species that are vulnerable or declining;

b. The species has recreational, commercial, game, tribal, or other special value;

c. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat;

d. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in Seattle;

e. Areas nominated to protect a particular habitat or species have either high-quality habitat or habitat with a high potential to recover to a suitable quality, and the habitat is limited in quantity, highly vulnerable to alteration, or connects habitats.

3. Species and habitats may be nominated for designation by any person. Nominations shall be in writing, address the characteristics listed in subsection 2, and state whether specific habitat features are being nominated (for example, nest sites, breeding areas, and nurseries), or whether the habitat or ecosystem is being nominated in its entirety. Where restoration of habitat is proposed, a specific plan for restoration shall be provided with the application, or the nomination shall include management strategies for the species or habitats. Restoration plans and management strategies shall be supported by the best available science.

4. The Director shall determine whether the nomination proposal is complete, and if complete, shall evaluate it under the criteria in subsection (2) and make a recommendation to the Mayor and Council based on that information. If the nomination is adopted, the Director may establish habitat restoration plans and habitat and species management strategies by rule.

25.09.220 Development standards for abandoned landfills.

A. Regulation of Development on Abandoned Landfills. Development on abandoned landfills ((~~shall be~~)) is subject to Seattle-King County Health Department requirements for the applicant to submit an excavation and development work plan, prepared by a licensed engineer with experience in landfill construction and/or management, and comply with other applicable requirements to prevent damage from methane gas buildup, subsidence, and earthquake induced ground shaking as contained in ((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and regulations pertaining to development on abandoned landfill sites. Technical studies shall be required to indicate whether these areas pose a threat to development on an abandoned landfill site.

B. Areas within One Thousand Feet (1,000') of Methane-producing Landfills. Areas within one thousand feet (1,000') of methane-producing landfills may be susceptible to ((~~methane leakage~~))

accumulations of hazardous levels of methane gas in enclosed spaces. Methane barriers or appropriate ventilation may be required in these areas as specified in((~~SMC~~)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((~~Ordinance~~)) Code, ((~~SMC~~)) Title 22, Subtitle I, Building Code, and Seattle-King County Health Department regulations.

25.09.240 Short subdivisions and subdivisions.

A. This section applies to ((~~A~~))all applications for short subdivisions and subdivisions, excluding unit lot subdivisions, ((~~proposals located in~~)) on parcels containing any part of a riparian corridor, ((~~buffers,~~)) shoreline habitat, shoreline habitat buffers, wetlands, ((~~and~~)) wetland buffers, or ((~~and~~)) steep slope((~~s~~)) areas (((~~over forty percent (40%)) shall comply with the following specified development standards~~)) in addition to the standards ((~~set forth~~)) in ((~~Subtitle III, Platting Requirements, of SMC~~)) Title 23((~~, Land Use Code:~~)).

((~~A~~))B. ((~~New lots shall contain~~)) Parcels shall be divided so that each lot contains ((~~at least one (1)~~)) an area for ((~~building site~~)) the principal structure, all accessory structures, and necessary walkways and for access to ((~~the site~~)) this area that ((~~is~~)) are outside ((~~the identified~~)) all environmentally critical areas and ((~~its required~~)) buffers identified in subsection A above except as follows:

1. The required area and access may be located in the footprint of an existing lawful principal structure used for residential use that encroaches into an environmentally critical area or buffer identified in subsection A, provided it does not further alter or increase the impact to the environmentally critical area or buffer.

2. ((~~that a~~))Access may be provided by a bridge over a riparian corridor ((~~watercourse and buffer as long as~~)) when the Director determines no other access is available and (a) access is provided by ((~~it is~~)) a freestanding structure that maintains the natural channel and floodway of

the watercourse and ((~~minimizes~~)) (b) the disturbance of the riparian corridor and any other adjacent environmentally critical area or buffer ((~~to the greatest extent practicable.~~)) is kept to a minimum. ((~~Covenants shall be recorded with the subdivision or short subdivision that restrict development to the areas specified on the approved site plan.~~))

3. Development may encroach into that portion of a steep slope area or its buffer for which the Director has determined that criteria in subsection 25.09.180 B2a, b, or c are met for the particular short subdivision, or subdivision under consideration.

4. Development may encroach into the Shoreline habitat buffer provided that

a. a condition is recorded on the plat restricting the development in the buffer to water dependent or water related uses or to single family residential uses; and

b. for single family residential uses the condition requires each residence to be no further waterward than twenty five feet (25') from the ordinary high water mark; and

c. a condition is recorded on the plat (1) requiring mitigation at the time of development for removal of vegetation, addition of impervious surface, and all other harm to the ecological function of the buffer and habitat resulting from development and (2) setting out on the plat the mitigation standards in subsection 25.09.200 B4e.

C. Lots shall be configured to preserve the environmentally critical areas and their buffers identified in subsection A by:

1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or

2. Establishing non-disturbance areas on individual lots.

D. The environmentally critical areas and buffers identified in subsection A above, except for areas qualifying for development under subsection B1-4, shall be designated non-disturbance areas

on the final plat. A notice that these non-disturbance areas are located on the lots, including the definition of "non-disturbance area," shall recorded in the King County Office of Records and Elections along with the final plat in a form approved by the Director. At the same time, a covenant protecting non-disturbance areas shall be recorded as set out in Section 25.09.335.

((~~B. Lots shall be configured to preserve the identified environmentally critical area and its buffer by:~~))

((~~1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or~~))

((~~2. Establishing buffer easements on individual lots.~~))

((~~C~~))E. In computing the number of lots a parcel in a single family zone may contain, the Director shall exclude the following areas:

1. Easements and/or fee simple property used for shared vehicular access to proposed lots that are required under Section 23.53.005. ((~~shall not be counted when calculating minimum lot area requirements.~~))

((~~D~~))2. The area of the ((~~identified~~)) environmentally critical areas and ((~~their required~~)) buffers identified in subsection A, unless they are on a lot that meets one of the following standards: ((~~areas within a proposed subdivision or short subdivision shall receive no development credit for use in calculating the number of lots permitted.~~))

a. the provisions of subsection B; or

b. an Administrative Conditional Use is obtained under Section 25.09.260, if it is not practicable to meet the requirements of subsection B considering the parcel as a whole.

((~~E~~))F. Application Submittal Requirements. All short subdivision and subdivision ((~~proposals~~)) applications, in addition to the application submission requirements included in ((~~SMC~~))

Title 23((~~, Land Use Code,~~)) shall meet the applicable application submittal requirements of this chapter, ((~~subsection A of~~))Section 25.09.((~~060~~))330, and shall include the information contained in this subsection and Section 25.09.260, as applicable, on the surveyed site plan.

25.09.260 Environmentally critical areas ((~~A~~))administrative conditional use ((~~permit to recover development credit and permit clustered development on-site in single-family zones~~)).

((~~Up to full development credit on-site (determined by calculating the maximum number of lots allowed based on the underlying single-family zoning and size of the originating property) may be granted by the Director through an administrative conditional use permit, authorized under SMC Section 23.42.042, Conditional uses, in the Land Use Code. Notice of application and review process and procedures for this administrative conditional use and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~

~~B. The Director may approve, condition or deny an application for an administrative conditional use. The Director's decision shall be based on a determination of whether the proposed transfer of development credit within the site meets the criteria for allowing the specific conditional use and whether the use will be materially detrimental to the public welfare or injurious to property in the zone or vicinity in which the property is located.~~

~~C. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions deemed necessary for the protection of other properties in the zone or vicinity in which the property is located.~~

~~D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~

~~E. The Director may approve the transfer of development credit if it can be shown that the development would meet the following conditions and findings:~~

~~1. The transfer of development credit shall not result in any significant increase of negative environmental impacts, including erosion, on the identified environmentally critical area and its buffer;~~

~~2. The development shall be reasonably compatible with neighborhood characteristics. This shall include but not be limited to concerns such as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining;~~

~~3. In no case shall development credit be allowed for the area covered by an open water area of a wetland or riparian corridor;~~

~~4. The development shall retain and protect vegetation on designated undisturbed areas on and off site. Significant species or stands of trees shall be protected, and tree removal shall be minimized. Replacement and establishment of trees and vegetation shall be required where it is not possible to save trees;~~

~~5. The ability of natural drainage systems to control the quality and quantity of stormwater runoff shall not be significantly impaired;~~

~~6. The development shall not adversely affect water quality and quantity, erosion potential, drainage, and slope stability of other environmentally critical areas located in the same drainage basin;~~

~~7. The development's site plan shall include measures to minimize potential negative effects of the development on the undeveloped portion of the site, including the provision of natural barriers;~~

~~8. Adequate infrastructure (streets and utilities) shall be available or will be provided; and~~

~~9. The site design guidelines of Section 25.09.180 C shall be followed for designated steep slope areas.~~

~~F. Clustering of Additional Dwelling Units. The Director may approve more than one (1) dwelling unit per lot and may approve smaller than required lot sizes and yards to accommodate recovery of development credit, and to encourage larger buffers, reduce impermeable surfaces, and decrease size of affected areas. Where dwelling units are attached, they shall not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone. Full development credit on-site shall not be increased beyond that permitted by the underlying single-family zone.~~

~~G. The Director may require that structures be located on the site in order to preserve or enhance topographical conditions, adjacent uses and the layout of the project and to maintain a compatible scale and design with the surrounding community. In order to approve clustered dwelling units in all environmentally critical areas, the following criteria shall be met:~~

~~1. Clustering of units shall help to protect the following critical areas: riparian corridors, wetlands and steep slopes;~~

~~2. Clustering of units shall require siting of structures to minimize disturbance of the environment;~~

~~3. Clustering of units shall help to protect priority species or stands of mature trees;~~

~~4. Clustering of units shall ensure maximum retention of topographic features;~~

~~5. Clustering of units shall limit location of access and circulation to maximize the protection of an area's natural character and environmental resource;~~

~~6. Clustering of units shall help protect the visual continuity of natural greenery, tree canopy, and wildlife habitat;~~

~~7. Clustering of units shall not have an adverse impact on the character, design and scale of the surrounding neighborhood; and~~

~~8. Clustering of units shall promote expansion, restoration or enhancement of a riparian corridor and its buffer, a wetland and its buffer or a steep slope area and its buffer.~~

~~H. Additional Conditional Use Provisions for Steep Slopes and Steep-slope Buffers.~~

~~1. In steep-slope areas and their buffers, the Director may allow clustering on the steep-slope portions of the site when the site is predominantly characterized by steep slopes. However, the preference shall be to cluster away from steep-slope and buffer areas.~~

~~2. The Director shall require clear and convincing evidence that the clustering criteria and findings of this subchapter are met when a transfer in development credit within a steep-slope area is also characterized by or adjacent to:~~

~~a. A wetland over fifteen hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor; or~~

~~b. A large (over five (5) acres) undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or areas with significant tree cover providing valuable wildlife habitat.~~

~~3. Any development permitted through the conditional use process on steep slopes of forty (40) percent shall be subject to the landslide-prone area provisions of this Chapter, Section 25.09.080.~~))

A. When the applicant demonstrates it is not practicable to comply with the requirements of Section 25.09.240 B considering the parcel as a whole, the applicant may apply for an administrative

conditional use permit, authorized under Section 23.42.042, under this section to allow the Director to count environmentally critical areas and their buffers that would otherwise be excluded in calculating the maximum number of lots and units allowed on the parcel under Section 25.09.240 E.

B. Standards. The Director may approve an administrative conditional use for smaller than required lot sizes and yards, and/or more than one (1) dwelling unit per lot if the applicant demonstrates that the proposal meets the following standards:

1. Environmental Impacts on Critical Areas.

a. No development is in a riparian corridor, shoreline habitat, shoreline habitat buffer, wetland, or wetland buffer.

b. No riparian management area, shoreline habitat buffer, or wetland buffer is reduced.

c. No development is on a steep slope area or its buffer unless the property being divided is predominantly characterized by steep slope areas, or unless approved by the Director under Section 25.09.180 B2a, b or c.

(1) The preference is to cluster units away from steep slope areas and buffers.

(2) The Director shall require clear and convincing evidence that the provisions of this subsection B are met when clustering units on steep slope areas and steep slope area buffers with these characteristics:

(a) a wetland over fifteen hundred (1,500) square feet in size or a watercourse designated part of a riparian corridor; or

(b) an undeveloped area over five (5) acres characterized by steep slopes; or

(c) areas designated by the Washington Department of Fish and Wildlife as urban natural open space habitat areas with significant tree cover providing valuable wildlife habitat.

d. The proposal protects Washington State Department of Fish and Wildlife priority species and maintains wildlife habitat.

e. The open water area of a shoreline habitat, wetland or riparian corridor shall not be counted in determining the permitted number of lots.

f. The proposal does not result in unmitigated negative environmental impacts, including drainage and water quality, erosion, and slope stability on the identified environmentally critical area and its buffer.

g. The proposal promotes expansion, restoration or enhancement of the identified environmentally critical area and buffer.

2. General Environmental Impacts and Site Characteristics.

a. The proposal keeps potential negative effects of the development on the undeveloped portion of the site to a minimum and preserves topographic features.

b. The proposal retains and protects vegetation on designated nondisturbance areas, protects stands of mature trees, keeps tree removal to a minimum, removes noxious weeds and protects the visual continuity of vegetated areas and tree canopy.

3. Neighborhood Compatibility.

a. The total number of lots permitted on-site shall not be increased beyond that permitted by the underlying single-family zone.

b. Where dwelling units are proposed to be attached, they do not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone.

c. The development is reasonably compatible with and keeps the negative impact on the surrounding neighborhood to a minimum. This includes, but is not limited to, concerns such as neighborhood character, land use, design, height, bulk, scale, yards, pedestrian environment, and preservation of the tree canopy and other vegetation.

C. Conditions.

1. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions necessary to protect riparian corridors, wetlands and their buffers, shoreline habitats and their buffers, and steep slope areas and their buffers, and to protect other properties in the zone or vicinity in which the property is located.

2. In addition to any conditions imposed under subsection 1, the following conditions apply to all administrative conditional uses approved under this subsection:

a. Replacement and establishment of native vegetation shall be required where it is not possible to save trees or vegetation.

b. Where new lots are created, the provisions of Section 23.22.062, Unit lot subdivisions, or Section 23.24.045, Unit lot subdivisions, apply, regardless of whether the proposal is a unit lot subdivision, so that subsequent development on a single lot does not result in the development standards of this chapter being exceeded for the short subdivision or subdivision as a whole.

D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The process and procedures for notice of decision and appeal of this administrative conditional use shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.280 ((~~Environmentally critical areas--~~))Yard and setback reduction and variance ((~~for existing lots~~)) to preserve ECA buffers and riparian corridor management areas.

A. The Director may authorize ((~~A~~)) a twenty-five percent (25%) reduction, up to a maximum of five feet (5'), in yard or setback requirements for front or rear yards on a lot in existence as a legal building site prior to October 31, 1992, ((~~shall be permitted when necessary~~)) in order to maintain the full width of ((~~a~~)) the riparian management area ((~~corridor~~)) and of wetland or steep-slope area buffers.

B. The Director may approve ((~~Any~~)) a yard or setback reduction greater than five feet (5') ((~~that is necessary~~)) in order to maintain the full width of the ((a)) riparian management area, ((~~corridor~~)) wetland buffer or steep-slope area buffer ((~~shall require approval~~)) through an environmentally critical areas yard or setback reduction variance ((~~.Notice of application and review process and procedures for an environmentally critical areas yard or setback reduction variance and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76. An environmentally critical areas yard reduction variance shall be authorized only~~)) when ((~~all~~)) the following facts and conditions ((~~are found to~~)) exist:

1. The lot has been in existence as a legal building site prior to October 31, 1992.

((~~1~~))2. Because of the location of the subject property in or abutting an environmentally critical area or areas((~~,~~)) and the size and extent of any required environmentally critical areas buffer, the strict application of the applicable yard or setback requirements of ((~~Chapter 25.09~~)) Title 23 would cause unnecessary hardship; and

((~~2~~))3. The requested variance does not go beyond the minimum ((~~necessary to maintain~~)) to stay out of the full width of the riparian management area or required buffer and to afford relief; and

((~~3~~))4. The granting of the variance will not be injurious to safety or to the property or improvements in the zone or vicinity in which the property is located; and

((4))5. The yard or setback reduction will not result in a development that is materially detrimental to the character, design and streetscape of the surrounding neighborhood, considering such factors as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining; and

((~~5~~))6. The requested variance would be consistent with the spirit and purpose of the environmentally critical policies and regulations.

C. When an environmentally critical areas variance is authorized, the Director may attach conditions ((~~may be attached~~)) regarding the location, character and other features of a proposed ((~~structure or use~~)) development ((~~as may be deemed necessary~~)) to carry out the spirit and purpose of ((~~SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)) this chapter.

D. The process and procedures of an environmentally critical areas yard or setback reduction variance shall be as prescribed for Type II land use decisions in Chapter 23.76.

((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.~~))

25.09.300 Environmentally critical area exception.

A. An applicant for a City permit to develop real property that ((~~abuts or upon which~~)) is located in an environmentally critical area or buffer may apply to the Director for an exception to ((~~modification of~~)) modify environmentally critical area development standards, provided that an exception cannot be applied for to allow development or to obtain development credit under subsection 25.09.240E or to relocate lot lines under Section 23.28.030. ((~~Notice of application and review process and procedures for an environmentally critical areas exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.~~)) Before an application for relief under this section will be accepted, the Director must

determine that no other applicable ((~~environmentally critical areas administrative~~)) administrative remedies ((~~prescribed~~)) in Chapter 25.09 or Title 23 will provide sufficient relief.

B. 1. An applicant requesting modification shall provide the Director with the following information:

a. Documentation showing that no other applicable administrative remedy in Title 25.09 or Title 23 will provide sufficient relief;

((~~1~~))b. Technical studies and other data that describe the possible injurious effects of the proposed development on occupiers of the land, on other properties, on public resources, and on the environment. Possible injurious effects must be described even when the injurious effect will become significant only in combination with similar effects from other developments; ((~~and~~))

c. Technical studies and other data by qualified persons showing that the proposed development will protect the occupiers of the land, other properties, public resources, and the environment to the same extent as the development standards that are proposed to be modified and explaining how this will occur;

d. Plans showing what can be developed in compliance with all environmentally critical area development standards and standards in Title 23, including the yard and setback standards for front and rear yards;

((~~2~~))e. An explanation with supporting evidence of how and why compliance with ((~~the unmodified~~)) all environmentally critical areas development standards as shown on the plans required in subsection (d) would not permit any reasonable use of the property((~~,~~)), including, but not limited to, submission of the following evidence:

(1) The date the applicant purchased the property or obtained the right to develop or use it;

(2) The price the applicant paid for the rights described in subsection (1); and

(3) Restrictions or conditions on use or development in existence when the applicant acquired the rights described in subsection (1).

2. The Director may require the applicant to provide additional information prepared by qualified persons on the topics described in subsection B1.

3. All technical studies and data shall be accompanied by sufficiently detailed information to allow the Director to evaluate it under the standards for scientific information set out in Washington Administrative Code (WAC) 365-195-905.

C. The Director may modify or waive an environmentally critical areas development standard and/or the yard and setback standard for front or rear yards when an applicant demonstrates ((~~to the Director's satisfaction~~)) by clear and convincing evidence that strict application of the development standards would ((~~be unreasonable~~)) not permit any reasonable use of the property and that development undertaken pursuant to the modified or waived standards would not cause significant injury to occupiers of the land, to other properties, and to public resources, or to the environment.

D. The relief granted by reduction, waiver, or other modification of an environmentally critical areas development standard and of the yard and setback standards for front or rear yards shall be the minimum to allow reasonable use of the property. Preference shall be given to modifying or waiving the yard and setback standards for front or rear yards. In modifying a ((~~development standard~~))regulation, the Director may impose reasonable conditions that prevent or mitigate the same harm that the modified or waived regulation was intended to prevent or mitigate. In granting an exception to the development standards in Section 25.09.160, Wetlands, the Director shall apply the avoidance and mitigation standards in subsection 25.09.160 E when imposing any conditions.

E. The Director's decision must be consistent with the scientific approach used by the City in developing the environmentally critical area development standard at issue.

F. 1. The process and procedures for notice of decision and appeal of an environmentally critical areas exception shall be provided in the manner prescribed for Type II land use decisions in Chapter 23.76.

((~~E~~))2. ((~~A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions by SMC Section 23.76.022.~~)) The Director's decision ((~~as to whether development pursuant to a modified development standard will cause significant injury~~)) shall be affirmed unless found to be clearly erroneous((~~. The Director's decision as to whether strict application of a development standard is reasonable shall be given no deference~~)), and the burden of proof of justifying the environmentally critical areas exception shall be on the applicant.

25.09.320 ((~~Vegetation and tree removal permit in environmentally critical areas~~))Trees and vegetation.

((~~A. Removal, clearing or any action detrimental to trees or vegetation within wetlands, wetland buffers and riparian corridor buffers is prohibited unless the Director has given prior approval to a restoration plan pursuant to buffer restoration, reduction, exemption, or exception provisions contained in this chapter.~~

~~B. Removal, clearing or any action detrimental to trees (including, but not limited to, tree-topping) or vegetation within land slide-prone, steep-slope, and fish and wildlife habitat areas shall require a permit from the Director when any of the following thresholds are exceeded:~~

~~1. Any tree of six (6) inch caliper or greater, measured three (3) feet above the ground; or~~

~~2. Any combination of trees over one and one-half (1.5) inch caliper, measured three (3) feet above the ground, which total a cross-section area greater than twenty-eight (28) square inches or equivalent to a tree cross-section of six (6) inches; or~~

~~3. Any other combination of trees and other vegetation covering an area of seven hundred and fifty (750) square feet or more.~~

~~C. A vegetation and tree removal permit shall always be required even in cases where an application for a building permit or Master Use Permit has not been submitted. The permit shall only be required for that portion of the site which is designated as environmentally critical as listed in subsection B.~~

~~D. A vegetation and tree removal permit shall not be required when the Director determines there is an emergency that threatens the public health, safety and welfare.~~

~~E. The Director shall consider the following circumstances and conditions in rendering a decision on a vegetation and tree removal permit:~~

~~1. The applicant shall justify the need for tree and/or vegetation removal;~~

~~2. The applicant shall demonstrate that any tree and/or vegetation removal shall not adversely affect stability, erosion potential, existing drainage conditions, and/or fish and wildlife habitat areas on-site, on adjacent sites, or within the drainage basin;~~

~~3. The applicant shall demonstrate that the activity shall not be a precursor of a later development proposal, unless a plan is approved by the Director for public safety reasons and/or except to conduct soil testing subject to DCLU's Director's Rule for Investigative Field Work in Environmentally Critical Areas; and~~

~~4. The Director may require a vegetation and tree removal and replacement plan and may otherwise condition the permit to protect the public health and safety and prevent harm to the affected environmentally critical area.~~

~~F. Normal and routine pruning, maintenance and vegetation management and revegetation on private property which does not exceed the thresholds established in subsection B shall be exempt from a vegetation and tree removal permit.~~

~~G. Normal and routine pruning operations, maintenance, and tree and vegetation management and revegetation of public parkland and open spaces by responsible public agencies or departments shall be exempt when undertaken pursuant to best management practices to avoid impacts on environmentally critical areas.~~

~~H. Tree or vegetation removal shown as part of an issued building or grading permit shall not require a separate vegetation or tree removal permit.~~))

A. 1. Removing, clearing, or any action detrimental to habitat, vegetation or trees is prohibited, except as provided below, within the following areas: landslide-prone critical areas, (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers.

2. Tree-topping is prohibited.

3. The vegetation and tree removal and revegetation activities listed in subsections 3a-d are allowed. The application submittal requirements and general development standards in Sections 25.09.330 and 25.09.060 do not apply to actions under subsections 3a, b(1), c(2)(a) or d, provided that no other development is carried out for which a permit is required.

a. Normal and routine pruning and maintenance of:

(1) up to seven hundred and fifty (750) square feet of trees and vegetative cover lawfully maintained prior to the effective date of this ordinance;

(2) trees and vegetation approved by permit prior to the effective date of this ordinance, provided the conditions of the permit are complied with;

(3) lawns, paths and landscaping lawfully maintained prior to the effective date of this ordinance that were not in a environmentally critical area or buffer listed in subsection A1 above prior to the effective date of this ordinance, but are in a listed area or buffer under this ordinance;

(4) steep slope areas described in subsection 25.09.180 B2a-c;

(5) other trees and vegetative cover, provided that when the area of work is over seven hundred fifty (750) square feet in area, a plan is filed with the Department that complies with subsections B2 and 3.

b. Removing trees or vegetation as part of an issued building or grading permit consistent with a tree and revegetation plan, provided that

(1) when the area of work is under one thousand five hundred (1,500) square feet in area, a plan is filed with the Department that complies with subsections B1 and 2;or

(2) when the area of work is one thousand five hundred (1,500) square feet or more in area, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

c. Restoring or improving vegetation and trees, including removing non-native vegetation or invasive plants and noxious weeds by hand, to promote maintenance or creation of a naturally functioning condition that prevents erosion, protects water quality, or provides diverse habitat when

(1) the restoration or improvement is a condition to obtaining a permit or approval from the Director; or

(2) the restoration or improvement is not already a condition to obtaining a permit or approval from the Director, and

(a) when the area of work is under one thousand five hundred (1,500) square feet in area calculated cumulatively over three (3) years, a plan is filed with the Department that complies with subsections B1 and 2; or

(b) when the area of work is one thousand five hundred (1,500) square feet or more in area calculated cumulatively over three (3) years, or if the removal of invasive plants or noxious weeds is by machine or chemicals, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

d. Removing trees or vegetation when the Director determines the tree or vegetation is a threat to health or safety based on a report prepared by a qualified professional and the removal is performed by or under the direction of a qualified professional.

B. Standards for Plans.

1. Plans prepared under this subsection shall be consistent with the Department's standard tree and vegetation plans.

2. When the area of work exceeds seven hundred fifty (750) square feet in a landslide-prone area, the plan shall be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and

vegetation removal on landslide prone areas. These plans shall be consistent with best management practices.

3. Plans prepared under this subsection shall be prepared by a qualified professional with experience related to the type of environmentally critical area or buffer where work will occur. These plans shall be consistent with best management practices.

25.09.330 Application submittal requirements.

All activities identified in Section 25.09.015 and not exempt from permit application requirements under Sections 25.09.045, 25.09.055, 25.09.200 A4, and 25.09.320 A3 shall meet the following application submittal requirements in addition to the application submittal requirements specified in other codes:

A. Topographic Survey. A topographic site plan, prepared and stamped by a State of Washington licensed surveyor, is required for sites that include landslide-prone, flood-prone, riparian corridor, shoreline habitat or its buffer, wetland or its buffer, and steep slope areas or their buffers. The topographic site plan shall include the following existing physical elements:

1. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

2. Terrain and stormwater-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

3. Location of areas with significant amounts of vegetation, and specific location and description of all trees with trunks six inches (6") or greater in diameter measured four feet, six inches (4'6") above the ground, and noting their species;

4. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of developmental coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);

5. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands on the site, within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;

6. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and

7. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.

B. Additional Site Plan Information. The following site plan information shall also be required for sites that include landslide-prone, flood-prone, riparian corridor, wetland, and steep slope areas or their buffers. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.

1. Location and boundaries of all critical areas on the site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;

2. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;

3. Location and boundaries of non-disturbance areas on the site that have been required by previous approvals.

4. Proposed location and boundaries of all required undisturbed fenced areas and buffers on the site and on adjacent lands within twenty-five feet (25') of the site's property lines;

5. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);

6. Location of all proposed grading activities and all proposed drainage control facilities or systems on the site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

7. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and

8. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of this chapter.

C. Technical Reports. Technical reports and other studies and submittals shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, and other pertinent site information. The reports, studies and submittals shall be used to condition

development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.

25.09.335 Posting, Covenants, and Recording Conditions.

A. During construction, the Director may require conditions to be posted on the site that are visible from public rights-of-way.

B. The Director shall require a permanent covenant and a survey, if a survey has been prepared, be recorded in the King County Office of Records and Elections that describes and delineates all required non-disturbance areas, that prohibits development on and any disturbance of them, and that prohibits considering them for development credit in future plats or development proposals.

C. 1. The Director shall require the boundaries of the following environmentally critical areas and/or their buffers and any permanent conditions imposed be legibly shown and described in a permanent covenant with the property, which shall be recorded in the King County Office of Records and Elections:

a. Fish and wildlife habitat conservation areas;

b. Wetland critical areas and their buffers; and

c. Steep slope areas and their buffers.

2. The covenant may be combined with the covenant required under subsection B, if that subsection applies. The covenant shall be recorded prior to the issuance of any permit or at the time a plat is recorded.

D. The Director may require placement of small permanent visible markers to delineate the areas described in subsections B and C. The location of the markers shall be legibly shown and described in the permanent covenant.

((~~**SMC 25.09.340 Administration.**~~

~~A. The Director, in consultation with the Director of the Seattle Engineering Department, shall review and analyze a permit application to determine whether the proposed development meets the requirements and standards of this chapter. The Director may also consult with other City departments and regional public agencies as necessary to obtain additional technical and environmental review assistance. The Director shall review and approve all nonexempt public projects in public rights-of-way in environmentally critical areas and may institute interdepartmental charges to recover the cost of such review.~~

~~B. Permit applications shall only be approved after the Director is satisfied that the proposed development meets the requirements and development standards of this chapter, does not harm the general public health, safety and welfare, and prevents degradation and harm to the environment. If the general conditions and development standards or exemption and exception provisions contained in this chapter are not met, the Director shall deny the application.~~))

((**~~SMC 25.09.345Permit renewals in landslide-prone areas.~~**

~~A. In addition to satisfying the provisions of SMC Chapter 23.76 and Section 106.9 of the Building Code, an applicant seeking to renew a building permit for new or additional development in a landslide-prone area, as described in SMC Section 25.09.020 B1a, must submit a Letter of Certification (LC) from the current project Engineer of Record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter; and that:~~

~~1. In the project engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to DCLU as part of the application for the permit being renewed; or that~~

~~2. In the project engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria or the permit, and that in the project engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been submitted.~~

~~The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections A1 or A2 above, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans, but the Director may renew a permit with different conditions or revised plans only if the project as revised is within the scope and intent of the original Master Use Permit.~~

~~B. In the event a Letter of Certification as described in subsection A above is not submitted, the permit shall not be renewed.~~

~~C. An applicant for renewal also must demonstrate that any required bond or insurance still is in effect, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.~~

~~D. From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for renewal of a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section~~

~~25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice: In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

((~~**SMC 25.09.350 Processing applications in landslide-prone areas.**~~

~~Prior to issuance of a permit, the Director may require an applicant to submit a Letter of Certification as authorized by Section 25.09.345 and to satisfy the standards of that section. The Director's decision to require such a letter shall be based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.~~))

((~~**SMC 25.09.352 Issued permits in landslide-prone areas.**~~

~~If the Director has reasonable ground to believe that significant changes in conditions at a project site or in the surrounding area may have occurred since a building permit was issued, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a~~

~~Letter of Certification as authorized by Section 25.09.345 and satisfied the standards of that section for permit renewal.~~))

((~~**SMC 25.09.355 Third-party review.**~~

~~At the Director's discretion, permits for new or additional development in landslide-prone areas, as described in SMC Section 25.09.020 B1a, may be required to undergo third-party review as described in Section 25.09.080 C.~~

~~A. In addition to the criteria in Section 25.09.080 C, the Director's decision to require third-party review shall be based upon, but shall not be limited to, such factors as whether there has been incomplete submittal of data or apparently inadequate design work, whether the project is large scale, or whether the development site is complex.~~

~~B. The Director's discretion as exercised pursuant to this section shall supersede the staged review process as described in Section 25.09.080 B.~~))

((~~**SMC 25.09.356 Acknowledgment of City policy.**~~

~~From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:~~

> ~~In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services~~

~~provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.~~))

25.09.360 State Environmental Policy Act.

This chapter establishes minimum standards ((~~which are~~)) to be applied to specific land use and platting actions in order to prevent further degradation of environmentally critical areas in the City, and is not intended to limit the application of the State Environmental Policy Act (SEPA). Projects subject to SEPA shall be reviewed and may also be conditioned or denied pursuant to ((~~Seattle Municipal Code~~)) Chapter 25.05.

25.09.380 Compliance with environmentally critical areas regulations.

Notwithstanding the provisions of Chapter 23.76 ((~~, Seattle Municipal Code,~~)) authorizing issuance of Master Use Permits and Council Land Use Decisions upon compliance with the criteria and procedures of that chapter, no permit for a development proposal or for actions described in ((~~Seattle Municipal Code~~)) Section 25.09.((~~040~~))015 shall be issued unless it also complies with the regulations of this chapter.

25.09.400 Violations ((~~and penalties~~)).

((~~A. It shall be a violation of this chapter for any person, firm or corporation to erect, construct, modify, improve, enlarge, repair, move, remove, convert or demolish, occupy or maintain any property, vegetation, building or structure contrary to or in violation of any provision of this chapter. It shall be a violation of the chapter for any person, firm or corporation to knowingly aid and abet, counsel,~~

~~encourage, hire, commend, induce or otherwise procure another to violate or fail to comply with this chapter.~~

~~B. Civil Penalties.~~

~~1. Any person, firm or corporation who fails to comply with any provision of this chapter or any notice, decision or order issued by the Director pursuant to this chapter shall be subject to a cumulative civil penalty in the amount of Five Hundred Dollars ($500) per day for each day of noncompliance, measured from the date the violation begins or occurs until the owner, person, firm or corporation complies with the requirements of this chapter. The Director shall notify the City Attorney in writing of the name of any person subject to the penalty, and shall assist the City Attorney in collecting the penalty.~~

~~2. Violations causing significant damage as defined by the following acts shall be assessed penalties at an amount reasonably determined by the Director to be equivalent to the economic benefit that the violator derives from the violation as measured by the greater of the resulting increase in market value of the property or the value received by the violator, or savings of construction costs realized by the violator:~~

~~a. Grading (filling and/or excavation), clearing of vegetation and trees, and draining of riparian corridors, wetlands and their buffers; or~~

~~b. Destruction of trees, including tree-topping detrimental to trees, over twelve (12) inches caliper; or~~

~~c. Any six (6) foot vertical cut or fill within a potential landslide area.~~

~~C. Stop-work Order. Whenever a continuing violation of this chapter will materially impair the Director's ability to secure compliance with this chapter, when the continuing violation threatens the health or safety of the public, or when the continuing violation threatens or harms the environment, the~~

~~Director may issue a stop-work order specifying the violation and prohibiting any work or other activity at the site. The posting of the stop-work order on the site shall be deemed adequate notice of the stop-work order. A failure to comply with a stop-work order shall constitute a violation of this chapter.~~

~~D. Emergency Order. Whenever any use or activity in violation of this chapter threatens the health and safety of the occupants of the premises or property or any member of the public, the Director may issue an emergency order directing that the use or activity be discontinued and the condition causing the threat to the public health and safety or threat and harm to the environment be corrected. The emergency order shall specify the time for compliance and shall be posted in a conspicuous place on the property, if posting is physically possible. A failure to comply with an emergency order shall constitute a violation of this chapter. Any condition described in the emergency order which is not corrected within the time specified is hereby declared to be a public nuisance and the Director is authorized to abate such nuisance summarily by such means as may be available. The cost of such abatement shall be recovered from the owner or person responsible or both in the manner provided by law.~~

~~E. Criminal Penalty.~~

~~1. Anyone violating or failing to comply with any order issued by the Director pursuant to this chapter shall, upon conviction thereof, be punished by a fine of not more than One Thousand Dollars ($1,000.00) or by imprisonment for not more than three hundred sixty (360) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~

~~2. Anyone violating or failing to comply with any of the provisions of this chapter and who within the past five (5) years has had a judgement against them pursuant to subsection B shall upon conviction thereof, be fined in a sum not to exceed Five Hundred Dollars ($500.00) or by~~

~~imprisonment for not more than one hundred and eighty (180) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.~~))

A. It is a violation of this chapter to fail to comply with any provision of this chapter or with any term of any permit condition or approval issued pursuant to this chapter.

B. It is a violation of this chapter to fail to comply with any order issued pursuant to this chapter or to remove or deface any sign, notice, complaint or order required by or posted in accordance with this chapter.

C. It is a violation of this chapter to misrepresent any material fact in any application, on plans, or in any other information submitted to obtain any determination, authorization, permit condition, or approval under this chapter.

D. It is a violation of this chapter to aid and abet, counsel, encourage, hire, command, induce or otherwise procure another to violate or fail to comply with this chapter.

25.09.410 Authority to Enforce.

A. The Director is authorized to enforce this chapter and may call upon other appropriate City departments to assist in enforcement.

B. The Director may, with the consent of the owner or occupier of any land, premises, building, or structure, or pursuant to a lawfully issued inspection warrant, enter at reasonable times any land, watercourse, premises, building, or structure subject to the consent or warrant.

C. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner, occupier, or other person responsible for the condition of the vegetation, land, watercourse, premises, building, or structure within the scope of this chapter.

D. No provision of or term used in this chapter is intended to impose any duty upon the City or any of its officers or employees that would subject them to damages in a civil action.

25.09.420 Investigation and Notice of Violation.

A. The Director is authorized to investigate the condition of any vegetation, land, watercourse, premises, building, structure, activity, or use that the Director reasonably believes does not comply with the provisions of this chapter. The Director's investigation and determination that a violation exists is not limited by determinations made by determinations made by other City agencies.

B. If after investigation the Director determines that any provision of this chapter has been violated, the Director may serve a notice of violation upon any person that the Director believes is responsible for the violation. The notice of violation may identify the violation by code section; and may state what corrective action (including restoration), if any, is necessary to comply with the provisions of this chapter, set a reasonable time for compliance; and state the penalty for violating this chapter. The Director may require that the restoration plan be prepared by a qualified professional, at the violator's expense. Wetland mitigation shall be consistent with Section 25.09.160.

C. Any notice issued pursuant to subsection B shall be served upon the owner, occupier or other person responsible for the violation by personal service in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail, addressed to the last known address of such person(s). Service is complete at the time of personal service, or if mailed, three (3) days following the date of mailing. If a notice of violation sent by first class mail is returned as undeliverable, then service of the notice upon such person or persons may be made by posting the notice at a conspicuous place on the property where the violation occurred.

D. If a notice of violation or order is recorded with the King County Department of Records and Elections, a notice of violation or order for the same violation need not be served upon a new owner.

If a new notice of violation or order is not issued and served upon a new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner, starting on the date that the conveyance is completed.

E. Nothing in this section shall be deemed to limit or preclude any action or proceeding pursuant to Sections 25.09.430 and 25.09.450 of this chapter, and nothing in this section requires the Director to issue a notice of violation prior to the imposition of civil or criminal penalties.

25.09.430 Stop-Work Order.

A. The Director may issue a stop-work order whenever any use, activity, work or development (1) is being done without a permit, determination, or authorization required by this chapter, (2) is being done contrary to any determination, authorization, permit, or approval of DPD and the use, activity, work or development will immediately impact an environmentally critical area or materially impair the Director's ability to secure compliance with this chapter, or (3) immediately threatens the public health, safety, and welfare with respect to the interests protected under this section.

B. The stop-work order shall describe the violation in writing and be posted on the premises or served on any person responsible for the violation. Except emergency work necessary to stabilize the site that may be required by the Director, it is unlawful for any work on the property to be done after the posting or service of a stop-work order until authorization to proceed is given by the Director.

C. The stop-work order may require that vegetation, land, watercourse, premises, building, structure, or portion thereof, be vacated within a reasonable time, depending on the degree of danger, specified in the order. No person shall occupy the vegetation, land, premises, building, structure, or portion thereof after the date on which it is required to be vacated until the vegetation, land, watercourse, premises, building, structure, or portion thereof, is restored to a safe condition as determined by the Director.

25.09.450 Review by the Director.

A. Any person significantly affected by a notice of violation or stop-work order issued by the Director pursuant to this chapter may obtain an administrative review of the notice or order by requesting such review in writing to the Director within ten (10) days of the date of the notice or order. When the last day of the period so computed is a Saturday, Sunday, or federal or City holiday, the period shall run until five (5:00) p.m. on the next business day. A request for administrative review is an administrative remedy that must be exhausted before judicial review of the notice or order may be sought.

B. Upon receipt of the request, the Director shall notify by mail any persons served within the notice or order and any person requesting review, advising them of the request for review, of the date of the review, and of the deadline for submitting additional written information for consideration. The deadline for submitting additional written information shall be ten (10) days from the date the notice of administrative review is mailed, unless otherwise agreed to by all persons served with the notice or order. The Director and all persons served with the notice or order may also agree to review the matter within a shorter period or time that shall not be less than three (3) days from the date the notice or order was issued.

C. The Director shall conduct the administrative review and issue a decision on the request for administrative review in the form of an Order of the Director. The Director shall review all written information received by the submission deadline and any additional evidence or information available to DPD staff and placed in the case file. The Director may also request clarification of information received and a site visit. After review of the case file and of the additional written information and/or after a site visit, the Director shall issue an Order of Director that may:

1. Sustain the notice or order;

2. Withdraw the notice or order;

3. Continue the review to a date certain for receipt of additional information; or

4. Modify the notice or order, which may include an extension of the compliance date, if any.

D. The Director shall issue the Order of the Director no later than ten (10) days from the deadline for submitting additional information. The Order of the Director is mailed by first class mail to the person or persons named on the notice of violation or order and to any person who requested the administrative review. If the original notice or order was recorded with the King County Department of Records and Elections the Order of the Director shall also be recorded.

25.09.460 Civil Penalty.

A. Any person who violates or fails to comply with any provision of this chapter is subject to a civil penalty in an amount not to exceed Five Hundred Dollars ($500) per day for each violation, and in the event of a continuing violation shall be subject to a cumulative civil penalty of $500 per day for each violation from the time the violation occurs or begins until compliance is achieved. In cases where the Director has issued a notice of violation with a compliance date, the violation is deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation. For removing, clearing, or taking any action detrimental to a tree over six inches in caliper an additional civil penalty of Five Thousand Dollars ($5,000) shall be assessed.

B. Violations causing significant damage may be assessed an additional penalty in an amount reasonably determined to be equivalent to the economic benefit that the violator derived from the violation, measured as the greater of, the resulting increase in market value of the property, the value received by the violator, or the savings of construction costs realized.

C. The penalty imposed by this section may be collected by civil action brought in the name of the City. The Director notifies the City Attorney in writing of the name of any person subject to the penalty, and the City Attorney, with the assistance of the Director, takes appropriate action to collect the penalty. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an Order following an administrative review by the Director is not itself evidence that a violation exists.

25.09.470 Alternative Criminal Penalty.

Any person who violates or fails to comply with this chapter shall be guilty of a gross misdemeanor subject to the provisions of Chapters 12A.02 and 12A.04, except that absolute liability shall be imposed for such a violation or failure to comply and none of the mental states described in Section 12A.04.030 need be proved. The Director may request the City Attorney prosecute such violations criminally as an alternative to the civil penalty provision outlined in this chapter. Each day that a person continues to violate or fail to comply with the provisions of this chapter and each occurrence of a prohibited activity constitutes a separate offense.

25.09.480 Additional Relief.

The Director may seek legal or equitable relief to enjoin any acts or practices and abate any condition that constitutes or will constitute a violation of this chapter.

25.09.((~~420~~))520 Definitions.

"Best management practices" ((~~are~~)) means

a. the practices defined in ((~~SMC~~)) Section 22.801.030, Stormwater, Grading and Drainage Control Code((~~.~~)); and

b. structural, nonstructural and managerial techniques identified by the Director, or by the director of a City agency when that agency is making determinations under this chapter, as the most effective and practical means in an urban environment to mitigate adverse environmental effects on environmentally critical areas and buffers and their functions.

"Biologist" means a person who has earned a degree in biological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing biologist.

"Buffer" means a designated area adjacent to and/or a part of an environmentally critical area and intended to protect the environmentally critical area.

"City agency" means The City of Seattle or any of its subdivisions, including but not limited to, any City board, commission, committee, officer or department.

"Construction activity area" ((~~refers to~~)) means all areas of land disturbing activity within a site or on adjacent sites or rights-of-way used during construction including, but not limited to, developmental coverage areas and construction access and storage areas.

"Detention" is defined in ((~~SMC~~)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.

"Development" means ((~~and refers to~~)) all components and activities related to construction((~~,~~)) or disturbance ((~~and/or use~~)) of a site, including but not limited to land disturbing activities.

"Development standard" means a regulation establishing a limit on development.

((~~"Developmental coverage" is defined in SMC Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Director" means the Director of the Department of ((~~Construction and Land Use~~))Planning and Development or his or her designee.

((~~"Discharge point" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Downtown zones" means all Downtown Office Core, Downtown Retail Core, Downtown Mixed Commercial, Downtown Mixed Residential, Downtown Harbor Front, International District Mixed, International District Residential, Pike Market Mixed, and Pioneer Square Mixed, as defined in Chapter 23.30.

((~~"Drainage control" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control facility" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage control plan" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control system" is defined in ((~~SMC~~))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage water" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Ecological Function" means the work performed or role played individually or collectively by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the natural environment.

"Exception" refers to the environmentally critical areas exception, Section 25.09.300.

"Exemption" means to release a project either fully or partially from compliance with the environmentally critical areas regulations, or from specific development standards of this chapter, as provided in Section 25.09.045.

"Geologist" means a person who has earned a degree in geology from an accredited college or university and has at least five (5) years' experience as a practicing geologist or four (4) years of experience and at least two (2) years of postgraduate study, research or teaching. The practical experience shall include at least three (3) years of work in applied geology and evaluation, in close association with qualified practicing geologists or geotechnical/civil engineers.

"Geotechnical/civil engineer" means a practicing geotechnical/civil engineer licensed as a professional civil engineer by the State of Washington who has at least four (4) years of professional experience as a geotechnical engineer including experience with landslide evaluation.

((~~"Hydrologist" means a person who has earned a degree in hydrological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing hydrologist.~~))

"Impervious surface" is defined in ((~~SMC~~))Section 22.801.100, Stormwater, Grading and Drainage Control Code.

"Improved public road right-of-way" means a right-of-way which either contains utilities or is paved.

"Invasive plants" means the plants listed for Western Washington in Washington State Department of Ecology Publication # 04-06-025.

"Land disturbing activity"((~~is defined in SMC Section 22.801.130, Stormwater, Grading and Drainage Control Code.~~)) means any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land disturbing activities include, but are not limited to, clearing, grubbing, grading, filling, excavation, or addition or replacement of impervious surface.

"Lot" means a platted or unplatted parcel or parcels of land abutting upon and accessible from a private or public street sufficiently improved for vehicle travel or abutting upon and accessible from an exclusive, unobstructed permanent access easement. A lot may not be divided by a street or alley.

"Native fish" means a species of fish identified by the United States Fish and Wildlife Service as occurring in the Puget Sound area as part of its indigenous fresh water or marine aquatic fauna.

"Native vegetation" means vegetation, including trees, comprised of plant species ((~~which~~)) that are indigenous and noninvasive, naturalized to the Puget Sound region and ((~~which~~)) that reasonably can be expected to naturally occur on a site. Native vegetation does not include noxious weeds.

"Non-disturbance areas" means areas where development is not to be allowed.

"Normal pruning and maintenance" means for trees, shrubs and other woody plants compliance with American National Standards Institute A300 pruning standards.

"Noxious weeds" means weeds listed by the King County Noxious Weed Control Board.

"Ordinary high water mark" means, on all lakes, streams, and tidal water, that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, or as it may naturally change thereafter or as it may change thereafter in accordance with permits issued by the Director of the Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Parcel means a lot, unplatted property or combination thereof in the City of Seattle.

"Person" means any individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, co-partnership, joint venture, club, company, joint stock company,

business trust, municipal corporation, political subdivision of the State of Washington, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, the United States or any instrumentality thereof, and any entity of whatever type.

"Pesticide" means, but is not limited to:

(a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, and any other form of plant or animal life or virus, except virus on or in a living person or other animal which is normally considered to be a pest or which the Director may declare to be a pest;

(b) Any substance or mixture of substances intended to be used as a plant regulator, defoliant or desiccant; and

(c) Any spray adjuvant.

"Provisions of this chapter" means all sections of this chapter.

"Retaining structure" means any improvement built up or composed of parts joined together in some definite manner and affixed to the ground for the purposes of retaining earth or rocks, including but not limited to concrete retaining walls, mechanically stabilized earth systems, soil nails, terracing, or flower bed frames.

"Riparian watercourse" means a channel through which water flows as defined in subsection 25.09.020 D5.

"Shoreline habitat" means Type 1waters defined in WAC 222-16-031 that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

"Short subdivision" means the division or redivision of land into nine (9) or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease, development or financing, and shall include all

resubdivision of previously platted land and properties divided for the purpose of sale or lease of townhouse units.

"Site" means the unit of land for which an applicant is receiving permission to carry out development.

"Species of local importance" means those species ((~~that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.~~)) of wildlife designated under Section 25.09.200E.

"Stabilize" means to possess permanent characteristics, either naturally or by manmade improvements, which can be shown to have sufficient resistance to forces normally expected to occur, and those forces ((~~which~~)) that may occur as a result of a one (1) in one-hundred (100) year event.

"Steep slopes" means slopes of forty percent (40%) inclination or more within a vertical elevation change of at least ten feet (10'). For the purpose of this definition, a slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten feet (10')of elevation difference. Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five (25) feet.

"Steep slope area" means an area described in subsection 25.09.020 A 3.

"Street" means a right-of-way which is intended to provide or which provides a roadway for general vehicular circulation, is the principal means of vehicular access to abutting properties and includes space for utilities, pedestrian walkways, sidewalks and drainage.

"Subdivision" means the division or redivision of land into ten (10) or more lots, tracts, parcels, sites, or divisions for the purpose of sale, lease and transfer of ownership.

((~~"Urban natural open space habitat" means and refers to those fish and wildlife habitat areas mapped by the Washington State Department of Wildlife.~~))

"Vegetation" means any and all organic plant life growing on, below, or above the soil surface.

"Watercourse" is defined in Section 22.801.240.

"Wetland Creation" means the creation of a wetland within an upland area.

((~~"Wetland of exceptional value" means and refers to wetlands with the following values:~~

~~1. Rare or unique species listed by the federal or State government as endangered or threatened and needing special protection;~~

~~2. Presence of plants or group of plants that occur infrequently in the Seattle or Puget Sound region;~~

~~3. Habitat diversity;~~

~~4. Sensitivity to disturbance; and~~

~~5. Difficulty in replacement of ecological functions unique to Seattle.~~

~~"Degraded wetland" means and refers to those wetlands which have been altered or damaged by past human activities and/or biologically diminished by invasive, non-native plants so that the natural biofiltration and habitat values have been rendered inefficient or nonfunctional.~~))

"Wetland Restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland.

"Wildlife" means ((~~and includes all undomesticated animals~~)) all species of the animal kingdom as defined in RCW 77.08.010.

"Wildlife habitat" means and refers to those areas that support individual or populations of animals defined as wildlife for all or part of an annual cycle.

25.09.((~~440~~))530 Construction.

In any case where the provisions of this chapter conflict with the provisions of the underlying zoning or the Seattle Shoreline Master Program, the provisions of this chapter ((~~shall~~)) apply. For purposes of this chapter, the singular ((~~shall~~)) includes the plural and vice versa, and the masculine gender ((~~shall~~)) includes the feminine and neutral genders.

Section 2. Section 23.28.030 of the Seattle Municipal Code is amended as follows:

SMC 23.28.030 Criteria for approval.

A. The Director shall approve an application for a lot boundary adjustment if it is determined that:

1. No additional lot, tract, parcel, site or division will be created by the proposed adjustment;

2. No lot is created which contains insufficient area and dimensions to meet the minimum requirements for development as calculated under the development standards of the zone in which the lots affected are situated, except as provided in Section 23.44.010, and under any applicable regulations for siting development on parcels with riparian corridors, shoreline habitat, shoreline habitat buffers,

wetlands, wetland buffers or steep slopes in chapter 25.09. Any required nondisturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335;

3. No lot is created which does not have adequate drainage, water supply and sanitary sewage disposal, and access for vehicles, utilities and fire protection;

4. The lot boundary adjustment is consistent with applicable provisions of the Land Use Code, Title 23((~~, and SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

B. An application for a lot boundary adjustment on a parcel containing and environmentally critical area or buffer shall include the information described in Section 25.09.330, unless the Director determines that some of the information listed is not necessary for reviewing the application.

Section 3. Section 23.22.058 of the Seattle Municipal Code is amended as follows:

23.22.058 Environmentally critical areas.

No plat shall be approved by the Hearing Examiner covering any land situated in a riparian corridor ((~~buffer~~)), wetland and wetland buffer, or steep slope and steep slope buffer unless in compliance with the applicable provisions of ((~~SMC~~)) Section 25.09.240, Short subdivisions and subdivisions, in environmentally critical areas.

Section 4. Subsection 23.44.008 G of the Seattle Municipal Code is amended as follows:

23.44.008 Development standards for uses permitted outright.

* * * *

G. Development standards governing lots ((~~located in~~)) containing an environmentally critical area or buffer may be modified according to the provisions of ((~~SMC~~))Chapter 25.09((~~, Regulations for Environmentally Critical Areas~~)).

Section 5. Subsection 23.44.010 B5 of the Seattle Municipal Code is amended as follows:

23.44.10 Lot requirements.

* * * *

B. Exceptions to Minimum Lot Area. The following exceptions to minimum lot area are subject to the limits of subsection B5. A lot which does not satisfy the minimum lot area requirements of its zone may be developed or redeveloped as a separate building site according to the following:

* * * *

5. Development may occur on a substandard lot containing a riparian corridor ((~~buffer~~)), a shoreline habitat and shoreline habitat buffer, a wetland and wetland buffer, or a steep slope and steep slope buffer pursuant to the provisions of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, if the following conditions apply:

a. The substandard lot is not held in common ownership with an adjacent lot or lots at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, or

b. The substandard lot is held in common ownership with an adjacent lot or lots, or has been held in common ownership at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas,2 but proposed and future development will not intrude upon the environmentally critical area or buffer;

* * * *

Section 6. Subsection 23.44.014 D15 of the Seattle Municipal Code is amended as follows:

23.44.014 Yards.

* * * *

D. Exceptions from Standard Yard Requirements. No structure shall be placed in a required yard except pursuant to the following subsections:

* * * *

15. Front and rear yards ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of)~~) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 7. Subsections A and C of Section 23.44.024 of the Seattle Municipal Code is amended as follows:

SMC 23.44.024 Clustered housing planned developments.

* * * *

A. Site Requirements.

1. The minimum size of a CHPD shall be two (2) acres. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, and submerged land shall not be used to meet minimum size requirements.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use clustered development provisions under Section 25.09.260 shall apply, superseding the standards of this section.

3. The Director may exclude land from a CHPD if it is separated from the site by topographical conditions, if it has a poor functional relationship with the site, or if inclusion of the land would negatively impact adjacent single-family zoned lots.

* * * *

C. Number of Dwelling Units Permitted.

1. The number of dwelling units permitted in a CHPD shall be calculated by dividing the CHPD land area by the minimum lot size permitted by subsection A of Section 23.44.010 in the single-family zone in which the CHPD is located. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer and submerged land shall be excluded from the land used to calculate density in a CHPD. For CHPDs which include more than one (1) zone, the number of dwelling units shall be calculated based on the proportion of land area in each zone.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use provisions for regaining development credit and clustering under Section 25.09.260 shall apply.

3. One (1) additional detached single-family structure may be permitted if the development includes recreational, meeting and/or day care facilities open to the surrounding community.

* * * *

Section 8. Subsection 23.45.014 H of the Seattle Municipal Code is amended as follows:

23.45.014 Setback requirements -- Lowrise zones.

* * * *

H. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to the provisions of ((~~subsection A~~))of Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 9. Subsection 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to ((~~the provisions of subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 10. Subsection 23.45.072 D3 of the Seattle Municipal Code is amended as follows:

SMC 23.45.072 Highrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks on lots containing certain ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~))pursuant to the provisions of ((~~subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Subsection 23.53.010 B3 of the Seattle Municipal Code is amended to read:

SMC 23.53.010 Improvement requirements for new streets in all zones

* * * *

B. Required Right-of-way Widths for New Streets.

* * * *

3. Exceptions to Required Right-of-way Widths. The Director, after consulting with the Director of Transportation, may reduce the required right-of-way width for a new street when location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes the required right-of-way width impractical or undesirable.

Section 12. Subsection 23.53.015 D3a of the Seattle Municipal Code is amended to read:

SMC 23.53.015 Improvement requirements for existing streets in residential and commercial zones.

* * * *

D. Exceptions.

* * * *

3. Exceptions from Required Street Improvements. The Director may waive or modify the requirements for paving and drainage, dedication, setbacks, grading, no-protest agreements, landscaping and curb and sidewalk installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 13. Subsection 23.53.020 E3a of the Seattle Municipal Code is amended to read:

SMC 23.53.020 Improvement requirements for existing streets in industrial zones.

* * * *

E. Exceptions.

* * * *

3. Exceptions From Required Street Improvement Requirements. The Director may waive or modify the requirements for paving, dedication, setbacks, grading, no-protest agreements,

landscaping and sidewalk and pedestrian walkway installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 14. Subsection 23.53.025 H of the Seattle Municipal Code is amended to read:

SMC 23.53.025 Access easement standards.

* * * *

H. Exceptions From Access Easement Standards. The Director, in consultation with the Fire Chief, may modify the requirements for easement width and surfacing for properties located in environmentally critical areas or their buffers when it is determined that:

1. Such modification(s) would reduce adverse effects to identified environmentally critical areas or buffers; and

2. Adequate access and provisions for fire protection can be provided for structures served by the easement.

Section 15. Subsection 23.53.030 G1 of the Seattle Municipal Code is amended to read:

SMC 23.53.030 Alley improvements in all zones.

* * * *

G. Exceptions. The Director, after consulting with the Director of the Department of Transportation, may modify or waive the requirements for dedication, paving and drainage, setbacks,

grading and no-protest agreements, if it is determined that one (1) or more of the following conditions are met. The Director may require access to be from a street if alley improvements are also waived.

1. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable;

* * * *

Section 16. Section 23.84.010 of the Seattle Municipal Code is amended to read:

23.84.010 "E"

* * * *

"Environmentally critical area" means those areas ((~~designated by~~)) defined in ((~~the City of Seattle Environmentally Critical Areas Policies and regulated and mapped in~~))SMC Chapter 25.09, Regulations for Environmentally Critical Areas((~~, and other city codes~~)).

* * * *

Section 17. Subsection C of SMC Section 23.90.002 of the Seattle Municipal Code is amended as follows:

23.90.002 Violations

* * * * *

C. It is a violation of Title 23 to remove or deface any sign, notice, complaint or order required by or posted in accordance with Title 23 ((~~or Title 25~~)).

* * * *

Section 18. This ordinance shall take effect and be in force on the later of (a) May 9, 2006, or (b) thirty (30) days from and after its approval by the Mayor, or (c) if not approved and returned by the Mayor within ten (10) days after presentation, on the effective date as provided by Municipal Code Section 1.04.020.

Passed by the City Council the ____ day of _____, 20__, and signed by me in open session in authentication of its passage this _____ day of _____, 20__.

_____
President _____of the City Council

Approved by me this ____ day of _____, 20__.

_____
Gregory J. Nickels, Mayor

Filed by me this ____ day of _____, 20__.

_____
City Clerk

(Seal)

Ordinance 122050

3 sheets Oversized Publications of Daily Journal of Commerce

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City of Seattle

ORDINANCE 122050

AN ORDINANCE amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

WHEREAS, the City of Seattle wishes to adopt regulations to promote safe, stable, and compatible development and to protect critical areas pursuant to the authority of Chapter 36.70A RCW (the "Growth Management Act"), including the statewide planning goals, and pursuant to the City's police power authority independent of the Growth Management Act to adopt planning and zoning regulations; and

WHEREAS, compliance with the Growth Management Act requires balancing of competing goals which cannot always be reconciled easily in a single regulatory ordinance; and

WHEREAS, Council recognizes that the successful implementation of the Environmentally Critical Areas ordinance increases the ongoing local and regional need to develop and implement policies that provide adequate housing capacity and identify suitable buildable lands; and

WHEREAS, the City of Seattle wishes to adopt regulations to implement the City's Comprehensive Plan; and

WHEREAS, the City of Seattle has engaged in public participation, has considered the best available science, the statewide planning goals, and the City's Comprehensive Plan, and has determined that it is appropriate to amend its environmentally critical areas regulations and Title 23 based on the information and analysis set out in the Director's Report and Recommendations;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Title 25.09 of the Seattle Municipal Code is amended as follows:

25.09.010 ((~~Moratorium on development in landslide-prone areas~~))Purpose of the chapter.

((~~Notwithstanding any other provision of this chapter or of Chapter 23.76, all public and private development that is subject to this chapter and proposed for landslide-prone areas, as described in Section 25.09.020 B1a, is prohibited during the term of this section, except that the Director may approve the following:~~

~~A. Work that will not disturb the ground, such as interior repairs to existing structures;~~

~~B. Work that is necessary to stabilize a site that has been rendered unstable by recent slide activity, so as to lessen the risk of new or additional damage;~~

~~C. Work that is necessary to repair damaged structures or utilities, as long as the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property;~~

~~D. Work that would be exempted pursuant to Section 25.09.040, provided that work that would be exempted pursuant to subsections B, C, and F may be approved only if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property; and~~

~~E. Work that would be exempted pursuant to Section 25.09.180 D1 if the Director is reasonably satisfied that the work will not increase the risk of either short-term or long-term damage to the site or neighboring property.~~))

This chapter is based on and implements The City of Seattle Comprehensive Plan, as amended from time to time. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person, or class, or group of persons who will or should be especially protected or assisted by the terms or provisions of this chapter. This chapter is intended to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin.

25.09.015 Application of chapter.

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer.

B. This chapter applies to altering vegetation, trees, or habitat carried out by any person in landslide-prone critical areas (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers on publicly or privately owned parcels.

C. Section 25.09.200 A4 applies to daylighting pipes and culverts defined in that subsection.

25.09.017 Administration.

A. The Director shall administer and interpret the provisions of this chapter, except as specifically provided.

B. The Director shall determine whether development, platting, or alteration of vegetation, trees, or habitat is subject to this chapter. The Director may also consult with other City departments and state and federal agencies as necessary to obtain additional technical and environmental review assistance.

C. The Director shall review and analyze all applications for all permits or approvals subject to this chapter that are issued by the Department of Planning and Development. Such applications shall be approved only after the Director is satisfied the applications comply with this chapter.

D. Every other City department issuing a permit for development on parcels containing an environmentally critical area or its buffer or for altering vegetation, trees, or habitat in the areas set out in subsection 25.09.015 B shall require the use of best management practices to prevent impacts to environmentally critical areas and their buffers and to meet the intent of this chapter. Departments shall require mitigation to address unavoidable impacts. All such City departments shall maintain records documenting compliance with this subsection D.

~~iquakes.~~

~~a))~~3. Landslide-prone Areas. The follow~~re ((1.))~~landslide-prone areas ((~~are characterized by the following~~)):

~~(1)))~~a. Known landslide areas identified ~~cumented~~ history, or ((~~any~~)) areas that ~~shown~~ significant movement during the ~~an~~ thousand (10,000) years or are under~~y~~ mass wastage debris ((~~that occurred~~)) ~~ited~~ during this period; or

~~2)))~~b. Potential landslide areas: ~~ntial landslide areas based on docud geological characteristics, and based ombination of geologic, topographic and logic factors, including the following:~~

~~Areas over fifteen (15) percent slope whic have at least one (1) of the following characteristics:~~

~~(i) Impermeable soils (typically silt and clay) interbedded with permeable granular soils (predominantly sand and gravel), or impermeable soils overlain with permeable soils. This includes the area within one hundred (100) feet either side of the contact between Esperance Sand and either Lawton Clay or Pre-Lawton sediments as is shown on the area noted as Class Four (4) on the Slope Stability Map of Seattle, in Causes, Mechanisms and Prediction of Landsliding in Seattle, by Donald Willis Tubbs, Ph.D. Dissertation, University of Washington, 1975 ("Tubbs Map"), or as otherwise mapped, or~~

~~(ii) Identified relatively unstable soils in either Lawton Clay or Pre-Lawton sediments, as is shown on the area noted as Class Three (3) of the Tubbs Map, or as otherwise mapped, or~~

~~(iii) Springs or groundwater seepage;~~))

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000, 2003), or as more accurately mapped.

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(((b)))(5) ((~~Steep s~~))Slopes with an incline of forty (40) percent ((~~average slope or greater as defined by the Director. A slope must have a vertical elevation change of at least ten (10) feet to be considered a steep slope, although the ten (10) feet may cross the boundaries of a site. Slopes that meet~~)) these characteristics shall be considered ~~steep slope environmentally critical areas in addition to being classified as potential landslide areas;~~)) or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(((e)))(6) Areas that would be covered under ((~~either (a) or (b)~~)) one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

((~~d~~))(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

((~~b. Liquefaction-prone Areas. Liquefaction-prone areas are areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table which lose substantial strength during earthquakes.~~))

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that the area is only a landslide prone area when such a slope is on a parcel in a Downtown zone or highrise zone.

5. There is a known risk from a seismic events in Seattle and the surrounding region. Subsection 1-4 identify areas that constitute a particularly high risk to safety and welfare from such events and are therefore regulated as environmentally critical areas. The risks associated with seismic hazards in the remainder of the City are regulated by the Building Code (SMC Title 22) and not by this Ordinance.

((~~2~~))B. Flood-prone Areas. Flood-prone areas are those areas that would likely be covered with or carry water as a result of a one hundred (100) year flood event ((~~storm~~)), or that would have a one percent (1%) or greater chance of being covered with or of carrying water in any given year based on current circumstances or maximum development permitted under existing zoning. This includes areas identified as flood-prone on the Seattle Floodplain Development Ordinance or on FEMA maps, and streams identified by the Washington State Department of Fisheries Catalog of Washington Streams, and areas with ((~~drainage~~)) stormwater runoff problems known to ((~~the~~)) Seattle ((~~Drainage and Wastewater Utility~~.)) Public Utilities.

((~~3. Riparian Corridors. Riparian corridors include all areas within one hundred (100) feet measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark of the watercourse and water body, or a one-hundred (100) year floodplain as mapped by FEMA, as regulated by the Seattle Floodplain Development Ordinance, whichever is greater, and are classified as either a Class A Riparian Corridor or a Class B Riparian Corridor. Class A Riparian Corridors are stable, established streams and lakes that flow year-round and/or support salmonids, and include, but are not limited to, corridors that have an established floodplain as mapped by the FEMA Flood Insurance Program, and include Longfellow, Thornton, Pipers, Venema, Mohlendorph, Fauntleroy, Ravenna, Mapes, DeadHorse/Mill, Maple Leaf and Little Brook Creeks, and Haller and Bitter Lakes. Class B Riparian Corridors are not mapped by FEMA and are intermittent streams without salmonids that still demonstrate a high water mark. Riparian corridors do not normally include those artificial drainage areas intentionally created from grass-lined swales, canals, detention facilities, wastewater treatment facilities, and landscape amenities.~~))

((4))C. Wetlands. Wetlands are those 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 whether that passage is in riparian watercourses, pipes or culverts.

(((~~2~~) Areas that remain an isolated remnant of natural habitat of ten (10) acres or more and surrounded by urban development, with local consideration given to areas smaller than ten (10) acres;))

((~~b. All bodies of water that provide migration corridors and habitat for fish, especially salmonids, including Lake Washington, Lake Union and the Lake Washington Ship Canal, Duwamish River, and that portion of Elliot Bay within the City's jurisdiction;~~))

((~~c~~)) ((~~Commercial and Recreational shellfish areas and kelp and eelgrass beds and~~))

((~~d~~))4. Areas ((~~which~~)) that provide habitat for species of local importance.

5.a Riparian corridors, which are the riparian watercourse and the riparian management area. The riparian watercourse is the watercourse of Type 2-5 waters defined in WAC 222-16-031 that have fish or wildlife habitat. Water in surface water ditches and stormwater conveyances, pipes, culverts, flow control facilities and water quality facilities are not regulated as riparian watercourses. The riparian management area is the area within one hundred feet (100') measured horizontally landward from the top of each bank of the watercourse, or from the ordinary high water mark of the watercourse as surveyed in the field, if the top of the bank cannot be determined. In watercourses with braided channels or alluvial fans, the ordinary high water mark shall be determined so as to include the entire stream feature.

b. When a pipe or culvert connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert is daylighted, the waters formerly in the pipe or culvert will be regulated as a riparian watercourse, and the area adjacent to that watercourse will be regulated as a riparian management area, as defined in subsection 5. This subsection 5b does not apply when the pipe or culvert is removed to provide a publicly–owned facility designed primarily for water quality treatment, flow control or stormwater conveyance.

6. Shoreline habitat, which is Type 1 waters, defined in WAC 222-16-031, that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

((6))E. Abandoned Landfills. Abandoned landfills include those abandoned solid waste landfills identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project, additional sites identified by public or historical research, and areas within one thousand feet (1,000') of methane-producing landfills.

((~~C. Environmentally Critical Areas Maps. Environmentally critical areas defined and identified in subsections A and B shall be mapped whenever possible. These maps shall be advisory and used by the Director to provide guidance in determining applicability of the standards to a property. Sites that include environmentally critical areas which are not mapped shall be subject to the provisions of this chapter.~~))

((~~The Director may update or amend the environmentally critical areas maps by Director's Rule, according to Seattle Municipal Code Chapters 3.02 and 3.06, as new information and improved mapping resources become available. Mapping amendments may occur at a frequency not to exceed once every year.~~))

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. These maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmental critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary.

25.09.040 ((~~Application of standards~~)) Permits and Approvals Required.

((~~The standards of this chapter shall apply to all public and private proposals for new structures, additions to structures, short subdivisions and subdivisions, grading and drainage activity, and tree and vegetation removal per Section 25.09.320 located on either public or private property within environmentally critical areas and their buffers. Public projects proposed by any public agency shall comply with the standards of this chapter. Projects shall be exempted from the requirements of the chapter when the following situations and/or conditions apply:~~))

A. Prior to undertaking development or platting on a parcel containing an environmentally critical area or buffer, the person responsible shall submit an application complying with the provisions of Section 25.09.330, unless the person complies with the provisions of Section 25.09.045, 25.09.055, or 25.09.320.

B. Prior to undertaking actions under Section 25.09.045, 25.09.055, or 25.09.200 A4, the person responsible shall comply with provisions of the applicable section.

C. Prior to altering vegetation, trees, or habitat protected by this chapter the person responsible shall comply with the provisions of Section 25.09.320, unless that person complies with Section 25.09.045 or 25.09.055.

25.09.045 Exemptions.

A. 1. When the Director determines that criteria in subsections D to J below are met, those activities are exempt from the provisions of this chapter, except Sections 25.09.017 and.030 B and as otherwise provided in this section.

2. An application for an exemption may be made only as a component of a specific proposed development.

3. a. The applicant for an exemption shall provide all information requested by the Director and demonstrate that the work qualifies for the exemption. The Director shall determine whether work is exempt and may impose conditions on the work to protect environmentally critical areas and buffers or other property.

b. City agencies taking the action under any subsection of this section and the public agency taking the action under subsection J do not need to make an application to the Director provided that if no application is made, they shall comply with all provisions of this Section 25.09.045, make all determinations required to be made by the Director, including required conditions, and shall maintain records documenting compliance with all provisions.

B. All exempt activities shall be undertaken using best management practices; the applicant shall maintain records documenting compliance with this subsection B.

C. The enforcement provisions of this chapter apply to all activities exempted under this section. The Director's determination that a violation exists is not limited by determinations made by other City agencies or public agencies under subsection A3b, above.

D. Development that does not temporarily or permanently encroach within, alter, or

E. The Director shall identify techniques that are best management practices for actions administered by the Director. The Director may do this by Director's Rule. The directors of other City departments applying these regulations or issuing permits for development in environmentally critical areas or their buffers may identify techniques that are best management practices and may do this by Director's Rule.

F. The provisions of Section 23.88.020 apply to a decision by the Director as to the meaning, application, or intent of any provision of this chapter. Other administrative appeal provisions set out in Title 23 do not apply to decisions under this chapter, except as specifically provided.

25.09.020 Environmentally critical areas definitions.

((~~A. This chapter is based on and implements the Seattle Environmentally Critical Areas Policies as adopted by Resolution 8559, and as amended from time to time. This chapter shall apply to all development and platting located in environmentally critical areas as defined below and characterized by specific site conditions. It is expressly the purpose of this chapter to provide for and promote the health, safety and welfare of the general public, and to not create or otherwise establish or designate any particular person or class or group of persons who will should be especially protected or benefited the terms or provisions of this chapter.~~))

((~~B.~~)) The following ((~~shall constitute~~)) environmentally critical areas regulated this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

((~~1~~))A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas and landslide-prone areas described in subsections 2 and 3. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4. Seismic hazards are addressed in subsection 5.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

((~~a~~))3. Landslide-prone Areas. The following are ((~~1~~))landslide-prone areas ((~~are characterized by the following~~)):

((~~1~~)))a. Known landslide areas identified in documented history, or ((~~any~~)) areas that have shown significant movement during the past ten thousand (10,000) years or are underlain by mass wastage debris ((~~that occurred~~)) identified during this period; or

((~~2~~)))b. Potential landslide areas: ~~Potential landslide areas based on documented geological characteristics, and based on a combination of geologic, topographic and other logic factors, including the following:~~

~~Areas over fifteen (15) percent slope which have at least one (1) of the following characteristics:~~

~~(i) Impermeable soils (typically silt and clay) interbedded with permeable granular soils (predominantly sand and gravel), or impermeable soils overlain with permeable soils. This includes the area within one hundred (100) feet either side of the contact between Esperance Sand and either Lawton Clay or Pre-Lawton sediments as is shown on the area noted as Class Four (4) on the Slope Stability Map of Seattle, in Causes, Mechanisms and Prediction of Landsliding in Seattle, by Donald Willis Tubbs, Ph.D. Dissertation, University of Washington, 1975 ("Tubbs Map"), or as otherwise mapped, or~~

~~(ii) Identified relatively unstable soils in either Lawton Clay or Pre-Lawton sediments, as is shown on the area noted as Class Three (3) of the Tubbs Map, or as otherwise mapped, or~~

~~(iii) Springs or groundwater seepage;~~))

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000, 2003), or as more accurately mapped.

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or back-tilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(((~~b~~)))(5) ((~~Steep s~~))Slopes with an incline of forty (40) percent ((~~average slope or greater as defined by the Director. A slope must have a vertical elevation change of at least ten (10) feet to be considered a steep slope, although the ten (10) feet may cross the boundaries of a site. Slopes that meet~~)) these characteristics shall be considered steep-slope environmentally critical areas in addition to being classified as potential landslide areas;)) or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(((~~e~~)))(6) Areas that would be covered under ((~~either (a) or (b)~~)) one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

((~~d~~))(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

((~~b. Liquefaction-prone Areas. Liquefaction-prone areas are areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table which lose substantial strength during earthquakes.~~))

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection 4.3b(5) above; provided that the area

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 stormwater 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. ((((~~1~~))The method for delineating wetlands shall follow ((~~the most current version of~~)) the "Washington State Wetlands Identification and Delineation Manual" as adopted by the State Department of Ecology (Publication #96-94.)

((~~5~~))D. Fish and Wildlife Habitat Conservation Areas. The following are((~~F~~))fish and wildlife habitat conservation areas ((~~include, but are not limited to, the following~~)):

1. Areas mapped by the Washington State Department of Fish and Wildlife ("WDFW") as urban natural open space habitat areas.

((~~a~~))2. Areas designated ((~~identified~~)) by ((~~the Washington State Department of Wildlife~~)) WDFW as priority habitats and species areas, including native eel grass beds, kelp beds, and recreational shellfish areas. ((~~or urban natural open space habitat areas;~~))

(((~~1~~))3. Corridors connecting ((~~other~~)) priority habitats and species areas or habitat areas for species of local importance meeting one of the following criteria: ((~~especially areas that would otherwise be isolated;~~))

a. WDFW or the Department's species habitat management plan identifies the parcel as part of a corridor connecting habitat areas for priority species or species of local importance;

b. the parcel is adjacent to or connects parcels containing priority species or species of local importance and the Director determines that the parcel is part of a wildlife corridor based on information provided by a qualified wildlife biologist or;

c. the parcel provides fish passage between fish habitat in Type 1-5 waters upstream and downstream of the parcel, whether that passage is in riparian watercourses, pipes or culverts.

(((~~2) Areas that remain an isolated remnant of natural habitat of ten (10) acres or more and surrounded by urban development, with local consideration given to areas smaller than ten (10) acres;~~))

((~~b. All bodies of water that provide migration corridors and habitat for fish, especially salmonids, including Lake Washington, Lake Union and the Lake Washington Ship Canal, Duwamish River, and that portion of Elliot Bay within the City's jurisdiction;~~))

((~~c)) (Commercial and Recreational shellfish areas and kelp and eelgrass beds and~~))

((~~d~~))4. Areas ((~~which~~)) that provide habitat for species of local importance.

5.a Riparian corridors, which are the riparian watercourse and the riparian management area. The riparian watercourse is the watercourse of Type 2-5 waters defined in WAC 222-16-031 that have fish or wildlife habitat. Water in surface water ditches and stormwater conveyances, pipes, culverts, flow control facilities and water quality facilities are not regulated as riparian watercourses. The riparian management area is the area within one hundred feet (100') measured horizontally landward from the top of each bank of the watercourse, or from the ordinary high water mark of the watercourse as surveyed in the field, if the top of the bank cannot be determined. In watercourses with braided channels or alluvial fans, the ordinary high water mark shall be determined so as to include the entire stream feature.

b. When a pipe or culvert connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert is daylighted, the waters formerly in the pipe or culvert will be regulated as a riparian watercourse, and the area adjacent to that watercourse will be regulated as a riparian management area, as defined in subsection 5. This subsection 5b does not apply when the pipe or culvert is removed to provide a publicly–owned facility designed primarily for water quality treatment, flow control or stormwater conveyance.

6. Shoreline habitat, which is Type 1 waters, defined in WAC 222-16-031, that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

((6))E. Abandoned Landfills. Abandoned landfills include those abandoned solid waste landfills identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project, additional sites identified by public or historical research, and areas within one thousand feet (1,000') of methane-producing landfills.

((~~C. Environmentally Critical Areas Maps. Environmentally critical areas defined and identified in subsections A and B shall be mapped whenever possible. These maps shall be advisory and used by the Director to provide guidance in determining applicability of the standards to a property. Sites that include environmentally critical areas which are not mapped shall be subject to the provisions of this chapter.~~))

((~~The Director may update or amend the environmentally critical areas maps by Director's Rule, according to Seattle Municipal Code Chapters 3.02 and 3.06, as new information and improved mapping resources become available. Mapping amendments may occur at a frequency not to exceed once every year.~~))

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. These maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary.

25.09.040 ((~~Application of standards~~)) Permits and Approvals Required.

((~~The standards of this chapter shall apply to all public and private proposals for new structures, additions to structures, short subdivisions and subdivisions, grading and drainage activity, and tree and vegetation removal per Section 25.09.320 located on either public or private property within environmentally critical areas and their buffers. Public projects proposed by any public agency shall comply with the standards of this~~

City of Seattle

ORDINANCE 122050

AN ORDINANCE amending Seattle Municipal Code chapter 25.09, relating to environmentally critical areas, and amending related provisions of Seattle Municipal Code Title 23, Sections 23.28.030, 23.22.058, 23.44.008, 23.44.010, 23.44.014, 23.44.024, 23.45.014, 23.45.056, 23.45.072, 23.53.010, 23.53.015, 23.53.020, 23.53.025, 23.53.030, 23.84.010, 23.90.002.

WHEREAS, the City of Seattle wishes to adopt regulations to promote safe, stable, and compatible development and to protect critical areas pursuant to the authority of Chapter 36.70A RCW (the "Growth Management Act"), including the statewide planning goals, and pursuant to the City's police power authority independent of the Growth Management Act to adopt planning and zoning regulations; and

WHEREAS, compliance with the Growth Management Act requires balancing of competing goals which cannot always be reconciled easily in a single regulatory ordinance; and

WHEREAS, Council recognizes that the successful implementation of the Environmentally Critical Areas ordinance increases the ongoing local and regional need to develop and implement policies that provide adequate housing capacity and identify suitable buildable lands; and

WHEREAS, the City of Seattle wishes to adopt regulations to implement the City's Comprehensive Plan; and

WHEREAS, the City of Seattle has engaged in public participation, has considered the best available science, the statewide planning goals, and the City's Comprehensive Plan, and has determined that it is appropriate to amend its environmentally critical areas regulations and Title 23 based on the information and analysis set out in the Director's Report and Recommendations;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Title 25.09 of the Seattle Municipal Code is amended as follows:

increase the impact to the environmentally critical area or buffer on the parcel where the development occurs is exempt from the provisions of this chapter; if existing development that encroaches within or impacts the environmentally critical area or buffer is removed, then new development that encroaches within, alters or impacts the environmentally critical area or buffer is not exempt.

(((A)))E. ((When the Director determines there is an emergency threatening the public health, safety and welfare;)) Work directly related to ending a condition that (1) is an immediate threat to the public health, safety and welfare, or creates an immediate risk of damage to public or private property and (2) requires remedial or preventive action in a timeframe too short to allow compliance with the application provisions of this chapter is exempt from those provisions, provided that the work is the minimum work necessary to end the condition and the work is consistent with the development standards of this chapter to the extent practicable. Once the Director determines that the condition no longer meets these criteria, all work is subject to the provisions of this chapter, including but not limited to its application requirements, its development standards, and any requirements for technical reports and reviews for work that was exempt at the time it was performed.

((B))F. Maintenance, repair, renovation, or structural alteration of an existing structure ((structures in existence on October 31, 1992, the effective date of the ordinance codified in this chapter, unless otherwise prohibited by law.)) that does not increase the impact to, or encroach further within, or further alter an environmentally critical area or buffer is exempt from the provisions of this chapter. ((Expansion or extension in any manner which increases the extent of nonconformity with the environmentally critical area provisions of the chapter shall not be permitted. When these structures are damaged by an act of nature, they may be rebuilt or replaced within one (1) year or the act of nature provided that the new construction or related activity does not further intrude into an environmentally critical area or required buffer and is subject to the flood hazard areas reconstruction restrictions;))

((C. New accessory structures and additions to structures whose developmental coverage does not exceed a cumulative addition of seven hundred and fifty (750) square feet of impervious surface after October 31, 1992, the effective date of the ordinance codified in this chapter, provided the addition is not constructed over a watercourse, water body or wetland;))

((D. When the applicant demonstrates to the satisfaction of the Director, through site surveys, topographic maps, technical environmental analysis, and other means as determined necessary by the Director that either one of the following situations apply:))

((1. The site contains no environmentally critical areas as defined in Section 25.09.020, or))

((2. The proposed development and associated land disturbing activity, including developmental coverage, does not occur within the area of the site designated as environmentally critical and any required buffer as defined in Section 25.09.020,))

((E. Normal and routine operation, maintenance, remodeling, and repair of existing public facilities and utilities, including the maintenance, vegetation management and revegetation of public parkland and open spaces, when undertaken pursuant to best management practices to avoid impacts to environmentally critical areas;

F. The following electric, natural gas, cable communications, telephone, public facility and utility, and right-of-way improvement projects, with the Director's approval of the location and limits of the project, only when the project is not a prerequisite to development. The exemption shall only be approved when the project is undertaken pursuant to best management practices to avoid impacts to environmentally critical areas, and when it can be demonstrated that:

1. No practicable alternative exists;

2. The encroachment into a critical area is minimized to the greatest extent practicable; and

3. Mitigation measures are employed before, during and after construction.))

G. Rebuilding or replacing structures that are destroyed by an act of nature is exempt from the provisions of this chapter, provided that action toward the rebuilding or replacement is commenced within one (1) year of the act of nature, that the rebuilding or replacement is diligently pursued, and that the new structure does not increase the impact to the environmentally critical area or buffer on the parcel where the development occurs is exempt from the provisions of this chapter; if existing development that encroaches within or impacts the environmentally critical area or buffer is removed, then new development that encroaches within, alters or impacts the environmentally critical area or buffer is not exempt.

H. Activities within the improved right-of-way of a street, road, or alley, provided that the activity does not

~~ity and vicinity, and right-of-way improvement projects, with the Director's approval of the location and limits of the project, only when the project is not a prerequisite to development. The exemption shall only be approved when the project is undertaken pursuant to best management practices to avoid impacts to environmentally critical areas, and when it can be demonstrated that:~~

~~1. No practicable alternative exists;~~

~~2. The encroachment into a critical area is minimized to the greatest extent practicable; and~~

~~3. Mitigation measures are employed before, during and after construction;))~~

G. Rebuilding or replacing structures that are destroyed by an act of nature is exempt from the provisions of this chapter, provided that action toward the rebuilding or replacement is commenced within one (1) year of the act of nature, that the rebuilding or replacement is diligently pursued, and that the new construction or related activity does not further encroach into, or increase the impact to, or further alter an environmentally critical area or buffer and complies with restrictions on flood hazard areas reconstruction.

H. 1. The activities identified in subsection 3 below are exempt from the provisions of this chapter when the applicant demonstrates:

a. The work is not a prerequisite to other development;

b. No practicable alternative to the work with less impact on the environmentally critical area or buffer exists; and

c. The work does not pose an unreasonable threat to the public health, safety or welfare on or off the parcel.

2.

The Director's decision shall:

a. include the approved location and limits of the work; and

b. shall require specific mitigation measures for impacts to all environmentally critical areas and their buffers before, during, and after construction.

3. The provisions of this subsection H apply to the following activities:

a. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less only when required by a governmental agency,

b. Relocation of natural gas, cable communications, gas, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances only when required by a governmental agency,

c. Installation or construction in improved public road rights-of-way, and replacement, operation or alteration, of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less,

d. Installation or construction in improved public road rights-of-way, and replacement, operation, repair or alteration of all natural gas, cable communications, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances,

e. Public or private projects designed to enhance ((~~streams~~)) riparian corridors, shoreline habitat and its buffer, and wetlands and their buffers, including ((~~drainage~~))stormwater-related functions, that require either a Hydraulic Project Approval from ((~~either~~))the Washington Department((~~s~~)) of ((~~Fisheries or Wildlife~~)) Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers, Aquatic Habitat Matching Grant program, established by City Council Resolution 30719, and

f. Public projects ((~~that promote a public objective,~~)) where the intrusion into the environmentally critical area or buffer benefits the public, such as trails providing access to a creek or wetland area, when located and designed to ((~~minimize~~)) keep environmental disturbance to ((~~the greatest extent possible~~)) a minimum. The applicant shall protect vegetation and trees pursuant to a tree and vegetation plan consistent with best management practices. The plan shall be prepared by a qualified expert with experience related to the type of environmentally critical area or buffer where work will occur. In landslide-prone areas of the plan shall also be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on steep slopes.

I. Normal and routine operation, maintenance, remodeling, repair, and removal of existing public facilities and utilities is exempt from the provisions of this chapter when these activities do not result in substantial disturbance of environmentally critical areas or buffers.

J. Normal and routine (a) pruning, (b) tree and vegetation maintenance and management, and (c) revegetation are exempt from the provisions of this chapter when they do not result in substantial disturbance of environmentally critical areas or buffers

~~tics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~c. General location of areas with significant amounts of vegetation, and specific location and description of all trees and shrubs over six inch (6^{th}) caliper measured three feet (3') above the base of the trunk, and noting their species;~~

~~d. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of development coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);~~

~~e. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and in the full width of abutting public rights-of-way; and~~

~~g. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~2. Additional Site Plan Information. The following site plan information shall also be required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.~~

~~a. Location and boundaries of all critical areas on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;~~

~~b. Proposed location and boundaries of all required undisturbed fenced areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines;~~

~~c. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);~~

~~d. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;~~

~~e. Location of all proposed grading activities, and all proposed drainage control facilities or systems on-site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook up to these services; and~~

~~g. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~3. Technical Reports. Technical reports shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, vegetation, and other pertinent site information. The reports shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.~~

~~B. General Requirements for the Lot, Adjacent Lots, Surrounding Area, and Drainage Basin.~~

~~1. The developer shall ensure safe, stable and compatible development which avoids adverse environmental impacts and potential harm on the lot, to adjacent lots, the surrounding neighborhood, and the drainage basin. Detailed analysis of impacts, including cumulative impacts of development, of the proposed development upon wetlands, riparian corridors, native vegetation and wildlife habitats, water quality, fisheries, natural water temperature, slope and soil conditions, and surface water drainage may be required by the Director when lot and area conditions indicate the need for such analy-~~

~~a. Site visit and reconnaissance;~~

~~b. Preliminary soils investigations including tests and borings; and~~

~~c. Detailed geotechnical studies and engineering plans.~~

~~2. During the staged review process, more extensive studies and investigations may be required for more hazardous sites, based on the degree of slope, hydrology and underlaying soils and geology. The Director may require detailed site investigation including, but not limited to the following:~~

~~a. Review of available literature regarding the site and surrounding areas;~~

~~b. Detailed topographic analysis;~~

~~c. Subsurface data and exploration logs;~~

~~d. Ground surface profiles;~~

~~e. Analysis of relationship of vegetated cover and slope stability;~~

~~f. Site stability analysis;~~

~~g. Geotechnical considerations to reduce risk; and~~

~~h. Construction and post-construction monitoring.~~

~~3. The Director shall determine the amount of additional study necessary depending on the degree of landslide-prone hazard on a site based on the information disclosed during the staged review process. The Director may require third-party review.~~

~~4. As part of the staged review process, the Director shall provide mailed notice to adjacent property owners, and the applicant shall post one (1) land use sign visible to the public at each street frontage abutting the site except, when there is no street frontage or the site abuts an unimproved street, the Director shall require either more than one (1) sign and/or an alternative posting location so that notice is clearly visible to the public. The land use sign may be removed by the applicant within fourteen (14) days after final action on the application has been completed. The purpose of this notice is to allow for an exchange of information between the applicant, adjacent property owners and the Director. Adjacent property owners may review and comment on site investigations and technical studies, and provide information and documentation of any previous landslide problems on the site. Notice will include information on how to find out whether or not third-party review is required.))~~

C. Third-Party Review. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, ((~~The~~))the Director ((~~shall determine when~~)) may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. ((~~shall be required.~~)) Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant. ((~~In determining the need for third-party review, the Director shall consider whether or not the project is to be constructed on deep soft soil areas, areas identified as being affected by deep slide masses or block movements, sites with excessive groundwater, and sites subject to lateral ground failure due to earthquakes.~~))

D. Bonds and Insurance. The Director may require adequate bonds and/or insurance to cover potential claims for property damage ((~~which~~)) that may arise from or be related to excavation or fill within a landslide-prone area ((~~a. The Director shall require such bonds or insurance~~)) when the depth of the proposed excavation ((~~shall~~)) exceeds four feet (4') and the bottom of the proposed excavation ((~~shall be~~)) is below ((~~a~~)) the one hundred percent (100%) slope line (forty-five (45) degrees from a horizontal line) from the property line. The Director may require such bonds and insurance in other circumstances where the Director determines that there is a potential for significant harm to an environmentally critical area or buffer during the construction process.

E. Permit renewals.

In addition to complying with the permit renewal standards in Chapter 23.76, applications for permit renewal shall comply with the following standards.

1. The Director may renew a permit for development that is in conformance with applicable regulations in effect at the time the renewal is sought.

2. An applicant seeking to renew a permit for new development in a landslide-prone area must submit a letter of certification from the current project geotechnical engineer of record as described in subsection G2. If such a letter of certification is not submitted, the permit shall not be renewed.

3. The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections G, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised or

~~ty-five feet (25') above the one-hundred (100) year flood elevation ((~~unless otherwise specified by the Director of Seattle Public Utilities~~)).~~

~~((25.09.140 Development standards for riparian corridors.~~

~~A. Riparian Corridor Watercourse. No development shall be permitted within or over the watercourse as delineated by survey and accepted by the Director. If no other access is available to the property, the Director may approve access over the watercourse as long as it maintains the natural channel and floodway of the watercourse and minimizes the disturbance of the buffer to the greatest extent possible.~~

~~B. Minimum Riparian Corridor Buffer. In order to prevent harm on-site and downstream, and in order to minimize degradation of water quality, a buffer shall be established within the corridor within which development shall not be permitted. All buffers shall be measured horizontally from the top of the bank, or if that cannot be determined, from the ordinary high water mark as surveyed in the field. In cases with braided channels and alluvial fans, the top of the ordinary high water mark shall be determined so as to include the entire stream feature. The buffer shall not extend beyond an existing public road if the road has an adequate storm water catchment facility. The minimum buffer shall be as follows:~~

~~1. Class A Riparian Corridor Buffers; Fifty Feet (50'); and~~

~~2. Class B Riparian Corridor Buffers; Twenty-five feet (25').~~

~~C. Buffer Vegetation and Restoration.~~

~~1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required.~~

~~2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately.~~

~~3. Buffer Restoration Exemption. When the site is a single lot, located adjacent to properties where natural vegetation has already been removed for lawns or other residential activities, the Director may conclude that a buffer restoration plan is not to be required or that buffer restoration is limited to planting trees for creek shading when no significant increase in protection of the water body would result from full restoration of the buffer.~~

~~D. Buffer Reductions on Existing Lots. The Director may reduce a Class A buffer if development of adjacent lots is less than fifty feet (50') from the watercourse. However, the buffer shall not be less than the distance to the watercourse from the adjacent structure that is furthest from the watercourse, or less than twenty-five feet (25'), whichever is greater.~~

~~E. Riparian Corridor Restoration.~~

~~1. To encourage restoration of a riparian corridor presently located in an underground pipe or culvert, the following conditions shall apply:~~

~~a. Every effort shall be made to avoid building over a riparian corridor located in an underground pipe or culvert, except when located under a street right-of-way; and~~

~~b. Uncovering of the riparian corridor should be encouraged and allowed with the Director's approval of the following exceptions to riparian corridor standards:~~

~~i. The minimum buffer may not be required if there is no space available; and~~

~~ii. The open riparian corridor may be located elsewhere on-site or on adjacent sites.~~

~~2. To encourage restoration of a riparian corridor presently located in an open channel or drainage way, the Director may waive the minimum buffer.~~

~~F. More intensive site review and application of stricter development standards may be applied in areas outside of the riparian corridor buffer where any of the following conditions are present:~~

~~1. High, steep slopes that could produce debris slides directly to surface waters; or~~

~~2. Sites with polluted groundwater seeps or springs; or~~

~~3. Other areas of potentially extreme adverse impacts.~~

~~G. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdic-~~

in the buffer, or the buffer is reduced in accordance with subsection D of this section.

1. Establishment of buffers.

a. The wetland buffer is measured horizontally from the edge of the wetland.

b. Wetlands have the following buffers:

Category I and II wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	100 feet 110 feet for moderate level habitat function 200 feet for high level of habitat function
Category III wetlands over one hundred (100) square feet in total size or of any size with the characteristics described in subsection B1c above	60 feet 85 feet for moderate or greater level habitat function
Category IV wetlands one thousand (1,000) square feet or more in total size or of any size with the characteristics described in subsection B1c above	50 feet
Category IV wetlands under one thousand (1,000) square feet in total size that do not have the characteristics described in subsection B1c above	No buffer. Use mitigation under subsection C3.

A wetland with a moderate level of function is one that scores 20 to 28 points for habitat function when rated according to Washington State Ecology publication #04-06-025. A wetland with a high level of function for habitat is one that scores of 29 to 36 points for habitat function when rated according to Washington State Ecology publication #04-06-025.

c. Wetlands constructed in upland areas or non-wetland areas by any person for stormwater control, biofiltration or aesthetic purposes are not subject to the wetland buffer requirements of this chapter. Maintenance activities are not restricted in these types of wetlands.

2. Development is prohibited in wetland buffers, except as approved by the Director under subsection D.

3. The Director may authorize development in a Category IV wetland under one thousand (1,000) square feet that does not have the characteristics described in subsection B1c above, when the Director finds that one of the following measures, which must occur on site, will mitigate wetland function lost by development:

a. Construct a wetland of equal function to the lost wetland function.

b. Plant an area of native vegetation equal or greater in size to the area of the developed wetland, and remove invasive species in the area to be planted.

c. Construct a bioengineered/ infiltration facility, such as a bioswale, stormwater planter or infiltration planter, that replicates the hydrologic and/or water quality benefit of the developed wetland. This facility shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

d. Construct a eco-roof or roof garden that replicates the hydrologic and/ or water quality benefit of the developed wetland. These facilities shall be designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

((~~C~~)) 4. Buffer Vegetation ((~~and Restoration~~)).

~~((1. Natural Buffer. If the vegetation within the buffer is generally in a natural state that prevents erosion, protects water quality, and provides a diverse habitat, the retention of the buffer's existing vegetation shall be required~~)).

a. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the wetland buffer is prohibited, except as provided in subsection D and Section 25.09.320.

~~((2. Buffer Restoration. If the vegetation within the buffer has been previously disturbed or degraded, the preparation of a plan to enhance the buffer through replanting or augmenting the existing vegetation with native or similar plants may be required by the Director. Any revegetation plan shall be prepared by a qualified professional with landscaping, plant ecology, or botany education and experience. The plan shall be approved by the Director. Vegetation shall not be removed or otherwise disturbed until the applicant is ready to replant immediately.~~

~~((3. Buffer Revegetation Exemptions. The Director shall allow the removal by hand of~~))

b. Invasive plants and noxious weeds ((~~; such as purple loosestrife,~~)) may be removed by hand. No machines or chemical removal shall be permitted without the Director's approval.

((~~E.~~)) D. Buffer Averaging and Buffer Reductions.

1. Buffer Width Averaging. The Director may modify the standard wetland buffer width by averaging buffer widths when

circumstances.))

~~((a. If the degraded portion of the wetland is restored on site at a four to one (4:1) ratio, restored land area to reduced buffer, for wetlands larger than fifteen hundred (1,500) square feet, and at a two to one (2:1) ratio for wetlands under fifteen hundred (1,500) square feet; and))~~

~~((b. Such buffer reduction adjacent to the degraded wetland shall not result in a buffer of less than twenty-five feet (25') and does not apply to the wetland itself.))~~

((~~E~~)) ((~~Constructed Wetlands. Wetlands constructed by a private interest or public agency for stormwater control, biofiltration or aesthetic purposes shall not be subject to the wetland buffer requirements of this chapter. Maintenance activities shall not be restricted. This does not apply to wetlands constructed for mitigation or replacement purposes.~~))

E. Avoidance and Mitigation Standards.

1. The standards for wetland mitigation shall be applied in following order of priority:

a. avoid the impact to the extent practicable by not taking all or part of an action;

b. keep the impact to a minimum by limiting the degree or magnitude of the action and its implementation, and by taking affirmative actions to mitigate the impact over time; and

c. mitigate unavoidable impacts to the designated uses of a wetland by replacement, enhancement, or other approved compensation methods.

2. Mitigation for grading, filling, or draining wetlands shall achieve the equivalent or better biologic functions of the existing wetland. Mitigation plans shall be consistent with the Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 1994 (#94-29).

3. Wetland mitigation actions shall not result in a net loss of wetland area unless the following criteria are met as determined by a site-specific function assessment:

a. The lost wetland area provides only minimal functions and the mitigation action(s) results in a net gain in wetland functions; or

b. The lost wetland area provides only minimal functions and other replacement areas provide greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

4. Mitigation actions that require compensation by replacing, enhancing, or substitution, shall occur in the following order of preference:

a. Restoring wetlands on sites that were formerly wetlands.

b. Creating wetlands on disturbed sites, such as those with vegetative cover consisting primarily of exotic introduced species.

c. Enhancing wetlands and/or wetland buffers with significantly degraded functions and values. The amount of required enhancement is dependent on the wetland classification in subsection 5.

5. a. The following ratios are required for the restoration, creation or enhancement of wetlands for authorized alterations. As determined by the Director, wetland mitigation may include the preservation and enhancement of habitat if it provides greater ecological function than the existing wetland. The first number specifies the area of replacement wetlands, and second specifies the area of wetlands altered:

Restoration or Creation Ratios -- Enhancement Ratios
Category I -- 6:1 -- 16:1
Category II -- 3:1 -- 16:1
Category III -- 2:1 -- 8:1
Category IV -- 1.5:1 -- 6:1

b. Replacement ratios may be increased under the following circumstances to achieve the equivalent wetland function of the wetland that is altered:

(1) Uncertainty exists as to the probable success of the proposed restoration or creation; or

(2) A significant period of time will elapse between impact and establishment of wetland functions at the mitigation site; or

(3) Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted.

c. Replacement ratios may be decreased when the proposed mitigation actions are conducted in advance of the impact and result in no net loss in wetland functions.

F. Mitigation Timing. Any restoration, creation or enhancement of wetlands that is required as mitigation shall be completed prior to issuance of the certificate of occupancy for the displacing use. If that has not occurred or if no certificate of occupancy is needed, the applicant shall submit plans that establish a specific schedule for completion, which must be approved by the Director, and shall provide a bond of at least one hundred

fare on or off the parcel.

2.

The Director's decision shall:

a. include the approved location and limits of the work; and

b. shall require specific mitigation measures for impacts to all environmentally critical areas and their buffers before, during, and after construction.

3. The provisions of this subsection H apply to the following activities:

a. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less only when required by a governmental agency,

b. Relocation of natural gas, cable communications, gas, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances only when required by a governmental agency,

c. Installation or construction in improved public road rights-of-way, and replacement, operation or alteration, of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of fifty-five thousand (55,000) volts or less,

d. Installation or construction in improved public road rights-of-way, and replacement, operation, repair or alteration of all natural gas, cable communications, telephone facilities, and public utility lines, pipes, mains, equipment or appurtenances,

e. Public or private projects designed to enhance ((~~streams~~)) riparian corridors, shoreline habitat and its buffer, and wetlands and their buffers, including ((~~drainage~~))stormwater-related functions, that require either a Hydraulic Project Approval from ((~~either~~))the Washington Department((~~s~~)) of ((~~Fisheries or Wildlife~~)) Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers, Aquatic Habitat Matching Grant program, established by City Council Resolution 30719, and

f. Public projects ((~~that promote a public objective,~~)) where the intrusion into the environmentally critical area or buffer benefits the public, such as trails providing access to a creek or wetland area, when located and designed to ((~~minimize~~)) keep environmental disturbance to ((~~the greatest extent possible~~)) a minimum. The applicant shall protect vegetation and trees pursuant to a tree and vegetation plan consistent with best management practices. The plan shall be prepared by a qualified expert with experience related to the type of environmentally critical area or buffer where work will occur. In landslide-prone areas of the plan shall also be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on steep slopes.

I. Normal and routine operation, maintenance, remodeling, repair, and removal of existing public facilities and utilities is exempt from the provisions of this chapter when these activities do not result in substantial disturbance of environmentally critical areas or buffers.

J. Normal and routine (a) pruning, (b) tree and vegetation maintenance and management, and (c) revegetation are exempt from the provisions of this chapter when they do not result in substantial disturbance of environmentally critical areas or buffers and when they are carried out in parks, public utility right of ways, and publicly owned open spaces by the public agencies, including City agencies, that are responsible for them.

25.09.050 City Projects.

"City project" means all work described in Section 25.09.015 that is undertaken by a City agency. A City project shall comply with all provisions of this chapter unless the project is exempt under Section 25.09.045.

25.09.055 Small Project Waiver.

A. The Director may approve new accessory structures or additions to existing structures in environmentally critical areas and buffers, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that ~~required for sites which include landslide-prone, flood-prone, riparian corridor, wetland, and steep-slope environmentally critical areas. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.~~

~~a. Location and boundaries of all critical areas on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;~~

~~b. Proposed location and boundaries of all required undisturbed fenced areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines;~~

~~c. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);~~

~~d. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;~~

~~e. Location of all proposed grading activities, and all proposed drainage control facilities or systems on site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;~~

~~f. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook- up to these services; and~~

~~g. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of Chapter 25.09.~~

~~3. Technical Reports. Technical reports shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, vegetation, and other pertinent site information. The reports shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.~~

~~B. General Requirements for the Lot, Adjacent Lots, Surrounding Area, and Drainage Basin.~~

~~1. The developer shall ensure safe, stable and compatible development which avoids adverse environmental impacts and potential harm on the lot, to adjacent lots, the surrounding neighborhood, and the drainage basin. Detailed analysis of impacts, including cumulative impacts of development, of the proposed development upon wetlands, riparian corridors, native vegetation and wildlife habitats, water quality, fisheries, natural water temperature, slope and soil conditions, and surface water drainage may be required by the Director when lot and area conditions indicate the need for such analysis. Supplemental technical reports may be required by the Director to specify measures to preserve, protect, and maintain adjacent sites and the drainage basin and ensure safe, stable and compatible development.~~

~~2. All conditions of approval associated with an approved development application and permit shall be recorded as official permit conditions at the Department of Construction and Land Use. During construction, the Director may require conditions to be posted on the site in such a manner as to be visible from public rights-of-way.~~

~~3. If applicable, as determined by the Director, the following environmentally critical areas and/or their associated buffers located on a development site, together with any permanent conditions, shall be described in a permanent covenant with the property which shall be recorded in the King County Office of Records and Elections:~~

~~a. Riparian corridor buffers, and/or~~

~~b. Steep slopes that could produce debris slides directly to surface waters; or~~

~~c. Location and boundaries of all proposed undisturbed areas and buffers on-site and on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements

((F))H. Other Agency Regulations. Review of projects subject to the wetland provisions of this chapter shall be coordinated by the applicant with the appropriate state and federal agencies. ((Washington State Departments of Fisheries or Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act.)) The applicant ((shall be encouraged to)) should make early contact with these agencies to ensure compliance with local, state and federal ((riparian corridor))regulations.

I. In addition the information provided pursuant to Section 25.09.330 and to Director's Rule, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. The third party review will be conducted by a qualified wetland consultant hired by the Director and paid for by the applicant.

25.09.180 Development standards for steep slope((s)) areas.

A. This section and Section 25.09.080 apply to parcels containing a steep slope area or buffer.

B. ((A. Development Limitations on Steep Slopes and Buffers on Existing Lots)) Impacts on Steep Slope Areas.

1. Development ((shall be avoided on areas over forty percent (40%) slope whenever possible)) is prohibited on steep slope areas, unless the applicant demonstrates that the provisions of subsections B2 or E apply.

2. ((Generally, the Director shall require a)) Provided that all the provisions of this chapter and all applicable provisions of Title 23 and Title 22, Subtitle VIII, are met, the development standards in subsection B 1 do not apply when the applicant demonstrates the development meets one of the following criteria. In determining whether these criteria are met, the Director may require a geotechnical report to verify site conditions and to evaluate the impacts of the development in the steep slope area and shall require such a report for criteria (c) and (d). The geotechnical report is subject to the provisions for third party review in Section 25.09.080 C.

a. Development is located where existing development is located, if the impact on the steep slope area is not altered or increased; or

b. Development is located on steep slope areas that have been created through previous legal grading activities, including rockeries or retaining walls resulting from rights of way improvements, if no adverse impact on the steep slope area will result; or

c. Development is located on steep slope areas that are less than feet (20') in vertical rise and that are thirty feet (30') or more from other steep slope areas, if no adverse impact on the steep slope area will result; or

d. Development is located on steep slope areas where the Director determines that application of the development standards in subsection B1 would prevent necessary stabilization of a landslide-prone area.

C. Buffers.

1. Steep slopes have fifteen-foot (15') buffers from the top ((or))and toe of a slope unless the Director determines ((whenever practicable)) that a greater or lesser buffer is required ((based on geotechnical and hydrological site constraints and the impacts of proposed construction methods on the stability of the slope, increased erosion potential, and disruption of existing topography and vegetation. The width of the buffer may be increased or decreased as determined by the Director)) based on the following considerations:

a. Proposed construction method and its effect on the stability of the slope and ((increased)) erosion potential;

b. Techniques used to ((minimize))keep the disruption of existing topography and vegetation to a minimum; and

c. Preparation of technical reports and plans to address and propose remedies regarding soils and hydrology site constraints.

2. Development is prohibited on steep slope area buffers, except as authorized in subsection B2 or to provide access to such an area, which shall be kept to a minimum, and except as provided in subsection E.

((3. When it is not practicable to avoid development on areas over forty percent (40%) slope and the buffer area, the following conditions shall apply:))

((a. Grading and development activity and other land disturbing activity shall

4. Limited Exemptions. Slopes with a vertical elevation change of up to twenty feet (20') and not part of a larger steep slope system, or slopes which have been created through previous, legal grading activities, may be exempted by the Director from the steep slopes regulations based on a geotechnical report demonstrating that no adverse impact will result from the exemption.

5. Stabilization of Landslide-prone Area. Certain steep slopes may be exempted from the steep slope regulations upon the Director's determination, based on geotechnical expertise, that application of the regulations would prevent necessary stabilization of a landslide-prone area, subject to the provisions of Section 25.09.080 C, Third-party Review.

6. Any project receiving an exemption shall be subject to steep slope drainage control and vegetation removal regulations, as well as applicable landslide-prone area regulations of this chapter.))

E. 1. Steep Slope Area Variance. The Director may reduce the steep slope area buffer and may authorize limited intrusion into the steep slope area and steep slope buffer to the extent allowed in subsection E2 only when the applicant qualifies for a variance by demonstrating that:

a. the lot where the steep slope or steep slope buffer is located was in existence before October 31, 1992; and

b. the proposed development otherwise meets the criteria for granting a variance under Section 25.09.280B, except that reducing the front or rear yard or setbacks will not both mitigate the hardship and maintain the full steep slope area buffer.

2. If any buffer reduction or development in the critical area is authorized by a variance under subsection E1, it shall be the minimum to afford relief from the hardship and shall be in the following sequence of priority:

a. reduce the yards and setbacks, to the extent reducing the yards or setbacks is not injurious to safety;

b. reduce the steep slope area buffer;

c. allow an intrusion into not more than thirty percent (30%) of the steep slope area.

3. The Director may impose additional conditions on the location and other features of the proposed development as necessary to carry out the purpose of this chapter and mitigate the reduction or loss of the yard, setback, or steep slope area or buffer.

4. The process and procedures for a variance under this subsection E shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.200 Development standards for fish and wildlife habitat conservation areas.

((The characteristics of fish and wildlife habitat conservation areas shall be used to evaluate development within wetlands, riparian corridors and steep slopes. Preserving the integrity of fish and wildlife habitat corridors, and minimizing the intrusion of development into these designated habitat areas shall be considered in applications for buffer reductions and conditional use permits to transfer development credit to noncritical portions of a site.))

A. Development standards for parcels with riparian corridors.

1.a The provisions of this subsection A apply to all development on parcels containing riparian corridors as defined in Section 25.09.020 D5. In addition, the provisions of subsection C apply to these parcels, except subsection C2 with respect to fish. In the event of an irreconcilable conflict between the provisions of subsection C and this section, the most restrictive provision applies.

b. It is the long term goal of the City to restore the City's riparian corridors and to protect salmon passage in such corridors where scientifically justified. The City has determined that best available science supports protecting these riparian corridors as described in this chapter. Where past development has encroached into riparian corridors, redevelopment shall be regulated subject to the provisions in Section 25.09.045.

2. Riparian Watercourse.

a. Development is prohibited within or over the watercourse, except as provided in subsection A2b. If no other access is available to the property, the Director may approve access over the watercourse, provided that it maintains the natural channel and floodway of the watercourse and that disturbance of the riparian management area is kept to a minimum.

b. On Haller and Bitter Lakes, piers are

b. The City encourages daylighting pipes and culverts connecting Type 1-5 waters that have fish habitat downstream and upstream from the pipe or culvert, and the Director is authorized to modify development standards as set out in subsection 4c ((b)) below when the applicant submits a plan for daylighting such a pipe or culvert that meets the following criteria:

(1) the plan is prepared by a qualified professional;

(2) the ecological functions of the daylighted waters and adjacent area are improved so the new riparian corridor area is compatible with and protects the ecological functions of the existing riparian corridor upstream and downstream and does not contribute to flooding; ecological functions include preventing erosion, protecting water quality, and providing diverse habitat; and

(3) if the plan proposes daylighting the pipe or culvert in a different location on the parcel from its current location or off the parcel, the ecological functions required in subsection (2) above are provided as effectively as they would be without the relocation.

c. If the Director finds the conditions in subsection 4b are met, the Director may modify the following development standards. The modification shall be the minimum to provide sufficient area to meet the standards in subsection 4b and shall be in the following order of priority:

(1) Yard and/or setback requirements on the property may be reduced, unless reducing them is injurious to safety.

(2) The riparian corridor watercourse and adjacent area maintained as a riparian management area under the approved plan may count toward open space requirements for all multifamily or commercial zone requirements.

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced.

d. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

5. Other Agency Regulations. Review of projects subject to the riparian corridor provisions of this chapter shall be coordinated with the Washington State Department of Fish and Wildlife when hydraulic project approval is required, and the U.S. Army Corps of Engineers when they have jurisdiction under Section 404 of the Federal Clean Water Act. The applicant is encouraged to make early contact with these agencies to ensure compliance with local, state and federal riparian corridor regulations.

B. Development Standards for Shoreline Habitat.

1. The provisions of this subsection B apply to all parcels with shoreline habitat defined in subsection 25.09.020 D6 or its buffer.

2. In addition, the provisions of subsection C below apply to parcels with shoreline habitat or its buffer, except subsection C2 with respect to fish. In the event of an irreconcilable conflict between the provisions of this subsection B and subsection C, the provision most protective of wildlife habitat applies.

3. Development is prohibited in shoreline habitat, except when all of the following criteria are met:

a. The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

b. Mitigation is provided for all impacts to the ecological functions of fish habitat on the parcel resulting from any permitted increase in or alteration of existing overwater coverage.

4. Buffers.

a. Shoreline habitat has a one hundred foot (100') buffer from the ordinary high water mark.

b. Bioengineered solutions, such as using plants or other approved natural material, to stabilize the shoreline are allowed in the buffer, provided they are allowed under Title 23, including chapter 23.60, the Shoreline Master Program.

c. Other development for water dependent and water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, the amount of impervious surface is not increased, and no surface that is permeable by water at the

ued operation or expansion of a water dependent or water related use.

b. Major repair of existing bulkheads is prohibited, except when

(1) the bulkhead is necessary to the continued operation or expansion of a water dependent or water related use; or

(2) a bioengineered solution, such as using plants or other approved natural material to stabilize the shore, will not achieve the same level of shoreline stabilization and property protection.

6. Streets.

a. Existing public or private streets are excluded from these buffer regulations, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat and to keep degradation of water quality for habitat to a minimum.

b. New streets are allowed when the following criteria are met:

(1) the street is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, impervious surface is not increased, and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(3) if the actions described in subsection (b)(2) above occur, any impacts on the ecological function are mitigated as set out in subsection 4c above.

7. The following provisions apply to all parcels containing shoreline habitat and buffers to prevent impacts to the habitat and buffer:

a. Any increases in surface runoff from development shall be kept to a minimum, and surface water run off shall be controlled, treated and released so that receiving water quality and any shore properties and features are not adversely affected. Control measures may include, but are not limited to, dikes, catch basins or settling ponds, interceptor drains and planted buffers. Allowable means to achieve this include bioswales, catch basin filters, and other methods prescribed in Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code.

b. Pavement in the habitat and buffer shall be kept to a minimum and permeable surfacing, where practicable, shall be used to keep surface water accumulation and runoff into the habitat and buffer to a minimum. Recommended methods are found in Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code. Permeable surfaces include, but are not limited to, porous asphalt, concrete, brick, or pavers; or plastic confinement systems with grass or gravel filler.

c. Best management practices shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water. Direct runoff of these materials is prohibited. Best management practices shall be employed for prompt and effective clean-up of any spills that do occur. A spill prevention and response plan may be required by the Director.

d. Any cleaning or resurfacing operation occurring over water that may result in the entry of debris, such as paint chips, shall employ tarpaulins secured affixed above the water line to prevent material from entering the water. Prior to removing the tarpaulins, the accumulated contents shall be removed by vacuuming or an equivalent method that prevents material from entering the water.

e. No over-water application of paint, preservative treatment, or other chemical compounds is permitted, except in accordance with best management practices.

f. Wooden components that will be in contact with standing water or floodwaters shall not contain polycyclic aromatic hydrocarbons (PAH), creosote, pentachlorophenol, or similar toxic substances. Durable, nontoxic components is the preferred material for in-water and over-water structures. Where treated wood is considered necessary, it shall be applied and used in accordance with the American Wood Preserver Association (AWPA) standards for aquatic use.

g. For projects involving concrete, a concrete truck chute cleanout area shall be established to contain wet concrete. No concrete or clean out shall be allowed to enter the water body. This does not prohibit piers or other concrete structures authorized by a valid permit.

h. All inlets and catch basins shall be protected from fresh concrete, paving, paint stripping and other high-risk pollution gener-

(3) Required parking may be reduced up to twenty five percent (25%).

(4) The riparian management area may be reduced to the extent needed to provide sufficient area for the plan described in subsection 6a(2) above.

E. Designating Species of Local Importance and their Habitat.

1. The Director on an annual basis shall accept and consider nominations for species of wildlife and their habitat to be designated as locally important. The designation of a species of local importance and its habitat shall require an amendment to this chapter.

2. Species or habitat to be designated shall exhibit the following characteristics:

a. Local populations of native species are in danger of extinction based on existing trends:

(1) Local populations of native species that are likely to become endangered; or

(2) Local populations of native species that are vulnerable or declining;

b. The species has recreational, commercial, game, tribal, or other special value;

c. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat;

d. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in Seattle;

e. Areas nominated to protect a particular habitat or species have either high-quality habitat or habitat with a high potential to recover to a suitable quality, and the habitat is limited in quantity, highly vulnerable to alteration, or connects habitats.

3. Species and habitats may be nominated for designation by any person. Nominations shall be in writing, address the characteristics listed in subsection 2, and state whether specific habitat features are being nominated (for example, nest sites, breeding areas, and nurseries), or whether the habitat or ecosystem is being nominated in its entirety. Where restoration of habitat is proposed, a specific plan for restoration shall be provided with the application, or the nomination shall include management strategies for the species or habitats. Restoration plans and management strategies shall be supported by the best available science.

4. The Director shall determine whether the nomination proposal is complete, and if complete, shall evaluate it under the criteria in subsection (2) and make a recommendation to the Mayor and Council based on that information. If the nomination is adopted, the Director may establish habitat restoration plans and habitat and species management strategies by rule.

25.09.220 Development standards for abandoned landfills.

A. Regulation of Development on Abandoned Landfills. Development on abandoned landfills ((shall be)) is subject to Seattle-King County Health Department requirements for the application to submit an excavation and development work plan, prepared by a licensed engineer with experience in landfill construction and/or management, and comply with other applicable requirements to prevent damage from methane gas buildup, subsidence, and earthquake induced ground shaking as contained in ((SMC)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((Ordinance)) Code, ((SMC)) Title 22, Subtitle I, Building Code, and regulations pertaining to development on abandoned landfill sites. Technical studies shall be required to indicate whether these areas pose a threat to development on an abandoned landfill site.

B. Areas within One Thousand Feet (1,000') of Methane-producing Landfills. Areas within one thousand feet (1,000') of methane-producing landfills may be susceptible to ((methane leakage)) accumulations of hazardous levels of methane gas in enclosed spaces. Methane barriers or appropriate ventilation may be required in these areas as specified in ((SMC)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((Ordinance)) Code, ((SMC)) Title 22, Subtitle I, Building Code, and Seattle-King County Health Department regulations.

25.09.240 Short subdivisions and subdivisions.

A. This section applies to ((A))all applications for short subdivisions and subdivisions, excluding unit lot subdivisions, ((proposals located in)) on parcels containing any part of a riparian corridor, ((buffers,)) shoreline habitat, shoreline habitat buffers, wetlands, ((and)) wetland buffers, or ((and)) steep slope((s)) areas ((over forty percent

tion submittal requirements of this chapter, ((subsection A of))Section 25.09.((060))330, and shall include the information contained in this subsection and Section 25.09.260, as applicable, on the surveyed site plan.

25.09.260 Environmentally critical areas ((A))administrative conditional use ((permit to recover development credit and permit clustered development on-site in single-family zones)).

((Up to full development credit on-site (determined by calculating the maximum number of lots allowed based on the underlying single-family zoning and size of the originating property) may be granted by the Director through an administrative conditional use permit, authorized under SMC Section 23.42.042, Conditional uses, in the Land Use Code. Notice of application and review process and procedures for this administrative conditional use and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.

B. The Director may approve, condition or deny an application for an administrative conditional use. The Director's decision shall be based on a determination of whether the proposed transfer of development credit with in the site meets the criteria for allowing the specific conditional use and whether the use will be materially detrimental to the public welfare or injurious to property in the zone or vicinity in which the property is located.

C. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions deemed necessary for the protection of other properties in the zone or vicinity in which the property is located.

D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.

E. The Director may approve the transfer of development credit if it can be shown that the development would meet the following conditions and findings:

1. The transfer of development credit shall not result in any significant increase of negative environmental impacts, including erosion, on the identified environmentally critical area and its buffer;

2. The development shall be reasonably compatible with neighborhood characteristics. This shall include but not be limited to concerns such as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining;

3. In no case shall development credit be allowed for the area covered by an open water area of a wetland or riparian corridor;

4. The development shall retain and protect vegetation on designated undisturbed areas on and off site. Significant species or stands of trees shall be protected, and tree removal shall be minimized. Replacement and establishment of trees and vegetation shall be required where it is not possible to save trees;

5. The ability of natural drainage systems to control the quality and quantity of stormwater runoff shall not be significantly impaired;

6. The development shall not adversely affect water quality and quantity, erosion potential, drainage, and slope stability of other environmentally critical areas located in the same drainage basin;

7. The development's site plan shall include measures to minimize potential negative effects of the development on the undeveloped portion of the site, including the provision of natural barriers;

8. Adequate infrastructure (streets and utilities) shall be available or will be provided; and

9. The site design guidelines of Section 25.09.180 C shall be followed for designated steep slope areas.

F. Clustering of Additional Dwelling Units. The Director may approve more than one (1) dwelling unit per lot and may approve smaller than required lot sizes and yards to accommodate recovery of development credit, and to encourage larger buffers, reduce impermeable surfaces, and decrease size of affected areas. Where dwelling units are attached, they shall not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone. Full development credit on-site shall not be increased beyond that permitted by the underlying sin-

d. The proposal protects Washington State Department of Fish and Wildlife priority species and maintains wildlife habitat.

e. The open water area of a shoreline habitat, wetland or riparian corridor shall not be counted in determining the permitted number of lots.

f. The proposal does not result in unmitigated negative environmental impacts, including drainage and water quality, erosion, and slope stability on the identified environmentally critical area and its buffer.

g. The proposal promotes expansion, restoration or enhancement of the identified environmentally critical area and buffer.

2. General Environmental Impacts and Site Characteristics.

a. The proposal keeps potential negative effects of the development on the undeveloped portion of the site to a minimum and preserves topographic features.

b. The proposal retains and protects vegetation on designated nondisturbance areas, protects stands of mature trees, keeps tree removal to a minimum, removes noxious weeds and protects the visual continuity of vegetated areas and tree canopy.

3. Neighborhood Compatibility.

a. The total number of lots permitted on-site shall not be increased beyond that permitted by the underlying single-family zone.

b. Where dwelling units are proposed to be attached, they do not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone.

c. The development is reasonably compatible with and keeps the negative impact on the surrounding neighborhood to a minimum. This includes, but is not limited to, concerns such as neighborhood character, land use, design, height, bulk, scale, yards, pedestrian environment, and preservation of the tree canopy and other vegetation.

C. Conditions.

1. In authorizing an administrative conditional use, the Director may mitigate adverse negative impacts by imposing requirements and conditions necessary to protect riparian corridors, wetlands and their buffers, shoreline habitats and their buffers, and steep slope areas and their buffers, and to protect other properties in the zone or vicinity in which the property is located.

2. In addition to any conditions imposed under subsection 1, the following conditions apply to all administrative conditional uses approved under this subsection:

a. Replacement and establishment of native vegetation shall be required where it is not possible to save trees or vegetation.

b. Where new lots are created, the provisions of Section 23.22.062, Unit lot subdivisions, or Section 23.24.045, Unit lot subdivisions, apply, regardless of whether the proposal is a unit lot subdivision, so that subsequent development on a single lot does not result in the development standards of this chapter being exceeded for the short subdivision or subdivision as a whole.

D. The Director shall issue written findings of fact and conclusions to support the Director's decision. The process and procedures for notice of decision and appeal of this administrative conditional use shall be as prescribed for Type II land use decisions in Chapter 23.76.

25.09.280 ((Environmentally critical areas.))Yard and setback reduction and variance ((for existing lots)) to preserve ECA buffers and riparian corridor management areas.

A. The Director may authorize ((A)) a twenty-five percent (25%) reduction, up to a maximum of five feet (5'), in yard or setback requirements for front or rear yards on a lot in existence as a legal building site prior to October 31, 1992, ((shall be permitted when necessary)) in order to maintain the full width of ((a)) the riparian management area ((corridor)) and of wetland or steep-slope area buffers.

B. The Director may approve ((Any)) a yard or setback reduction greater than five feet (5') ((that is necessary)) in order to maintain the full width of the ((a)) riparian management area, ((corridor)) wetland buffer or steep-slope area buffer ((shall require approval)) through an environmentally critical areas yard or setback reduction variance ((. Notice of application and review process and procedures for an environmentally critical areas yard or setback reduction variance and of the Director's decision on the application shall be provided in the manner pre-

erations:

a. Proposed construction method and its effect on the stability of the slope and ((increased)) erosion potential;

b. Techniques used to ((minimize))keep the disruption of existing topography and vegetation to a minimum; and

c. Preparation of technical reports and plans to address and propose remedies regarding soils and hydrology site constraints.

2. Development is prohibited on steep slope area buffers, except as authorized in subsection B2 or to provide access to such an area, which shall be kept to a minimum, and except as provided in subsection E.

~~((3. When it is not practicable to avoid development on areas over forty percent (40%) slope and the buffer area, the following conditions shall apply:))~~

~~((a. Grading and development activity and other land disturbing activity shall not exceed thirty percent (30%) of the areas measured over forty percent (40%) slope. This shall not include vegetation removal for the purposes of replacing existing vegetation with more suitable plants; and))~~

~~((b. The Director may impose conditions concerning the type and method of construction that reflect the specific constraints of the site, as well as the landslide-prone area regulations of this chapter, Section 25.09.080 A.))~~

~~((B. Vegetation Removal and Replanting. Removal of vegetation in steep slope areas shall be minimized. Any replanting that occurs shall consist of trees, shrubs, and ground cover that is compatible with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival.))~~

D. Vegetation Removal and Replanting. If removal of trees or vegetation in a steep slope area and its buffer is authorized as part of approved development, it shall be kept to a minimum, and shall be carried out pursuant to a tree and revegetation plan described in section 25.09.320. Other removal of, clearing, or any action detrimental to trees or vegetation in a steep slope area or buffer is prohibited, except as provided in Section 25.09.320. In addition to complying with Section 25.09.320, any replanting that occurs shall consist of native vegetation.

~~((C. Site Design Guidelines. The following guidelines shall be followed for development in steep slope areas:~~

~~1. Structures should be designed and placed on the hillside to minimize negative impacts, such as grading and land disturbing activity;~~

~~2. Driveways and utility corridors should be minimized through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access should be located in a way that minimizes impacts to steep slopes or other critical areas;~~

~~3. Development should be located on the least sensitive portion of the site to preserve the natural land forms, geological features, and vegetation;~~))

~~((4. Terracing of land shall be kept to a minimum; and~~

~~5. Cluster development may be allowed pursuant to the provisions of Section 25.09.260 to emphasize the existing topography and conserve existing resources if compatible with the surrounding residential character.~~

~~D. Steep Slope Exemptions.~~

~~1. Highly Developed Areas. Existing lots, short subdivisions and subdivisions may be exempted by the Director from steep slope regulations when located in highly developed and urbanized areas. Highly developed and urbanized areas include all Downtown and Highrise zones. Sites located in Midrise and Commercial 1 and 2 zones may also qualify for this exemption when surrounding lots contain high-density residential development and/or concentrated commercial development which closely matches the development potential for the zone. This exemption shall not apply to single-family, lowrise, neighborhood commercial, industrial, or any other zones. If the site is characterized by or adjacent to at least one (1) of the following areas, this exemption shall not apply:~~

~~a. A wetland over one thousand five hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor;~~

~~b. A large undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or other large areas with significant tree cover that provides valuable wildlife habitat.~~

~~2. Steep Slopes Resulting from Rights-of-way Improvements. Steep slopes resulting from street, alley, sidewalk and other typical rights-of-way improvements, including rock~~

event of an irreconcilable conflict between the provisions of subsection C and this section, the most restrictive provision applies.

b. It is the long term goal of the City to restore the City's riparian corridors and to protect salmon passage in such corridors where scientifically justified. The City has determined that best available science supports protecting these riparian corridors as described in this chapter. Where past development has encroached into riparian corridors, redevelopment shall be regulated subject to the provisions in Section 25.09.045.

2. Riparian Watercourse.

a. Development is prohibited within or over the watercourse, except as provided in subsection A2b. If no other access is available to the property, the Director may approve access over the watercourse, provided that it maintains the natural channel and floodway of the watercourse and that disturbance of the riparian management area is kept to a minimum.

b. On Haller and Bitter Lakes, piers are regulated pursuant to the development standards for similar structures in the Seattle Shoreline Master Program, Chapter 23.60, Part X, The Urban Residential Environment. If a pier is allowed, access to it through the riparian management area is also allowed, provided the impact on the naturally functioning condition of the riparian management area from the pier's location, method of construction, and construction materials is kept to a minimum.

c. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian watercourse is prohibited, except as provided in Section 25.09.320.

3. Riparian Management Area.

a. The riparian management area is defined in subsection 25.09.020 D5. Existing public or private streets are excluded from the regulations for the riparian management area, provided that if the provisions of Title 22, Subtitle VIII, the Stormwater, Grading and Drainage Control Code apply, the Director shall require adequate stormwater detention to prevent harm from the street to habitat on the parcel and downstream and to keep degradation of water quality for habitat to a minimum.

b. Activities in the riparian management area.

(1) Development is prohibited in the riparian management area, except to provide access to development approved under subsection A2 and except under subsections A3b(2), A3c, and A3d.

(2) Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian management area is prohibited, except as provided in subsection c below and Section 25.09.320.

c. Riparian Management Area Vegetation.

(1) If the vegetation in the riparian management area protects the fish habitat and wildlife habitat as they exist on the site at the time development is proposed, including preventing erosion and protecting water quality, the existing vegetation shall remain undisturbed, except as allowed under Section 25.09.320.

(2) If the riparian management area is not functioning in the manner set out in subsection A3c(1) above, the applicant shall prepare and carry out a tree and vegetation plan that augments the existing vegetation with native vegetation to the extent commensurate with the impact of the development on the riparian management area. The plan shall be prepared and executed consistent with Section 25.09.320. Vegetation in the riparian management area shall not be removed or otherwise disturbed until the applicant is ready to immediately replant according to the approved plan. A monitoring plan shall be prepared to monitor the establishment of the vegetation. The plan shall cover five (5) growing seasons or the period needed to successfully carry out the plan, whichever is earlier.

d. In addition to subsections A3b(2) and A3c, development is allowed in the riparian management area on lots existing at the time this ordinance takes effect if the applicant demonstrates that:

(1) the development is in the limited riparian development area, which is the area in the riparian corridor but outside of the watercourse and more than seventy-five feet (75') from the top of the watercourse bank for Type 2 and 3 waters with anadromous fish present for any part of the year, fifty feet (50') from the top of the watercourse bank for Type 2 and 3 waters where anadromous fish are not present for any part of the year and more than fifty feet (50') from the top of the watercourse bank for Type 4 and 5 waters;

(2) the development complies with Section 22.802.016, regardless of the area of land disturbing activity or the size of the addition or replacement of impervious surface, except as provided in subsection 3e; and

(3) any development, including but not limited to coverage by impervious surface, does not exceed 35% of the total area of the limited riparian development area, provided that the maximum lot coverage does not exceed that allowed under Title 23, and

on the parcel resulting from any permitted increase in or alteration of existing overwater coverage.

4. Buffers.

a. Shoreline habitat has a one hundred foot (100') buffer from the ordinary high water mark.

b. Bioengineered solutions, such as using plants or other approved natural material, to stabilize the shoreline are allowed in the buffer, provided they are allowed under Title 23, including chapter 23.60, the Shoreline Master Program.

c. Other development for water dependent and water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) no vegetation is removed, the amount of impervious surface is not increased, and no surface that is permeable by water at the time of the application will be covered with an impervious surface so that impervious surface will be closer to the ordinary high water mark; or

(3) if any of the actions described in subsection c(2) above occur and that action impacts the ecologic function of the shoreline, those impacts are mitigated as set out in subsection e below.

If the standards in subsections c(1) and (2) are met, then the application is not subject to the application submittal requirements in Section 25.09.330 and the general development standards in Section 25.09.060.

d. Other development for non-water dependent and non-water related uses is prohibited in the buffer, except when:

(1) The development is allowed under Title 23, including chapter 23.60, the Shoreline Master Program; and

(2) for non-residential uses

(a) the lot was in existence before the effective date of this ordinance; and

(b) the development is twenty five feet (25') or more from the ordinary high water mark unless the development is allowed in the shoreline habitat under Title 23, including chapter 23.60, the Shoreline Master Program; and

(c) (i)no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(ii) if any of the actions described in subsection d(2)(c)(i) above occur, all impacts on the ecological function are mitigated as set out in subsection e below; or

(3) for residential uses the residence is twenty five feet (25') or more from the ordinary high water mark

(a) and no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(b) if any of the actions described in subsection d(3)(a) above occur, all impacts on the ecological function are mitigated as set out in subsection e below.

e. Mitigation.

(1) Mitigation must prevent net loss of ecological function. Mitigation must achieve the equivalent ecologic functions as the conditions existing in the shoreline habitat buffer at the time of development. Mitigation under this section is not intended to duplicate mitigation for the same ecologic function that is required under other City regulations or under state and federal permits. The permit condition most protective of the ecologic function shall be enforced.

(2) For the purpose of this section, mitigation is action that replaces ecological functions lost as a result of a project impact. Depending on the type of lost ecological function these include:

(a) providing habitat, or

(b) creating new pervious ground or

(c) replicates the function of the pervious ground through methods that are engineered and designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

(3) Mitigation for habitat impacts in the buffer shall occur in the following order of preference:

(a) on the parcel within the buffer as close to the ordinary high water mark as possible;

(b) within the buffer as close to the ordinary high water mark as possible on a parcel that abuts the ordinary high watermark within one quarter (¼) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred;

(c) farther along the shoreline within the buffer as close to the ordinary high water mark as possible.

(4) The following mitigation ratios are required for habitat impacts in the buffer

servative treatment, or other chemical compounds is permitted, except in accordance with best management practices.

f. Wooden components that will be in contact with standing water or floodwaters shall not contain polycyclic aromatic hydrocarbons (PAH), creosote, pentachlorophenol, or similar toxic substances. Durable, non-toxic components is the preferred material for in-water and over-water structures. Where treated wood is considered necessary, it shall be applied and used in accordance with the American Wood Preserver Association (AWPA) standards for aquatic use.

g. For projects involving concrete, a concrete truck chute cleanout area shall be established to contain wet concrete. No concrete or clean out shall be allowed to enter the water body. This does not prohibit piers or other concrete structures authorized by a valid permit.

h. All inlets and catch basins shall be protected from fresh concrete, paving, paint stripping and other high-risk pollution generating activities during construction.

i. Construction staging areas shall be as far from the ordinary high water mark as practicable.

j. Planting native vegetation may be required to mitigate impacts of development on the shoreline habitat or buffer.

k. If at any time project-related activities cause a fish kill to occur, the permitee shall stop all work relating to the fish kill and immediately notify the Department of Planning and Development, Washington Department of Fish and Wildlife, and the Washington Department of Ecology.

l. In- and over-water structures shall be designed and located to keep impacts from shading of any bank and shallow water habitat to a minimum.

8. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in shoreline habitat or its buffer is prohibited, except as authorized under subsections 1-6 above and section 25.09.320.

C. 1. Development on parcels containing fish and wildlife habitat conservation areas shall comply with any species habitat management plan set out in a Director's Rule. The Director may establish by rule a species habitat management plan to protect any priority species identified by the Washington State Department of Fish and Wildlife or to protect species of local importance.

2. Any person proposing development on a parcel containing fish and wildlife habitat conservation areas shall consult with the Washington State Department of Fish and Wildlife and comply with any requirements of that agency, except as limited in subsections A and B above.

D. Based on information provided by a qualified wildlife biologist, the Director may condition development on parcels containing wildlife habitat or corridors defined in subsection 25.09.020 D3 to protect fish or wildlife habitat corridors. Conditions may include, but are not limited to:

1. Establishment of buffer zones;

2. Preservation of important vegetation and habitat features;

3. Limitation of access to habitat areas;

4. Seasonal restriction of construction activities;

5. Preservation of the ability for fish to pass between fish habitat in Type 1-5 waters upstream and downstream of the parcel. The application requirements and general conditions of this chapter, Sections 25.09.330 and 25.09.060, do not apply if the person responsible for development of the parcel has either a Hydraulic Project Approval from the Washington Department of Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

6. Requiring the developer to daylight a pipe or culvert defined in SMC 25.09.020 D3c, when the conditions in subsection 6a below are met. When requiring daylighting, the Director is authorized to modify the conditions set out in subsection 6b below. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

a. The Director may require daylighting under the following conditions:

(1) When the existing pipe or culvert cannot remain in its current location and provide an effective passage for anadromous fish due to the development.

(2) Other methods for preserving fish passage such as pipe or culvert placement or site engineering are not feasible.

b. If daylighting is required then the applicant must prepare a plan that demonstrates the following:

(1) The ecological functions of the daylighted waters and resulting new riparian management area are compatible with and protect the functions of pipes and culverts upstream and downstream and the ecologi-

Landfill Buffer Areas.

B. Areas within One Thousand Feet (1,000') of Methane-producing Landfills. Areas within one thousand feet (1,000') of methane-producing landfills may be susceptible to ((methane leakage)) accumulations of hazardous levels of methane gas in enclosed spaces. Methane barriers or appropriate ventilation must be required in these areas as specified in ((SMC)) Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control ((Ordinance)) Code, ((SMC)) Title 22, Subtitle I, Building Code, and Seattle-King County Health Department regulations.

25.09.240 Short subdivisions and subdivisions.

A. This section applies to ((A))all applications for short subdivisions and subdivisions, excluding unit lot subdivisions, ((proposals located in)) on parcels containing any part of a riparian corridor, ((buffers,)) shoreline habitat, shoreline habitat buffers, wetlands, ((and)) wetland buffers, or ((and)) steep slope((s)) areas ((over forty percent (40%)) shall comply with the following specified development standards)) in addition to the standards ((set forth)) in ((Subtitle III, Platting Requirements, of SMC)) Title 23((, Land Use Code.)).

((A))B. ((New lots shall contain)) Parcels shall be divided so that each lot contains ((at least one (1))) an area for ((building site)) the principal structure, all accessory structures, and necessary walkways and for access to ((the site)) this area that ((is)) are outside ((the identified)) all environmentally critical areas and ((its required)) buffers identified in subsection A above except as follows:

1. The required area and access may be located in the footprint of an existing lawful principal structure used for residential use that encroaches into an environmentally critical area or buffer identified in subsection A, provided it does not further alter or increase the impact to the environmentally critical area or buffer.

2. ((that a))Access may be provided by a bridge over a riparian corridor ((watercourse and buffer as long as)) when the Director determines no other access is available and (a) access is provided by ((it is)) a freestanding structure that maintains the natural channel and floodway of the watercourse and ((minimizes)) (b) the disturbance of the riparian corridor and any other adjacent environmentally critical area or buffer ((to the greatest extent practicable.)) is kept to a minimum. ((Covenants shall be recorded with the subdivision or short subdivision that restrict development to the areas specified on the approved site plan.))

3. Development may encroach into that portion of a steep slope area or its buffer for which the Director has determined that criteria in subsection 25.09.180 B2a, b, or c are met for the particular short subdivision, or subdivision under consideration.

4. Development may encroach into the Shoreline habitat buffer provided that

a. a condition is recorded on the plat restricting the development in the buffer to water dependent or water related uses or to single family residential uses; and

b. for single family residential uses the condition requires each residence to be no further waterward than twenty five feet (25') from the ordinary high water mark; and

c. a condition is recorded on the plat (1) requiring mitigation at the time of development for removal of vegetation, addition of impervious surface, and all other harm to the ecological function of the buffer and habitat resulting from development and (2) setting out on the plat the mitigation standards in subsection 25.09.200 B4e.

C. Lots shall be configured to preserve the environmentally critical areas and their buffers identified in subsection A by:

1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or

2. Establishing non-disturbance areas on individual lots.

D. The environmentally critical areas and buffers identified in subsection A above, except for areas qualifying for development under subsection B1-4, shall be designated non-disturbance areas on the final plat. A notice that these non-disturbance areas are located on the lots, including the definition of "non-disturbance area," shall recorded in the King County Office of Records and Elections along with the final plat in a form approved by the Director. At the same time, a covenant protecting non-disturbance areas shall be recorded as set out in Section 25.09.335.

~~((B. Lots shall be configured to preserve the identified environmentally critical area and its buffer by:))~~

~~((1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or))~~

~~((2. Establishing buffer easements on individual lots.))~~

((C))E. In computing the number of lots a parcel in a single family zone may contain, the Director shall exclude the following areas:

1. Easements and/or fee simple

include measures to minimize potential negative effects of the development on the undeveloped portion of the site, including the provision of natural barriers;

8. Adequate infrastructure (streets and utilities) shall be available or will be provided; and

9. The site design guidelines of Section 25.09.180 C shall be followed for designated steep slope areas.

F. Clustering of Additional Dwelling Units. The Director may approve more than one (1) dwelling unit per lot and may approve smaller than required lot sizes and yards to accommodate recovery of development credit, and to encourage larger buffers, reduce impermeable surfaces, and decrease size of affected areas. Where dwelling units are attached, they shall not exceed the height, bulk and other applicable development standards of the Lowrise 1 (L-1) zone. Full development credit on-site shall not be increased beyond that permitted by the underlying single-family zone.

G. The Director may require that structures be located on the site in order to preserve or enhance topographical conditions, adjacent uses and the layout of the project and to maintain a compatible scale and design with the surrounding community. In order to approve clustered dwelling units in all environmentally critical areas, the following criteria shall be met:

1. Clustering of units shall help to protect the following critical areas: riparian corridors, wetlands and steep slopes;

2. Clustering of units shall require siting of structures to minimize disturbance of the environment;

3. Clustering of units shall help to protect priority species or stands of mature trees;

4. Clustering of units shall ensure maximum retention of topographic features;

5. Clustering of units shall limit location of access and circulation to maximize the protection of an area's natural character and environmental resource;

6. Clustering of units shall help protect the visual continuity of natural greenery, tree canopy, and wildlife habitat;

7. Clustering of units shall not have an adverse impact on the character, design and scale of the surrounding neighborhood; and

8. Clustering of units shall promote expansion, restoration or enhancement of a riparian corridor and its buffer, a wetland and its buffer or a steep slope area and its buffer.

H. Additional Conditional Use Provisions for Steep Slopes and Steep-slope Buffers.

1. In steep-slope areas and their buffers, the Director may allow clustering on the steep-slope portions of the site when the site is predominantly characterized by steep slopes. However, the preference shall be to cluster away from steep-slope and buffer areas.

2. The Director shall require clear and convincing evidence that the clustering criteria and findings of this subchapter are met when a transfer in development credit within a steep-slope area is also characterized by or adjacent to:

a. A wetland over fifteen hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor; or

b. A large (over five (5) acres) undeveloped steep-slope system; or

c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or areas with significant tree cover providing valuable wildlife habitat.

3. Any development permitted through the conditional use process on steep slopes of forty (40) percent shall be subject to the landslide-prone area provisions of this Chapter, Section 25.09.080.))

A. When the applicant demonstrates it is not practicable to comply with the requirements of Section 25.09.240 B considering the parcel as a whole, the applicant may apply for an administrative conditional use permit, authorized under Section 23.42.042, under this section to allow the Director to count environmentally critical areas and their buffers that would otherwise be excluded in calculating the maximum number of lots and units allowed on the parcel under Section 25.09.240 E.

B. Standards. The Director may approve an administrative conditional use for smaller than required lot sizes and yards, and/or more than one (1) dwelling unit per lot if the applicant demonstrates that the proposal meets the following standards:

1. Environmental Impacts on Critical Areas.

a. No development is in a riparian corridor, shoreline habitat, shoreline habitat buffer, wetland, or wetland buffer.

b. No riparian management area, shoreline habitat buffer, or wetland buffer is reduced.

agement areas.

A. The Director may authorize ((A)) a twenty-five percent (25%) reduction, up to a maximum of five feet (5'), in yard or setback requirements for front or rear yards on a lot in existence as a legal building site prior to October 31, 1992, ((shall be permitted when necessary)) in order to maintain the full width of ((a)) the riparian management area ((corridor)) and of wetland or steep-slope area buffers.

B. The Director may approve ((Any)) a yard or setback reduction greater than five feet (5') ((that is necessary)) in order to maintain the full width of the ((a)) riparian management area, ((corridor)) wetland buffer or steep-slope area buffer ((shall require approval)) through an environmentally critical areas yard or setback reduction variance ((. Notice of application and review process and procedures for an environmentally critical areas yard or setback reduction variance and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76. An environmentally critical areas yard reduction variance shall be authorized only)) when ((all)) the following facts and conditions ((are found to)) exist:

1. The lot has been in existence as a legal building site prior to October 31, 1992.

((1))2. Because of the location of the subject property in or abutting an environmentally critical area or areas((,)) and the size and extent of any required environmentally critical areas buffer, the strict application of the applicable yard or setback requirements of ((Chapter 25.09)) Title 23 would cause unnecessary hardship; and

((2))3. The requested variance does not go beyond the minimum ((necessary to maintain)) to stay out of the full width of the riparian management area or required buffer and to afford relief; and

((3))4. The granting of the variance will not be injurious to safety or to the property or improvements in the zone or vicinity in which the property is located; and

((4))5. The yard or setback reduction will not result in a development that is materially detrimental to the character, design and streetscape of the surrounding neighborhood, considering such factors as height, bulk, scale, yards, pedestrian environment, and amount of vegetation remaining; and

((5))6. The requested variance would be consistent with the spirit and purpose of the environmentally critical policies and regulations.

C. When an environmentally critical areas variance is authorized, the Director may attach conditions ((may be attached)) regarding the location, character and other features of a proposed ((structure or use)) development ((as may be deemed necessary)) to carry out the spirit and purpose of ((SMC Chapter 25.09, Regulations for Environmentally Critical Areas)) this chapter.

D. The process and procedures of an environmentally critical areas yard or setback reduction variance shall be as prescribed for Type II land use decisions in Chapter 23.76.

~~((A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions in SMC Section 23.76.022.))~~

25.09.300 Environmentally critical area exception.

A. An applicant for a City permit to develop real property that ((abuts or upon which)) is located in an environmentally critical area or buffer may apply to the Director for an exception to ((modification of)) modify environmentally critical area development standards, provided that an exception cannot be applied for to allow development or to obtain development credit under subsection 25.09.240E or to relocate lot lines under Section 23.28.030. ((Notice of application and review process and procedures for an environmentally critical areas exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions as set forth in SMC Chapter 23.76.)) Before an application for relief under this section will be accepted, the Director must determine that no other applicable ((environmentally critical areas administrative)) administrative remedies ((prescribed)) in Chapter 25.09 or Title 23 will provide sufficient relief.

B. 1. An applicant requesting modification shall provide the Director with the following information:

a. Documentation showing that no other applicable administrative remedy in Title 25.09 or Title 23 will provide sufficient relief;

((1))b. Technical studies and other data that describe the possible injurious effects of the proposed development on occupiers of the land, on other properties, on public resources, and on the environment. Possible injurious effects must be described even when the injurious effect will become significant only in combination with similar effects from other developments; ((and))

in steep-slope areas:

~~1. Structures should be designed and placed on the hillside to minimize negative impacts, such as grading and land disturbing activity;~~

~~2. Driveways and utility corridors should be minimized through the use of common access drives and corridors where feasible. Roads, walkways, and parking areas should be designed parallel to topographic contours with consideration given to maintaining consolidated areas of natural topography and vegetation. Access should be located in a way that minimizes impacts to steep slopes or other critical areas;~~

~~3. Development should be located on the least sensitive portion of the site to preserve the natural land forms, geological features, and vegetation;~~))

~~((4. Terracing of land shall be kept to a minimum; and~~

~~5. Cluster development may be allowed pursuant to the provisions of Section 25.09.260 to emphasize the existing topography and conserve existing resources if compatible with the surrounding residential character.~~

~~D. Steep Slope Exemptions.~~

~~1. Highly Developed Areas. Existing lots, short subdivisions and subdivisions may be exempted by the Director from steep slope regulations when located in highly developed and urbanized areas. Highly developed and urbanized areas include all Downtown and Highrise zones. Sites located in Midrise and Commercial 1 and 2 zones may also qualify for this exemption when surrounding lots contain high-density residential development and/or concentrated commercial development which closely matches the development potential for the zone. This exemption shall not apply to single-family, lowrise, neighborhood commercial, industrial, or any other zones. If the site is characterized by or adjacent to at least one (1) of the following areas, this exemption shall not apply:~~

~~a. A wetland over one thousand five hundred (1,500) square feet in size, or a stream or creek designated as a riparian corridor;~~

~~b. A large undeveloped steep-slope system; or~~

~~c. Areas designated by the Washington Department of Wildlife as urban natural open space habitat areas or other large areas with significant tree cover that provides valuable wildlife habitat.~~

~~2. Steep Slopes Resulting from Rights-of-way Improvements. Steep slopes resulting from street, alley, sidewalk and other typical rights-of-way improvements, including rockeries or retaining walls, may be exempted from compliance with the environmentally critical areas regulations. This exemption shall not extend beyond the cut or fill created by the street, alley, sidewalk or other rights-of-way improvement, and does not release the applicant from any applicable geotechnical review requirements under the Stormwater, Grading and Drainage Code. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~3. Previously Developed Sites. Sites that have been previously developed may be exempted by the Director from steep slope requirements under the following conditions:~~

~~a. If the objectives of the steep slope regulations would not be compromised; and~~

~~b. If the degree of nonconformity with the environmentally critical areas regulations, if applicable, is not increased. This exemption shall not be allowed for short subdivision or subdivision applications.~~

~~Exhibit A, and A3d.~~

(2) Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the riparian management area is prohibited, except as provided in subsection c below and Section 25.09.320.

c. Riparian Management Area Vegetation.

(1) If the vegetation in the riparian management area protects the fish habitat and wildlife habitat as they exist on the site at the time development is proposed, including preventing erosion and protecting water quality, the existing vegetation shall remain undisturbed, except as allowed under Section 25.09.320.

(2) If the riparian management area is not functioning in the manner set out in subsection A3c(1) above, the applicant shall prepare and carry out a tree and vegetation plan that augments the existing vegetation with native vegetation to the extent commensurate with the impact of the development on the riparian management area. The plan shall be prepared and executed consistent with Section 25.09.320. Vegetation in the riparian management area shall not be removed or otherwise disturbed until the applicant is ready to immediately replant according to the approved plan. A monitoring plan shall be prepared to monitor the establishment of the vegetation. The plan shall cover five (5) growing seasons or the period needed to successfully carry out the plan, whichever is earlier.

d. In addition to subsections A3b(2) and A3c, development is allowed in the riparian management area on lots existing at the time this ordinance takes effect if the applicant demonstrates that:

(1) the development is in the limited riparian development area, which is the area in the riparian corridor but outside of the watercourse and more than seventy-five feet (75') from the top of the watercourse bank for Type 2 and 3 waters with anadromous fish present for any part of the year, fifty feet (50') from the top of the watercourse bank for Type 2 and 3 waters where anadromous fish are not present for any part of the year and more than fifty feet (50') from the top of the watercourse bank for Type 4 and 5 waters;

(2) the development complies with Section 22.802.016, regardless of the area of land disturbing activity or the size of the addition or replacement of impervious surface, except as provided in subsection 3e; and

(3) any development, including but not limited to coverage by impervious surface, does not exceed 35% of the total area of the limited riparian development area, provided that the maximum lot coverage does not exceed that allowed under Title 23, and except as provided in subsection 3e.

e. When compliance with Section 22.802.016 is required solely based on subsection 3d(2) above, the Director may approve a restoration plan in lieu of requiring compliance with subsections 3d(2) and (3) if the applicant demonstrates that the plan meets the following criteria:

(1) The watercourse or riparian management area function will be restored so that it prevents erosion, protects water quality, and provides diverse habitat; and

(2) The restoration results in greater protection of the watercourse and riparian management area than compliance with subsections 3d(2) and (3).

4. Daylighting Water in Pipes and Culverts.

a. Pursuant to Section 25.09.200 D, the Director may require daylighting pipes and culverts that meet the definition of fish and wildlife corridors in Section 25.09.020 D3c.

~~[illegible] other actions occurs; or~~

(ii) if any of the actions described in subsection d(2)(c)(i) above occur, all impacts on the ecological function are mitigated as set out in subsection e below; or

(3) for residential uses the residence is twenty five feet (25') or more from the ordinary high water mark

(a) and no vegetation is removed, impervious surface is not increased and no net loss of ecological function of the critical area or buffer from other actions occurs; or

(b) if any of the actions described in subsection d(3)(a) above occur, all impacts on the ecological function are mitigated as set out in subsection e below.

e. Mitigation.

(1) Mitigation must prevent net loss of ecological function. Mitigation must achieve the equivalent ecologic functions as the conditions existing in the shoreline habitat buffer at the time of development. Mitigation under this section is not intended to duplicate mitigation for the same ecologic function that is required under other City regulations or under state and federal permits. The permit condition most protective of the ecologic function shall be enforced.

(2) For the purpose of this section, mitigation is action that replaces ecological functions lost as a result of a project impact. Depending on the type of lost ecological function these include:

(a) providing habitat, or

(b) creating new pervious ground or

(c) replicates the function of the pervious ground through methods that are engineered and designed according to the requirements of Title 22, Subtitle VIII, Stormwater, Grading and Drainage Control Code.

(3) Mitigation for habitat impacts in the buffer shall occur in the following order of preference:

(a) on the parcel within the buffer as close to the ordinary high water mark as possible;

(b) within the buffer as close to the ordinary high water mark as possible on a parcel that abuts the ordinary high watermark within one quarter (¼) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred;

(c) farther along the shoreline within the buffer as close to the ordinary high water mark as possible.

(4) The following mitigation ratios are required for habitat impacts in the buffer under subsection 2(a) and 2(b); the first number specifies the area of replacement habitat, and second specifies the area of altered habitat:

(a) 1:1 for areas on the parcel or on a parcel that abuts the ordinary high water mark within one quarter (1/4) mile along the shoreline from where the vegetation removal, placement of impervious surface or other loss of habitat occurred. If the applicant demonstrates that the ecological function can be replaced at a different ratio, the Director may approve that ratio.

(b) 3:1 farther along the shoreline, provided that if a five (5) year bonded monitoring program is provided that monitors the effectiveness of mitigation measures and provides a means for ensuring the attainment of the goals of the program, the Director may approve a 2:1 ratio.

5. Bulkheads.

a. New bulkheads are prohibited, except when the bulkhead is necessary to the continuation of a pre-existing bulkhead on a parcel containing fish and wildlife habitat conservation areas shall consult with the Washington State Department of Fish and Wildlife and comply with any requirements of that agency, except as limited in subsections A and B above.

D. Based on information provided by a qualified wildlife biologist, the Director may condition development on parcels containing wildlife habitat or corridors defined in subsection 25.09.020 D3 to protect fish or wildlife habitat corridors. Conditions may include, but are not limited to:

1. Establishment of buffer zones;

2. Preservation of important vegetation and habitat features;

3. Limitation of access to habitat areas;

4. Seasonal restriction of construction activities;

5. Preservation of the ability for fish to pass between fish habitat in Type 1-5 waters upstream and downstream of the parcel. The application requirements and general conditions of this chapter, Sections 25.09.330 and 25.09.060, do not apply if the person responsible for development of the parcel has either a Hydraulic Project Approval from the Washington Department of Fish and Wildlife or a Section 404 permit under the federal Clean Water Act from the United States Army Corps of Engineers. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

6. Requiring the developer to daylight a pipe or culvert defined in SMC 25.09.020 D3c, when the conditions in subsection 6a below are met. When requiring daylighting, the Director is authorized to modify the conditions set out in subsection 6b below. Nothing in this subsection alters the rights of the owner of the pipe or culvert, if that person is not an applicant for a permit.

a. The Director may require daylighting under the following conditions:

(1) When the existing pipe or culvert cannot remain in its current location and provide an effective passage for anadromous fish due to the development.

(2) Other methods for preserving fish passage such as pipe or culvert placement or site engineering are not feasible.

b. If daylighting is required then the applicant must prepare a plan that demonstrates the following:

(1) The ecological functions of the daylighted waters and resulting new riparian management area are compatible with and protect the functions of pipes and culverts upstream and downstream and the ecological functions of the existing riparian corridor upstream and downstream and do not contribute to flooding.

(2) The ecological functions include preventing erosion, protecting water quality, and providing diverse habitat.

c. The Director determines that daylighting the pipe or culvert and the impacts from the development to fish passage on the parcel are roughly proportionate.

d. When requiring daylighting, the Director is authorized to modify the following conditions:

(1) Yard and/or setback requirements on the property may be reduced to provide sufficient area for daylighting and creating a riparian management area, unless reducing them is injurious to safety.

(2) The riparian corridor watercourse and riparian management area may count toward open space requirements for all multifamily or commercial zone requirements.

the approved site plan.))

3. Development may encroach into that portion of a steep slope area or its buffer for which the Director has determined that criteria in subsection 25.09.180 B2a, b, or c are met for the particular short subdivision, or subdivision under consideration.

4. Development may encroach into the Shoreline habitat buffer provided that

a. a condition is recorded on the plat restricting the development in the buffer to water dependent or water related uses or to single family residential uses; and

b. for single family residential uses the condition requires each residence to be no further waterward than twenty five feet (25') from the ordinary high water mark; and

c. a condition is recorded on the plat (1) requiring mitigation at the time of development for removal of vegetation, addition of impervious surface, and all other harm to the ecological function of the buffer and habitat resulting from development and (2) setting out on the plat the mitigation standards in subsection 25.09.200 B4e.

C. Lots shall be configured to preserve the environmentally critical areas and their buffers identified in subsection A by:

1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or

2. Establishing non-disturbance areas on individual lots.

D. The environmentally critical areas and buffers identified in subsection A above, except for areas qualifying for development under subsection B1-4, shall be designated non-disturbance areas on the final plat. A notice that these non-disturbance areas are located on the lots, including the definition of "non-disturbance area," shall recorded in the King County Office of Records and Elections along with the final plat in a form approved by the Director. At the same time, a covenant protecting non-disturbance areas shall be recorded as set out in Section 25.09.335.

~~((B. Lots shall be configured to preserve the identified environmentally critical area and its buffer by:))~~

~~((1. Establishing a separate buffer tract or lot with each owner having an undivided interest; or))~~

~~((2. Establishing buffer easements on individual lots.))~~

((C))E. In computing the number of lots a parcel in a single family zone may contain, the Director shall exclude the following areas:

1. Easements and/or fee simple property used for shared vehicular access to proposed lots that are required under Section 23.53.005. ~~((shall not be counted when calculating minimum lot area requirements.))~~

((D))2. The area of the ~~((identified))~~ environmentally critical areas and ~~((their required))~~ buffers identified in subsection A, unless they are on a lot that meets one of the following standards: ~~((trees within a proposed subdivision or short subdivision shall receive no development credit for use in calculating the number of lots permitted.))~~

a. the provisions of subsection B; or

b. an Administrative Conditional Use is obtained under Section 25.09.260, if it is not practicable to meet the requirements of subsection B considering the parcel as a whole.

~~((E))~~F. Application Submittal Requirements. All short subdivision and subdivision ((proposals)) applications, in addition to the application submission requirements included in ((SMC)) Title 23((, Land Use Code,)) shall meet the applicable applica-

~~A. ((Shall)) This section applies to all har-~~

~~[illegible]~~

~~25.09.080 ((Development standards for landslide-prone hazard)) Landslide-prone critical areas.~~

~~A. ((Shall)) This section applies to all harbor areas, and to all other areas within the City that are designated landslide-prone critical areas.~~

~~B. ((Shall)) Development standards for landslide-prone areas.~~

~~1. The general development standards set out in SMC 25.09.060 do not apply to landslide prone areas.~~

~~2. When development is authorized on a parcel containing a wetland:~~

~~a. All on or offsite runoff shall be routed away from the wetland and wetland buffer; and~~

~~b. Direct lighting shall be directed away from the wetland and its buffer.~~

~~3. Removal of, clearing, or any action detrimental to habitat, trees or vegetation in the buffer is prohibited, except as provided in subsection 3e; and~~

~~4. Removal of clearing, or any action detrimental to habitat, trees or vegetation in wetlands is prohibited, except as provided in Section 25.09.320.~~

~~((C. Wetlands, excluding wetlands of exceptional value, may be considered for alteration if the proposal meets the criteria to the scale of the development shall be appropriate to the scale of the development and subject to the following conditions:~~

~~(1) Impose additional conditions on the~~

~~[illegible]~~

~~[illegible]~~

~~[illegible]

(2) The price the applicant paid for the rights described in subsection (1); and

(3) Restrictions or conditions on use or development in existence when the applicant acquired the rights described in subsection (1).

2. The Director may require the applicant to provide additional information prepared by qualified persons on the topics described in subsection B1.

3. All technical studies and data shall be accompanied by sufficiently detailed information to allow the Director to evaluate it under the standards for scientific information set out in Washington Administrative Code (WAC) 365-195-905.

C. The Director may modify or waive an environmentally critical areas development standard and/or the yard and setback standard for front or rear yards when an applicant demonstrates ((to the Director's satisfaction)) by clear and convincing evidence that strict application of the development standards would ((be unreasonable)) not permit any reasonable use of the property and that development undertaken pursuant to the modified or waived standards would not cause significant injury to occupiers of the land, to other properties, and to public resources, or to the environment.

D. The relief granted by reduction, waiver, or other modification of an environmentally critical areas development standard and of the yard and setback standards for front or rear yards shall be the minimum to allow reasonable use of the property. Preference shall be given to modifying or waiving the yard and setback standards for front or rear yards. In modifying a ((development standard))regulation, the Director may impose reasonable conditions that prevent or mitigate the same harm that the modified or waived regulation was intended to prevent or mitigate. In granting an exception to the development standards in Section 25.09.160, Wetlands, the Director shall apply the avoidance and mitigation standards in subsection 25.09.160 E when imposing any conditions.

E. The Director's decision must be consistent with the scientific approach used by the City in developing the environmentally critical area development standard at issue.

F. 1. The process and procedures for notice of decision and appeal of an environmentally critical areas exception shall be provided in the manner prescribed for Type II land use decisions in Chapter 23.76.

((E))2. ((A Director's decision pursuant to this section may be appealed to the Hearing Examiner according to the procedures provided for appeals of Master Use Permit decisions by SMC Section 23.76.022.)) The Director's decision ((as to whether development pursuant to a modified development standard will cause significant injury)) shall be affirmed unless found to be clearly erroneous((. The Director's decision as to whether strict application of a development standard is reasonable shall be given no deference)), and the burden of proof of justifying the environmentally critical areas exception shall be on the applicant.

25.09.320 ((Vegetation and tree removal permit in environmentally critical areas))Trees and vegetation.

((A. Removal, clearing or any action detrimental to trees or vegetation within wetlands, wetland buffers and riparian corridor buffers is prohibited unless the Director has given prior approval to a restoration plan pursuant to buffer restoration, reduction, exemption, or exception provisions contained in this chapter.

B. Removal, clearing or any action detrimental to trees (including, but not limited to, tree topping) or vegetation within landslide-prone, steep slope, and fish and wildlife habitat areas shall require a permit from the Director when any of the following thresholds are exceeded:

1. Any tree of six (6) inch caliper or greater, measured three (3) feet above the ground; or

2. Any combination of trees over one and one-half (1.5) inch caliper, measured three (3) feet above the ground, which total a cross-section area greater than twenty-eight (28) square inches or equivalent to a tree cross-section of six (6) inches; or

3. Any other combination of trees and other vegetation covering an area of seven hundred and fifty (750) square feet or more.

C. A vegetation and tree removal permit shall always be required even in cases where an application for a building permit or Master Use Permit has not been submitted. The permit shall only be required for that portion of the site which is designated as environmentally critical as listed in subsection B.

(2) the restoration or improvement is not already a condition to obtaining a permit or approval from the Director, and

(a) when the area of work is under one thousand five hundred (1,500) square feet in area calculated cumulatively over three (3) years, a plan is filed with the Department that complies with subsections B1 and 2; or

(b) when the area of work is one thousand five hundred (1,500) square feet or more in area calculated cumulatively over three (3) years, or if the removal of invasive plants or noxious weeds is by machine or chemicals, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

d. Removing trees or vegetation when the Director determines the tree or vegetation is a threat to health or safety based on a report prepared by a qualified professional and the removal is performed by or under the direction of a qualified professional.

Standards for Plans.

1. Plans prepared under this subsection shall be consistent with the Department's standard tree and vegetation plans.

2. When the area of work exceeds seven hundred fifty (750) square feet in a landslide-prone area, the plan shall be approved by a geotechnical engineer or geologist licensed in the State of Washington with experience in analyzing geological hazards related to slope stability and vegetation removal on landslide prone areas. These plans shall be consistent with best management practices.

3. Plans prepared under this subsection shall be prepared by a qualified professional with experience related to the type of environmentally critical area or buffer where work will occur. These plans shall be consistent with best management practices.

25.09.330 Application submittal requirements.

All activities identified in Section 25.09.015 and not exempt from permit application requirements under Sections 25.09.045, 25.09.055, 25.09.200 A4, and 25.09.320 A3 shall meet the following application submittal requirements in addition to the application submittal requirements specified in other codes:

A. Topographic Survey. A topographic site plan, prepared and stamped by a State of Washington licensed surveyor, is required for sites that include landslide-prone, flood-prone, riparian corridor, shoreline habitat or its buffer, wetland or its buffer, and steep slope areas or their buffers. The topographic site plan shall include the following existing physical elements:

1. Existing topography at two-foot (2') contour intervals on-site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

2. Terrain and stormwater-flow characteristics within the site, on adjacent sites within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

3. Location of areas with significant amounts of vegetation, and specific location and description of all trees with trunks six inches (6") or greater in diameter measured four feet, six inches (4'6") above the ground, and noting their species;

4. Location and boundaries of all existing site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amounts of developmental coverage, including all impervious surfaces (noting total square footage and percentage of site occupied);

5. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands on the site, within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;

6. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and

7. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09

and regional public agencies as necessary to obtain additional technical and environmental review assistance. The Director shall review and approve all nonexempt public projects in public rights-of-way in environmentally critical areas and may institute interdepartmental charges to recover the cost of such review.

B. Permit applications shall only be approved after the Director is satisfied that the proposed development meets the requirements and development standards of this chapter, does not harm the general public health, safety and welfare, and prevents degradation and harm to the environment. If the general conditions and development standards or exemption and exception provisions contained in this chapter are not met, the Director shall deny the application.))

((SMC 25.09.345 Permit renewals in landslide-prone areas.

A. In addition to satisfying the provisions of SMC Chapter 23.76 and Section 106.9 of the Building Code, an applicant seeking to renew a building permit for new or additional development in a landslide-prone area, as described in SMC Section 25.09.020 B1a, must submit a Letter of Certification (LC) from the current project Engineer of Record stating that a geotechnical engineer has inspected the site and area surrounding the proposed development within the sixty (60) days preceding submittal of the letter, and that:

1. In the project engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to DCLU as part of the application for the permit being renewed; or that

2. In the project engineer's professional opinion changes in conditions at the site or surrounding area have occurred that require revision to project criteria or the permit, and that in the project engineer's professional opinion all technical reports and any necessary revised drawings that account for the changed conditions have been submitted.

The Director may renew a permit for development in a landslide-prone area if, after considering the information submitted in conformance with subsections A1 or A2 above, he or she determines that there is no increased risk of damage to the proposed development, to neighboring properties, or to the drainage basin. In making such a determination the Director may impose new conditions or require the submittal of revised plans, but the Director may renew a permit with different conditions or revised plans only if the project as revised is within the scope and intent of the original Master Use Permit.

B. In the event a Letter of Certification as described in subsection A above is not submitted, the permit shall not be renewed.

C. An applicant for renewal also must demonstrate that any required bond or insurance still is in effect, and that the amount of such bond or insurance still is appropriate. The Director may require a bond or insurance as a condition of renewal even if such bond or insurance was not required previously.

D. From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for renewal of a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(c), shall be required to sign an acknowledgment that he or she has read the following notice:

In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may

((A. It shall be a violation of this chapter for any person, firm or corporation to erect, construct, modify, improve, enlarge, repair, move, remove, convert or demolish, occupy or maintain any property, vegetation, building or structure contrary to or in violation of any provision of this chapter. It shall be a violation of the chapter for any person, firm or corporation to knowingly aid and abet, counsel, encourage, hire, commend, induce or otherwise procure another to violate or fail to comply with this chapter.

B. Civil Penalties.

1. Any person, firm or corporation who fails to comply with any provision of this chapter or any notice, decision or order issued by the Director pursuant to this chapter shall be subject to a cumulative civil penalty in the amount of Five Hundred Dollars ($500) per day for each day of noncompliance, measured from the date the violation begins or occurs until the owner, person, firm or corporation complies with the requirements of this chapter. The Director shall notify the City Attorney in writing of the name of any person subject to the penalty, and shall assist the City Attorney in collecting the penalty.

2. Violations causing significant damage as defined by the following acts shall be assessed penalties at an amount reasonably determined by the Director to be equivalent to the economic benefit that the violator derives from the violation as measured by the greater of the resulting increase in market value of the property or the value received by the violator, or savings of construction costs realized by the violator:

a. Grading (filling and/or excavation), clearing of vegetation and trees, and draining of riparian corridors, wetlands and their buffers; or

b. Destruction of trees, including tree topping detrimental to trees, over twelve (12) inches caliper; or

c. Any six (6) foot vertical cut or fill within a potential landslide area.

C. Stop-work Order. Whenever a continuing violation of this chapter will materially impair the Director's ability to secure compliance with this chapter, when the continuing violation threatens the health or safety of the public, or when the continuing violation threatens or harms the environment, the Director may issue a stop-work order specifying the violation and prohibiting any work or other activity at the site. The posting of the stop-work order on the site shall be deemed adequate notice of the stop-work order. A failure to comply with a stop-work order shall constitute a violation of this chapter.

D. Emergency Order. Whenever any use or activity in violation of this chapter threatens the health and safety of the occupants of the premises or property or any members of the public, the Director may issue an emergency order directing that the use or activity be discontinued and the condition causing the threat to the public health and safety or threat and harm to the environment be corrected. The emergency order shall specify the time for compliance and shall be posted in a conspicuous place on the property, if posting is physically possible. A failure to comply with an emergency order shall constitute a violation of this chapter. Any condition described in the emergency order which is not corrected within the time specified is hereby declared to be a public nuisance and the Director is authorized to abate such nuisance summarily by such means as may be available. The cost of such abatement shall be recovered from the owner or person responsible or both in the manner provided by law.

E. Criminal Penalty.

1. Anyone violating or failing to comply with any order issued by the Director pursuant to this chapter shall, upon conviction thereof, be punished by a fine of not more than One Thousand Dollars ($1,000.00) or by imprisonment for not more than three hundred sixty (360) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

2. Anyone violating or failing to comply with any of the provisions of this chapter and who within the past five (5) years has had a judgement against them pursuant to subsection B shall upon conviction thereof, be fined in a sum not to exceed Five Hundred Dollars ($500.00) or by imprisonment for not more than one hundred and eighty (180) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.))

A. It is a violation of this chapter to fail to comply with any provision of this chapter or with any term of any permit condition or approval issued pursuant to this chapter.

B. It is a violation of this chapter to fail to comply with any order issued pursuant to

until authorization to proceed is given by the Director.

C. The stop-work order may require that vegetation, land, watercourse, premises, building, structure, or portion thereof, be vacated within a reasonable time, depending on the degree of danger, specified in the order. No person shall occupy the vegetation, land, premises, building, structure, or portion thereof after the date on which it is required to be vacated until the vegetation, land, watercourse, premises, building, structure, or portion thereof, is restored to a safe condition as determined by the Director.

25.09.450 Review by the Director.

A. Any person significantly affected by a notice of violation or stop-work order issued by the Director pursuant to this chapter may obtain an administrative review of the notice or order by requesting such review in writing to the Director within ten (10) days of the date of the notice or order. When the last day of the period so computed is a Saturday, Sunday, or federal or City holiday, the period shall run until five (5:00) p.m. on the next business day. A request for administrative review is an administrative remedy that must be exhausted before judicial review of the notice or order may be sought.

B. Upon receipt of the request, the Director shall notify by mail any persons served within the notice or order and any person requesting review, advising them of the request for review, of the date of the review, and of the deadline for submitting additional written information for consideration. The deadline for submitting additional written information shall be ten (10) days from the date the notice of administrative review is mailed, unless otherwise agreed to by all persons served with the notice or order. The Director and all persons served with the notice or order may also agree to review the matter within a shorter period or time that shall not be less than three (3) days from the date the notice or order was issued.

C. The Director shall conduct the administrative review and issue a decision on the request for administrative review in the form of an Order of the Director. The Director shall review all written information received by the submission deadline and any additional evidence or information available to DPD staff and placed in the case file. The Director may also request clarification of information received and a site visit. After review of the case file and of the additional written information and/or after a site visit, the Director shall issue an Order of Director that may:

1. Sustain the notice or order;

2. Withdraw the notice or order;

3. Continue the review to a date certain for receipt of additional information; or

4. Modify the notice or order, which may include an extension of the compliance date, if any.

D. The Director shall issue the Order of the Director no later than ten (10) days from the deadline for submitting additional information. The Order of the Director is mailed by first class mail to the person or persons named on the notice of violation or order and to any person who requested the administrative review. If the original notice or order was recorded with the King County Department of Records and Elections the Order of the Director shall also be recorded.

25.09.460 Civil Penalty.

A. Any person who violates or fails to comply with any provision of this chapter is subject to a civil penalty in an amount not to exceed Five Hundred Dollars ($500) per day for each violation, and in the event of a continuing violation shall be subject to a cumulative civil penalty of $500 per day for each violation from the time the violation occurs or begins until compliance is achieved. In cases where the Director has issued a notice of violation with a compliance date, the violation is deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation. For removing, clearing, or taking any action detrimental to a tree over six inches in caliper an additional civil penalty of Five Thousand Dollars ($5,000) shall be assessed.

B. Violations causing significant damage may be assessed an additional penalty in an amount reasonably determined to be equivalent to the economic benefit that the violator derived from the violation, measured as the greater of, the resulting increase in market value of the property, the value received by the violator, or the savings of construction costs realized.

C. The penalty imposed by this section may be collected by civil action brought in the name of the City. The Director notifies the City Attorney in writing of the name of any

environments that constitute the natural environment.

"Exception" refers to the environmentally critical areas exception, Section 25.09.300.

"Exemption" means to release a project either fully or partially from compliance with the environmentally critical areas regulations, or from specific development standards of this chapter, as provided in Section 25.09.045.

"Geologist" means a person who has earned a degree in geology from an accredited college or university and has at least five (5) years' experience as a practicing geologist or four (4) years of experience and at least two (2) years of postgraduate study, research or teaching. The practical experience shall include at least three (3) years of work in applied geology and evaluation, in close association with qualified practicing geologists or geotechnical/civil engineers.

"Geotechnical/civil engineer" means a practicing geotechnical/civil engineer licensed as a professional civil engineer by the State of Washington who has at least four (4) years of professional experience as a geotechnical engineer including experience with landslide evaluation.

(("Hydrologist" means a person who has earned a degree in hydrological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing hydrologist.))

"Impervious surface" is defined in ((SMC))Section 22.801.100, Stormwater, Grading and Drainage Control Code.

"Improved public road right-of-way" means a right-of-way which either contains utilities or is paved.

"Invasive plants" means the plants listed for Western Washington in Washington State Department of Ecology Publication # 04-06-025.

"Land disturbing activity"((is defined in SMC Section 22.801.130, Stormwater, Grading and Drainage Control Code.)) means any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land disturbing activities include, but are not limited to, clearing, grubbing, grading, filling, excavation, or addition or replacement of impervious surface.

"Lot" means a platted or unplatted parcel or parcels of land abutting upon and accessible from a private or public street sufficiently improved for vehicle travel or abutting upon and accessible from an exclusive, unobstructed permanent access easement. A lot may not be divided by a street or alley.

"Native fish" means a species of fish identified by the United States Fish and Wildlife Service as occurring in the Puget Sound area as part of its indigenous fresh water or marine aquatic fauna.

"Native vegetation" means vegetation, including trees, comprised of plant species ((which)) that are indigenous and noninvasive, naturalized to the Puget Sound region and ((which)) that reasonably can be expected to naturally occur on a site. Native vegetation does not include noxious weeds.

"Non-disturbance areas" means areas where development is not to be allowed.

"Normal pruning and maintenance" means for trees, shrubs and other woody plants compliance with American National Standards Institute A300 pruning standards.

"Noxious weeds" means weeds listed by the King County Noxious Weed Control Board.

"Ordinary high water mark" means, on all lakes, streams, and tidal water, that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, or as it may naturally change thereafter or as it may change thereafter in accordance with permits issued by the Director of the Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Parcel means a lot, unplatted property or combination thereof in the City of Seattle.

"Person" means any individual, receiver, administrator, executor, assignee, trustee in

((("Wetland of exceptional value" means and refers to wetlands with the following values:

1. Rare or unique species listed by the federal or State government as endangered or threatened and needing special protection;

2. Presence of plants or group of plants that occur infrequently in the Seattle or Puget Sound region;

3. Habitat diversity;

4. Sensitivity to disturbance; and

5. Difficulty in replacement of ecological functions unique to Seattle.

"Degraded wetland" means and refers to those wetlands which have been altered or damaged by past human activities and/or biologically diminished by invasive, non-native plants so that the natural biofiltration and habitat values have been rendered inefficient or nonfunctional.))

"Wetland Restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland.

"Wildlife" means ((and includes all undomesticated animals)) all species of the animal kingdom as defined in RCW 77.08.010.

"Wildlife habitat" means and refers to those areas that support individual or populations of animals defined as wildlife for all or part of an annual cycle.

25.09.((440))530 Construction.

In any case where the provisions of this chapter conflict with the provisions of the underlying zoning or the Seattle Shoreline Master Program, the provisions of this chapter ((shall)) apply. For purposes of this chapter, the singular ((shall)) includes the plural and vice versa, and the masculine gender ((shall)) includes the feminine and neutral genders.

Section 2. Section 23.28.030 of the Seattle Municipal Code is amended as follows:

SMC 23.28.030 Criteria for approval.

A. The Director shall approve an application for a lot boundary adjustment if it is determined that:

1. No additional lot, tract, parcel, site or division will be created by the proposed adjustment;

2. No lot is created which contains insufficient area and dimensions to meet the minimum requirements for development as calculated under the development standards of the zone in which the lots affected are situated, except as provided in Section 23.44.010, and under any applicable regulations for siting development on parcels with riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, wetland buffers or steep slopes in chapter 25.09. Any required non-disturbance area shall be legibly shown and described on the site plan, and a covenant shall be required as set out in Section 25.09.335;

3. No lot is created which does not have adequate drainage, water supply and sanitary sewage disposal, and access for vehicles, utilities and fire protection;

4. The lot boundary adjustment is consistent with applicable provisions of the Land Use Code, Title 23((, and SMC Chapter 25.09, Regulations for Environmentally Critical Areas)).

B. An application for a lot boundary adjustment on a parcel containing and environmentally critical area or buffer shall include the information described in Section 25.09.330, unless the Director determines that some of the information listed is not necessary for reviewing the application.

Section 3. Section 23.22.058 of the Seattle Municipal Code is amended as follows:

23.22.058 Environmentally critical areas.

No plat shall be approved by the Hearing Examiner covering any land situated in a riparian corridor ((buffer)), wetland and wetland buffer, or steep slope and steep slope buffer unless in compliance with the applicable provisions of ((SMC)) Section 25.09.240, Short subdivisions and subdivisions, in environmentally critical areas.

Section 4. Subsection 23.44.008 G of the Seattle Municipal Code is amended as follows:

23.44.008 Development standards for uses permitted outright.

* * * *

G. Development standards governing lots ((located in)) containing an environmentally

er, measured three (3) feet above the ground; or

2. Any combination of trees over one and one-half (1.5) inch caliper, measured three (3) feet above the ground, which total a cross-section area greater than twenty-eight (28) square inches or equivalent to a tree cross-section of six (6) inches; or

3. Any other combination of trees and other vegetation covering an area of seven hundred and fifty (750) square feet or more.

C. A vegetation and tree removal permit shall always be required even in cases where an application for a building permit or Master Use Permit has not been submitted. The permit shall only be required for that portion of the site which is designated as environmentally critical as listed in subsection B.

D. A vegetation and tree removal permit shall not be required when the Director determines there is an emergency that threatens the public health, safety and welfare.

E. The Director shall consider the following circumstances and conditions in rendering a decision on a vegetation and tree removal permit:

1. The applicant shall justify the need for tree and/or vegetation removal;

2. The applicant shall demonstrate that any tree and/or vegetation removal shall not adversely affect stability, erosion potential, existing drainage conditions, and/or fish and wildlife habitat areas on-site, on adjacent sites, or within the drainage basin;

3. The applicant shall demonstrate that the activity shall not be a precursor of a later development proposal, unless a plan is approved by the Director for public safety reasons and/or except to conduct soil testing subject to DCLU's Director's Rule for Investigative Field Work in Environmentally Critical Areas; and

4. The Director may require a vegetation and tree removal and replacement plan and may otherwise condition the permit to protect the public health and safety and prevent harm to the affected environmentally critical area.

F. Normal and routine pruning, maintenance and vegetation management and revegetation on private property which does not exceed the thresholds established in subsection B shall be exempt from a vegetation and tree removal permit.

G. Normal and routine pruning operations, maintenance, and tree and vegetation management and revegetation of public parkland and open spaces by responsible public agencies or departments shall be exempt when undertaken pursuant to best management practices to avoid impacts on environmentally critical areas.

H. Tree or vegetation removal shown as part of an issued building or grading permit shall not require a separate vegetation or tree removal permit.))

A. 1. Removing, clearing, or any action detrimental to habitat, vegetation or trees is prohibited, except as provided below, within the following areas: landslide-prone critical areas, (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers.

2. Tree-topping is prohibited.

3. The vegetation and tree removal and revegetation activities listed in subsections 3a-d are allowed. The application submittal requirements and general development standards in Sections 25.09.330 and 25.09.060 do not apply to actions under subsections 3a, b(1), c(2)(a) or d, provided that no other development is carried out for which a permit is required.

a. Normal and routine pruning and maintenance of:

(1) up to seven hundred and fifty (750) square feet of trees and vegetative cover lawfully maintained prior to the effective date of this ordinance;

(2) trees and vegetation approved by permit prior to the effective date of this ordinance, provided the conditions of the permit are complied with;

(3) lawns, paths and landscaping lawfully maintained prior to the effective date of this ordinance that were not in a environmentally critical area or buffer listed in subsection A1 above prior to the effective date of this ordinance, but are in a listed area or buffer under this ordinance;

(4) steep slope areas described in subsection 25.09.180 B2a-c;

(5) other trees and vegetative cover, provided that when the area of work is over seven hundred fifty (750) square feet in area, a plan is filed with the Department that complies with subsections B2 and 3.

b. Removing trees or vegetation as part of an issued building or grading permit consistent with a tree and revegetation plan, provided that

(1) when the area of work is under one thousand five hundred (1,500) square feet in area, a plan is filed with the Department that complies with subsections B1 and 2 or

and percentage of site occupied);

5. Location of all grading activities in progress, and all natural and artificial drainage control facilities or systems in existence or on adjacent lands on the site, within twenty-five feet (25') of the site's property lines, and in the full width of abutting public and private rights-of-way and easements;

6. Location of all existing utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines and in the full width of abutting public rights-of-way; and

7. Such additional existing physical elements information for the site and surrounding area as required by the Director to complete review of a project subject to the standards of Chapter 25.09.

B. Additional Site Plan Information. The following site plan information shall also be required for sites that include landslide-prone, flood-prone, riparian corridor, wetland, and steep slope areas or their buffers. Information related to the location and boundaries of environmentally critical areas and required buffer delineations shall be prepared by qualified professionals with training and experience in their respective area of expertise as demonstrated to the satisfaction of the Director.

1. Location and boundaries of all critical areas on the site and on adjacent lands within twenty-five feet (25') of the site's property lines, noting both total square footage and percentage of site;

2. Location and identification of all riparian corridors and wetlands within one hundred feet (100') of the site's property lines;

3. Location and boundaries of non-disturbance areas on the site that have been required by previous approvals.

4. Proposed location and boundaries of all required undisturbed fenced areas and buffers on the site and on adjacent lands within twenty-five feet (25') of the site's property lines;

5. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);

6. Location of all proposed grading activities and all proposed drainage control facilities or systems on the site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

7. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and

8. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of this chapter.

C. Technical Reports. Technical reports and other studies and submittals shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, and other pertinent site information. The reports, studies and submittals shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.

25.09.335 Posting, Covenants, and Recording Conditions.

A During construction, the Director may require conditions to be posted on the site that are visible from public rights-of-way.

B. The Director shall require a permanent covenant and a survey, if a survey has been prepared, be recorded in the King County Office of Records and Elections that describes and delineates all required non-disturbance areas, that prohibits development on and any disturbance of them, and that prohibits considering them for development credit in future plats or development proposals.

C. 1. The Director shall require the boundaries of the following environmentally critical areas and/or their buffers and any permanent conditions imposed be legibly shown and described in a permanent covenant with the property, which shall be recorded in the King County Office of Records and Elections:

a. Fish and wildlife habitat conservation areas;

b. Wetland critical areas and their buffers; and

c. Steep slope areas and their buffers.

B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:

In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.))

((SMC 25.09.350 Processing applications in landslide-prone areas.

Prior to issuance of a permit, the Director may require an applicant to submit a Letter of Certification as authorized by Section 25.09.345 and to satisfy the standards of that section. The Director's decision to require such a letter shall be based on such factors as the presence of known slides, indications of changed conditions at the site or the surrounding area, or other indications of unstable soils.))

((SMC 25.09.352 Issued permits in landslide-prone areas.

If the Director has reasonable ground to believe that significant changes in conditions at a project site or in the surrounding area may have occurred since a building permit was issued, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a Letter of Certification as authorized by Section 25.09.345 and satisfied the standards of that section for permit renewal.))

((SMC 25.09.355 Third-party review.

At the Director's discretion, permits for new or additional development in landslide-prone areas, as described in SMC Section 25.09.020 B1a, may be required to undergo third-party review as described in Section 25.09.080 C.

A. In addition to the criteria in Section 25.09.080 C, the Director's decision to require third-party review shall be based upon, but shall not be limited to, such factors as whether there has been incomplete submittal of data or apparently inadequate design work, whether the project is large scale, or whether the development site is complex.

B. The Director's discretion as exercised pursuant to this section shall supersede the staged review process as described in Section 25.09.080 B.))

((SMC 25.09.356 Acknowledgment of City policy.

From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:

In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.))

25.09.360 State Environmental Policy Act.

This chapter establishes minimum standards ((which are)) to be applied to specific land use and platting actions in order to prevent further degradation of environmentally critical areas in the City, and is not

or failure to comply shall constitute a separate offense.

2. Anyone violating or failing to comply with any of the provisions of this chapter and who within the past five (5) years has had a judgement against them pursuant to subsection B shall upon conviction thereof, be fined in a sum not to exceed Five Hundred Dollars ($500.00) or by imprisonment for not more than one hundred and eighty (180) days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.))

A. It is a violation of this chapter to fail to comply with any provision of this chapter or with any term of any permit condition or approval issued pursuant to this chapter.

B. It is a violation of this chapter to fail to comply with any order issued pursuant to this chapter or to remove or deface any sign, notice, complaint or order required by or posted in accordance with this chapter.

C. It is a violation of this chapter to misrepresent any material fact in any application, on plans, or in any other information submitted to obtain any determination, authorization, permit condition, or approval under this chapter.

D. It is a violation of this chapter to aid and abet, counsel, encourage, hire, command, induce or otherwise procure another to violate or fail to comply with this chapter.

25.09.410 Authority to Enforce.

A. The Director is authorized to enforce this chapter and may call upon other appropriate City departments to assist in enforcement.

B. The Director may, with the consent of the owner or occupier of any land, premises, building, or structure, or pursuant to a lawfully issued inspection warrant, enter at reasonable times any land, watercourse, premises, building, or structure subject to the consent or warrant.

C. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner, occupier, or other person responsible for the condition of the vegetation, land, watercourse, premises, building, or structure within the scope of this chapter.

D. No provision of or term used in this chapter is intended to impose any duty upon the City or any of its officers or employees that would subject them to damages in a civil action.

25.09.420 Investigation and Notice of Violation.

A. The Director is authorized to investigate the condition of any vegetation, land, watercourse, premises, building, structure, activity, or use that the Director reasonably believes does not comply with the provisions of this chapter. The Director's investigation and determination that a violation exists is not limited by determinations made by other City agencies.

B. If after investigation the Director determines that any provision of this chapter has been violated, the Director may serve a notice of violation upon any person that the Director believes is responsible for the violation. The notice of violation may identify the violation by code section; and may state what corrective action (including restoration), if any, is necessary to comply with the provisions of this chapter, set a reasonable time for compliance; and state the penalty for violating this chapter. The Director may require that the restoration plan be prepared by a qualified professional, at the violator's expense. Wetland mitigation shall be consistent with Section 25.09.160.

C. Any notice issued pursuant to subsection B shall be served upon the owner, occupier or other person responsible for the violation by personal service in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail, addressed to the last known address of such person(s). Service is complete at the time of personal service, or if mailed, three (3) days following the date of mailing. If a notice of violation sent by first class mail is returned as undeliverable, then service of the notice upon such person or persons may be made by posting the notice at a conspicuous place on the property where the violation occurred.

D. If a notice of violation or order is recorded with the King County Department of Records and Elections, a notice of violation or order for the same violation need not be served upon a new owner. If a new notice of violation or order is not issued and served upon a new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner, starting on the date that the conveyance is completed.

E. Nothing in this section shall be deemed to limit or preclude any action or proceeding pursuant to Sections 25.09.430 and 25.09.450 of this chapter, and nothing in this section requires the Director to issue a notice of violation prior to the imposition of civil or criminal penalties.

25.09.430 Stop-Work Order.

A. The Director may issue a stop-work

the date compliance is required by the notice of violation. For removing, clearing, or taking any action detrimental to a tree over six inches in caliper an additional civil penalty of Five Thousand Dollars ($5,000) shall be assessed.

B. Violations causing significant damage may be assessed an additional penalty in an amount reasonably determined to be equivalent to the economic benefit that the violator derived from the violation, measured as the greater of, the resulting increase in market value of the property, the value received by the violator, or the savings of construction costs realized.

C. The penalty imposed by this section may be collected by civil action brought in the name of the City. The Director notifies the City Attorney in writing of the name of any person subject to the penalty, and the City Attorney, with the assistance of the Director, takes appropriate action to collect the penalty. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an Order following an administrative review by the Director is not itself evidence that a violation exists.

25.09.470 Alternative Criminal Penalty.

Any person who violates or fails to comply with this chapter shall be guilty of a gross misdemeanor subject to the provisions of Chapters 12A.02 and 12A.04, except that absolute liability shall be imposed for such a violation or failure to comply and none of the mental states described in Section 12A.04.030 need be proved. The Director may request the City Attorney prosecute such violations criminally as an alternative to the civil penalty provision outlined in this chapter. Each day that a person continues to violate or fail to comply with the provisions of this chapter and each occurrence of a prohibited activity constitutes a separate offense.

25.09.480 Additional Relief.

The Director may seek legal or equitable relief to enjoin any acts or practices and abate any condition that constitutes or will constitute a violation of this chapter.

25.09.((420))520 Definitions.

"Best management practices" ((are)) means

a. the practices defined in ((SMC)) Section 22.801.030, Stormwater, Grading and Drainage Control Code((;)); and

b. structural, nonstructural and managerial techniques identified by the Director, or by the director of a City agency when that agency is making determinations under this chapter, as the most effective and practical means in an urban environment to mitigate adverse environmental effects on environmentally critical areas and buffers and their functions.

"Biologist" means a person who has earned a degree in biological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing biologist.

"Buffer" means a designated area adjacent to and/or a part of an environmentally critical area and intended to protect the environmentally critical area.

"City agency" means The City of Seattle or any of its subdivisions, including but not limited to, any City board, commission, committee, officer or department.

"Construction activity area" ((refers to)) means all areas of land disturbing activity within a site or on adjacent sites or rights-of-way used during construction including, but not limited to, developmental coverage areas and construction access and storage areas.

"Detention" is defined in ((SMC)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.

"Development" means ((and refers to)) all components and activities related to construction((,)) or disturbance ((and/or use)) of a site, including but not limited to land disturbing activities.

"Development standard" means a regulation establishing a limit on development.

((~~"Developmental coverage" is defined in SMC Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Director" means the Director of the Department of ((Construction and Land Use)) Planning and Development or his or her designee.

((~~"Discharge point" is defined in ((SMC)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Downtown zones" means all Downtown Office Core, Downtown Retail Core, Downtown Mixed Commercial, Downtown Mixed Residential, Downtown Harbor Front, International District Mixed, International District Residential, Pike Market Mixed, and Pioneer Square Mixed, as defined in Chapter 23.30.

((~~"Drainage control" is defined in ((SMC)) Section 22.801.050, Stormwater, Grading~~

presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, or as it may naturally change thereafter or as it may change thereafter in accordance with permits issued by the Director of the Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Parcel means a lot, unplatted property or combination thereof in the City of Seattle.

"Person" means any individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, co-partnership, joint venture, club, company, joint stock company, business trust, municipal corporation, political subdivision of the State of Washington, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, the United States or any instrumentality thereof, and any entity of whatever type.

"Pesticide" means, but is not limited to:

(a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, and any other form of plant or animal life or virus, except virus on or in a living person or other animal which is normally considered to be a pest or which the Director may declare to be a pest;

(b) Any substance or mixture of substances intended to be used as a plant regulator, defoliant or desiccant; and

(c) Any spray adjuvant.

"Provisions of this chapter" means all sections of this chapter.

"Retaining structure" means any improvement built up or composed of parts joined together in some definite manner and affixed to the ground for the purposes of retaining earth or rocks, including but not limited to concrete retaining walls, mechanically stabilized earth systems, soil nails, terracing, or flower bed frames.

"Riparian watercourse" means a channel through which water flows as defined in subsection 25.09.020 D5.

"Shoreline habitat" means Type 1waters defined in WAC 222-16-031 that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

"Short subdivision" means the division or redivision of land into nine (9) or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease, development or financing, and shall include all resubdivision of previously platted land and properties divided for the purpose of sale or lease of townhouse units.

"Site" means the unit of land for which an applicant is receiving permission to carry out development.

"Species of local importance" means those species ((that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.)) of wildlife designated under Section 25.09.200E.

"Stabilize" means to possess permanent characteristics, either naturally or by man-made improvements, which can be shown to have sufficient resistance to forces normally expected to occur, and those forces ((which)) that may occur as a result of a one (1) in one-hundred (100) year event.

"Steep slopes" means slopes of forty percent (40%) inclination or more within a vertical elevation change of at least ten feet (10'). For the purpose of this definition, a slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten feet (10') of elevation difference. Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five (25) feet.

"Steep slope area" means an area described in subsection 25.09.020 A 3.

"Street" means a right-of-way which is intended to provide or which provides a roadway for general vehicular circulation, is the principal means of vehicular access to abutting properties and includes areas for utili-

areas.

No plat shall be approved by the Hearing Examiner covering any land situated in a riparian corridor ((buffer)), wetland and wetland buffer, or steep slope and steep slope buffer unless in compliance with the applicable provisions of ((SMC)) Section 25.09.240, Short subdivisions and subdivisions, in environmentally critical areas.

Section 4. Subsection 23.44.008 G of the Seattle Municipal Code is amended as follows:

23.44.008 Development standards for uses permitted outright.

* * * *

G. Development standards governing lots ((located in)) containing an environmentally critical area or buffer may be modified according to the provisions of ((SMC)) Chapter 25.09((, Regulations for Environmentally Critical Areas)).

Section 5. Subsection 23.44.010 B5 of the Seattle Municipal Code is amended as follows:

Lot requirements.

* * * *

B. Exceptions to Minimum Lot Area. The following exceptions to minimum lot area are subject to the limits of subsection B5. A lot which does not satisfy the minimum lot area requirements of its zone may be developed or redeveloped as a separate building site according to the following:

* * * *

5. Development may occur on a substandard lot containing a riparian corridor ((buffer)), a shoreline habitat and shoreline habitat buffer, a wetland and wetland buffer, or a steep slope and steep slope buffer pursuant to the provisions of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, if the following conditions apply:

a. The substandard lot is not held in common ownership with an adjacent lot or lots at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, or

b. The substandard lot is held in common ownership with an adjacent lot or lots, or has been held in common ownership at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas,2 but proposed and future development will not intrude upon the environmentally critical area or buffer;

* * * *

Section 6. Subsection 23.44.014 D15 of the Seattle Municipal Code is amended as follows:

23.44.014 Yards.

* * * *

D. Exceptions from Standard Yard Requirements. No structure shall be placed in a required yard except pursuant to the following subsections:

* * * *

15. Front and rear yards ((may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required)) on lots containing certain environmentally critical area or buffer ((or other area of the property which can not be disturbed)) may be reduced pursuant to ((subsection A 6)) Sections 25.09.280 and 25.09.300((of SMC Chapter 25.09, Regulations for Environmentally Critical Areas)).

* * * *

Section 7. Subsections A and C of Section 23.44.024 of the Seattle Municipal Code is amended as follows:

SMC 23.44.024 Clustered housing planned developments.

* * * *

A. Site Requirements.

1. The minimum size of a CHPD shall be two (2) acres. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((SMC))Chapter 25.09, Regulations for Environmentally Critical Areas, and submerged land shall not be used to meet minimum size requirements.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((SMC))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use clustered development provisions under Section 25.09.260 shall apply, superseding the standards of this section.

3. The Director may exclude land from a CHPD if it is separated from the site by topographical conditions, if it has a poor functional relationship with the site, or if inclusion of the land would negatively impact adjacent single-family zoned lots.

* * * *

C. Number of Dwelling Units Permitted.

1. The number of dwelling units permit-

~~4. The Director may require a vegetation and tree removal and replacement plan and may otherwise condition the permit to protect the public health and safety and prevent harm to the affected environmentally critical area.~~

~~F. Normal and routine pruning, maintenance and vegetation management and revegetation on private property which does not exceed the thresholds established in subsection B shall be exempt from a vegetation and tree removal permit.~~

~~G. Normal and routine pruning operations, maintenance, and tree and vegetation management and revegetation of public parkland and open spaces by responsible public agencies or departments shall be exempt when undertaken pursuant to best management practices to avoid impacts on environmentally critical areas.~~

~~H. Tree or vegetation removal shown as part of an issued building or grading permit shall not require a separate vegetation or tree removal permit.))~~

A. 1. Removing, clearing, or any action detrimental to habitat, vegetation or trees is prohibited, except as provided below, within the following areas: landslide-prone critical areas, (including steep slopes), steep slope buffers, riparian corridors, shoreline habitat, shoreline habitat buffers, wetlands, and wetland buffers.

2. Tree-topping is prohibited.

3. The vegetation and tree removal and revegetation activities listed in subsections 3a-d are allowed. The application submittal requirements and general development standards in Sections 25.09.330 and 25.09.060 do not apply to actions under subsections 3a, b(1), c(2)(a) or d, provided that no other development is carried out for which a permit is required.

a. Normal and routine pruning and maintenance of:

(1) up to seven hundred and fifty (750) square feet of trees and vegetative cover lawfully maintained prior to the effective date of this ordinance;

(2) trees and vegetation approved by permit prior to the effective date of this ordinance, provided the conditions of the permit are complied with;

(3) lawns, paths and landscaping lawfully maintained prior to the effective date of this ordinance that were not in a environmentally critical area or buffer listed in subsection A1 above prior to the effective date of this ordinance, but are in a listed area or buffer under this ordinance;

(4) steep slope areas described in subsection 25.09.180 B2a-c;

(5) other trees and vegetative cover, provided that when the area of work is over seven hundred fifty (750) square feet in area, a plan is filed with the Department that complies with subsections B2 and 3.

b. Removing trees or vegetation as part of an issued building or grading permit consistent with a tree and revegetation plan, provided that

(1) when the area of work is under one thousand five hundred (1,500) square feet in area, a plan is filed with the Department that complies with subsections B1 and 2;or

(2) when the area of work is one thousand five hundred (1,500) square feet or more in area, a plan that complies with subsections B2 and 3 is filed with the Department, the plan keeps significant environmental impact to a minimum, the Director approves the plan before any disturbance occurs, and the work is performed by or under the direction of a qualified professional.

c. Restoring or improving vegetation and trees, including removing non-native vegetation or invasive plants and noxious weeds by hand, to promote maintenance or creation of a naturally functioning condition that prevents erosion, protects water quality, or provides diverse habitat when

(1) the restoration or improvement is a condition to obtaining a permit or approval from the Director; or

(2) the restoration or improvement is required undisturbed fenced areas and buffers on the site and on adjacent lands within twenty-five feet (25') of the site's property lines;

5. Location and boundaries of all proposed site improvements on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements. This shall include the amount of proposed land disturbing activities, including amounts of developmental coverage, impervious surfaces and construction activity areas (noting total square footage and percentage of site occupied);

6. Location of all proposed grading activities and all proposed drainage control facilities or systems on the site or on adjacent lands within twenty-five feet (25') of the site's property lines, and on the full width of abutting public and private rights-of-way and easements;

7. Location of all proposed utilities (water, sewer, gas, electric, phone, cable, etc.), both above and below ground, on the site, on adjacent lands within twenty-five feet (25') of the site's property lines, in the full width of abutting public rights-of-way, and any proposed extension required to connect to existing utilities, and proposed methods and locations for the proposed development to hook-up to these services; and

8. Such additional site plan information related to the proposed development as required by the Director to complete review of a project subject to the standards of this chapter.

C. Technical Reports. Technical reports and other studies and submittals shall be prepared as required by the Director detailing soils, geological, hydrological, drainage, plant ecology and botany, and other pertinent site information. The reports, studies and submittals shall be used to condition development to prevent potential harm and to protect the critical nature of the site, adjacent properties, and the drainage basin.

25.09.335 Posting, Covenants, and Recording Conditions.

A During construction, the Director may require conditions to be posted on the site that are visible from public rights-of-way.

B. The Director shall require a permanent covenant and a survey, if a survey has been prepared, be recorded in the King County Office of Records and Elections that describes and delineates all required nondisturbance areas, that prohibits development on and any disturbance of them, and that prohibits considering them for development credit in future plats or development proposals.

C. 1. The Director shall require the boundaries of the following environmentally critical areas and/or their buffers and any permanent conditions imposed be legibly shown and described in a permanent covenant with the King property, which shall be recorded in the King County Office of Records and Elections:

a. Fish and wildlife habitat conservation areas;

b. Wetland critical areas and their buffers; and

c. Steep slope areas and their buffers.

2. The covenant may be combined with the covenant required under subsection B, if that subsection applies. The covenant shall be recorded prior to the issuance of any permit or at the time a plat is recorded.

D. The Director may require placement of small permanent visible markers to delineate the areas described in subsections B and C. The location of the markers shall be legibly shown and described in the permanent covenant.

~~((SMC 25.09.340 Administration.~~

~~A. The Director, in consultation with the Director of the Seattle Engineering Department, shall review and analyze a permit application to determine whether the proposed development meets the requirements and standards of this chapter. The Director may also consult with other City departments was issued, the Director may by letter or other reasonable means of notification suspend the permit until the applicant has submitted a Letter of Certification as authorized by Section 25.09.345 and satisfied the standards of that section for permit renewal.))~~

~~((SMC 25.09.355 Third-party review.~~

~~At the Director's discretion, permits for new or additional development in landslide-prone areas, as described in SMC Section 25.09.020 B1a, may be required to undergo third-party review as described in Section 25.09.080 C.~~

~~A. In addition to the criteria in Section 25.09.080 C, the Director's decision to require third-party review shall be based upon, but shall not be limited to, such factors as whether there has been incomplete submittal of data or apparently inadequate design work, whether the project is large scale, or whether the development site is complex.~~

~~B. The Director's discretion as exercised pursuant to this section shall supersede the staged review process as described in Section 25.09.080 B.))~~

~~((SMC 25.09.356 Acknowledgment of City policy.~~

~~From April 16, 1997 until December 31, 1998, or until such earlier time as the City Council by resolution shall inform the Director that the Council has concluded its review of the City's expenditures for infrastructure on unstable land, each applicant for a Master Use Permit or a building permit, for new development or for development that will expand the footprint of existing development, on each property located in whole or in part in a known landslide-prone area as defined in SMC Section 25.09.020 B1a(1) or in an area that is both a steep slope as defined in SMC Section 25.09.020 B1a(2)(b) and that exhibits soil characteristics identified in SMC Section 25.09.020 B1a(2)(a), shall be required to sign an acknowledgment that he or she has read the following notice:~~

~~In view of the damage experienced in the landslides of 1996 and 1997, The City of Seattle has begun to review its policies on expenditures for infrastructure on unstable land. A range of options may be considered, including that (1) certain utility services provided by the City may not be provided under the same terms, conditions and rates that City utility services are provided in areas that are not landslide-prone, and that when the infrastructure for such utility services is paid for or built by applicants to serve their own properties, the City may not agree to repair, maintain, or own such infrastructure; and (2) any street, other than an arterial, that provides access to the proposed development and is damaged by landslides may not be repaired, rebuilt or repaved by the City, and if such street is repaired, rebuilt or repaved by the permit applicant, the City may not accept maintenance responsibility for such work. Any such changes in City policy will be adopted or approved by the City Council following a public process.))~~

25.09.360 State Environmental Policy Act.

This chapter establishes minimum standards ((which are)) to be applied to specific land use and platting actions in order to prevent further degradation of environmentally critical areas in the City, and is not intended to limit the application of the State Environmental Policy Act (SEPA). Projects subject to SEPA shall be reviewed and may also be conditioned or denied pursuant to ((Seattle Municipal Code)) Chapter 25.05.

25.09.380 Compliance with environmentally critical areas regulations.

Notwithstanding the provisions of Chapter 23.76 ((~~Seattle Municipal Code~~;)) authorizing issuance of Master Use Permits and Council Land Use Decisions upon compliance with the criteria and procedures of that chapter, no permit for a development proposal or for actions described in ((~~Seattle Municipal Code~~)) Section 25.09.((~~040~~))015 shall be issued unless it also complies with the regulations of this chapter.

25.09.400 Violations ((~~and penalties~~)).

the consent or warrant.

C. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner, occupier, or other person responsible for the condition of the vegetation, land, watercourse, premises, building, or structure within the scope of this chapter.

D. No provision of or term used in this chapter is intended to impose any duty upon the City or any of its officers or employees that would subject them to damages in a civil action.

25.09.420 Investigation and Notice of Violation.

A. The Director is authorized to investigate the condition of any vegetation, land, watercourse, premises, building, structure, activity, or use that the Director reasonably believes does not comply with the provisions of this chapter. The Director's investigation and determination that a violation exists is not limited by determinations made by determinations made by other City agencies.

B. If after investigation the Director determines that any provision of this chapter has been violated, the Director may serve a notice of violation upon any person that the Director believes is responsible for the violation. The notice of violation may identify the violation by code section; and may state what corrective action (including restoration), if any, is necessary to comply with the provisions of this chapter, set a reasonable time for compliance, and state the penalty for violating this chapter. The Director may require that the restoration plan be prepared by a qualified professional, at the violator's expense. Wetland mitigation shall be consistent with Section 25.09.160.

C. Any notice issued pursuant to subsection B shall be served upon the owner, occupier or other person responsible for the violation by personal service in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail, addressed to the last known address of such person(s). Service is complete at the time of personal service, or if mailed, three (3) days following the date of mailing. If a notice of violation sent by first class mail is returned as undeliverable, then service of the notice upon such person or persons may be made by posting the notice at a conspicuous place on the property where the violation occurred.

D. If a notice of violation or order is recorded with the King County Department of Records and Elections, a notice of violation or order for the same violation need not be served upon a new owner. If a new notice of violation or order is not issued and served upon a new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner, starting on the date that the conveyance is completed.

E. Nothing in this section shall be deemed to limit or preclude any action or proceeding pursuant to Sections 25.09.430 and 25.09.450 of this chapter, and nothing in this section requires the Director to issue a notice of violation prior to the imposition of civil or criminal penalties.

25.09.430 Stop-Work Order.

A. The Director may issue a stop-work order whenever any use, activity, work or development (1) is being done without a permit, determination, or authorization required by this chapter, (2) is being done contrary to any determination, authorization, permit, or approval of DPD and the use, activity, work or development will immediately impact an environmentally critical area or materially impair the Director's ability to secure compliance with this chapter, or (3) immediately threatens the public health, safety, and welfare with respect to the interests protected under this section.

B. The stop-work order shall describe the violation in writing and be posted on the premises or served on any person responsible for the violation. Except emergency work necessary to stabilize the site that may be required by the Director, it is unlawful for any work on the property to be done after the posting or service of a stop-work order

25.09.480 Additional Relief.

The Director may seek legal or equitable relief to enjoin any acts or practices and abate any condition that constitutes or will constitute a violation of this chapter.

25.09.((~~420~~))520 Definitions.

"Best management practices" ((~~are~~)) means

a. the practices defined in ((~~SMC~~)) Section 22.801.030, Stormwater, Grading and Drainage Control Code((.)); and

b. structural, nonstructural and managerial techniques identified by the Director, or by the director of a City agency when that agency is making determinations under this chapter, as the most effective and practical means in an urban environment to mitigate adverse environmental effects on environmentally critical areas and buffers and their functions.

"Biologist" means a person who has earned a degree in biological sciences from an accredited college or university, or a professional who has equivalent educational training and has experience as a practicing biologist.

"Buffer" means a designated area adjacent to and/or a part of an environmentally critical area and intended to protect the environmentally critical area.

"City agency" means The City of Seattle or any of its subdivisions, including but not limited to, any City board, commission, committee, officer or department.

"Construction activity area" ((~~refers to~~)) means all areas of land disturbing activity within a site or on adjacent sites or rights-of-way used during construction including, but not limited to, developmental coverage areas and construction access and storage areas.

"Detention" is defined in ((~~SMC~~)) Section 22.801.050, Stormwater, Grading and Drainage Control Code.

"Development" means ((~~and refers to~~)) all components and activities related to construction(((.)) or disturbance ((~~and/or use~~)) of a site, including but not limited to land disturbing activities.

"Development standard" means a regulation establishing a limit on development.

((~~"Developmental coverage" is defined in SMC Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Director" means the Director of the Department of ((~~Construction and Land Use~~)) Planning and Development or his or her designee.

((~~"Discharge point" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Downtown zones" means all Downtown Office Core, Downtown Retail Core, Downtown Mixed Commercial, Downtown Mixed Residential, Downtown Harbor Front, International District Mixed, International District Residential, Pike Market Mixed, and Pioneer Square Mixed, as defined in Chapter 23.30.

((~~"Drainage control" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control facility" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage-control plan" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Drainage-control system" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.

((~~"Drainage water" is defined in ((SMC))Section 22.801.050, Stormwater, Grading and Drainage Control Code.~~))

"Ecological Function" means the work performed or role played individually or collectively by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial

"Retaining structure" means any improvement built up or composed of parts joined together in some definite manner and affixed to the ground for the purposes of retaining earth or rocks, including but not limited to concrete retaining walls, mechanically stabilized earth systems, soil nails, terracing, or flower bed frames.

"Riparian watercourse" means a channel through which water flows as defined in subsection 25.09.020 D5.

"Shoreline habitat" means Type 1waters defined in WAC 222-16-031 that provide migration corridors for fish listed by WDFW as a priority species waterward of the ordinary high water mark.

"Short subdivision" means the division or redivision of land into nine (9) or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease, development or financing, and shall include all resubdivision of previously platted land and properties divided for the purpose of sale or lease of townhouse units.

"Site" means the unit of land for which an applicant is receiving permission to carry out development.

"Species of local importance" means those species ((~~that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.~~)) of wildlife designated under Section 25.09.200E.

"Stabilize" means to possess permanent characteristics, either naturally or by man-made improvements, which can be shown to have sufficient resistance to forces normally expected to occur, and those forces ((~~which~~)) that may occur as a result of a one (1) in one-hundred (100) year event.

"Steep slopes" means slopes of forty percent (40%) inclination or more within a vertical elevation change of at least ten feet (10'). For the purpose of this definition, a slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten feet (10')of elevation difference. Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five (25) feet.

"Steep slope area" means an area described in subsection 25.09.020 A 3.

"Street" means a right-of-way which is intended to provide or which provides a roadway for general vehicular circulation, is the principal means of vehicular access to abutting properties and includes space for utilities, pedestrian walkways, sidewalks and drainage.

"Subdivision" means the division or redivision of land into ten (10) or more lots, tracts, parcels, sites, or divisions for the purpose of sale, lease and transfer of ownership.

((~~"Urban natural open space habitat" means and refers to those fish and wildlife habitat areas mapped by the Washington State Department of Wildlife.~~))

"Vegetation" means any and all organic plant life growing on, below, or above the soil surface.

"Watercourse" is defined in Section 22.801.240.

"Wetland Creation" means the creation of a wetland within an upland area.

a. The substandard lot is not held in common ownership with an adjacent lot or lots at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas, or

b. The substandard lot is held in common ownership with an adjacent lot or lots, or has been held in common ownership at any time after the effective date of SMC Chapter 25.09, Regulations for Environmentally Critical Areas,2 but proposed and future development will not intrude upon the environmentally critical area or buffer;

* * * *

Section 6. Subsection 23.44.014 D15 of the Seattle Municipal Code is amended as follows:

23.44.014 Yards.

* * * *

D. Exceptions from Standard Yard Requirements. No structure shall be placed in a required yard except pursuant to the following subsections:

* * * *

15. Front and rear yards ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 7. Subsections A and C of Section 23.44.024 of the Seattle Municipal Code is amended as follows:

SMC 23.44.024 Clustered housing planned developments.

* * * *

A. Site Requirements.

1. The minimum size of a CHPD shall be two (2) acres. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((SMC))Chapter 25.09, Regulations for Environmentally Critical Areas, and submerged land shall not be used to meet minimum size requirements.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the conditional use clustered development provisions under Section 25.09.260 shall apply, superseding the standards of this section.

3. The Director may exclude land from a CHPD if it is separated from the site by topographical conditions, if it has a poor functional relationship with the site, or if inclusion of the land would negatively impact adjacent single-family zoned lots.

* * * *

C. Number of Dwelling Units Permitted.

1. The number of dwelling units permitted in a CHPD shall be calculated by dividing the CHPD land area by the minimum lot size permitted by subsection A of Section 23.44.010 in the single-family zone in which the CHPD is located. Land which is designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer and submerged land shall be excluded from the land used to calculate density in a CHPD. For CHPDs which include more than one (1) zone, the number of dwelling units shall be calculated based on the proportion of land area in each zone.

2. Where portions of a site are designated environmentally critical due to the presence of a riparian corridor, wetland, wetland buffer, steep slope, or steep slope buffer according to ((~~SMC~~))Chapter 25.09, Regulations for Environmentally Critical Areas, the con-

H. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to the provisions of ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 9. Subsection 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 10. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 12. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 13. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 14. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 15. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 16. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 17. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 18. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 19. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 20. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 21. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 22. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 23. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 24. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 25. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 26. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 27. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 28. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 29. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 30. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 31. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 32. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 33. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 34. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 35. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 36. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 37. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 38. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical area or buffer ((~~or other area of the property which can not be disturbed~~)) may be reduced pursuant to ((~~subsection A of~~)) Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

* * * *

Section 39. Section 23.45.056 D3 of the Seattle Municipal Code is amended as follows

ditional use provisions for regaining development credit and clustering under Section 25.09.260 shall apply.

3. One (1) additional detached single-family structure may be permitted if the development includes recreational, meeting and/or day care facilities open to the surrounding community.

* * * *

Section 8. Subsection 23.45.014 H of the Seattle Municipal Code is amended as follows:

23.45.014 Setback requirements -- Lowrise zones.

* * * *

H. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to the provisions of ((~~subsection A~~))of Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 9. Subsection 23.45.056 D3 of the Seattle Municipal Code is amended as follows:

23.45.056 Midrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks ((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) on lots containing certain environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~)) pursuant to ((~~the provisions of subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 10. Subsection 23.45.072 D3 of the Seattle Municipal Code is amended as follows:

SMC 23.45.072 Highrise -- Setback requirements.

* * * *

D. General Setback Exceptions.

* * * *

3. Front and rear setbacks on lots containing certain((~~may be reduced by twenty-five (25) percent, but no more than five (5) feet, if the site contains a required~~)) environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~))pursuant to the provisions of ((~~subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Subsection 23.53.010 B3 of the Seattle Municipal Code is amended to read:

SMC 23.53.010 Improvement requirements for new streets in all zones

* * * *

B. Required Right-of-way Widths for New Streets.

* * * *

3. Exceptions to Required Right-of-way Widths. The Director, after consulting with the Director of Transportation, may reduce the required right-of-way width for a new street when location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes the required right-of-way width impractical or undesirable.

Section 12. Subsection 23.53.015 D3a of the Seattle Municipal Code is amended to read:

SMC 23.53.015 Improvement requirements for existing streets in residential and commercial zones.

* * * *

D. Exceptions.

* * * *

3. Exceptions from Required Street Improvements. The Director may waive or modify the requirements for paving and drainage, dedication, setbacks, grading, no-protest agreements, landscaping and curb and sidewalk installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 13. Subsection 23.53.020 E3a of the Seattle Municipal Code is amended to read:

SMC 23.53.020 Improvement requirements for existing streets in industrial zones.

* * * *

E. Exceptions.

* * * *

3. Exceptions From Required Street Improvement Requirements. The Director may waive or modify the requirements for paving, dedication, setbacks, grading, no-protest agreements, landscaping and sidewalk and pedestrian walkway installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 14. Subsection 23.53.025 H of the Seattle Municipal Code is amended to read:

SMC 23.53.025 Access easement standards.

* * * *

H. Exceptions From Access Easement Standards. The Director, in consultation with the Fire Chief, may modify the requirements for easement width and surfacing for properties located in environmentally critical areas or their buffers when it is determined that:

1. Such modification(s) would reduce adverse effects to identified environmentally critical areas or buffers; and

2. Adequate access and provisions for fire protection can be provided for structures served by the easement.

Section 15. Subsection 23.53.030 G1 of the Seattle Municipal Code is amended to read:

SMC 23.53.030 Alley improvements in all zones.

* * * *

G. Exceptions. The Director, after consulting with the Director of the Department

Approved by me this 5th day of April, 2006.

Gregory J. Nickels, Mayor

Filed by me this 5th day of April, 2006.

(Seal) Judith Pippin

City Clerk

Publication ordered by JUDITH PIPPIN, City Clerk

Date of publication in the Seattle Daily Journal of Commerce, April 14, 2006.

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~~feet, if the site contains a required~~)) environmentally critical areas or buffers may be reduced ((~~or other area of the property which can not be disturbed~~))pursuant to the provisions of ((~~subsection A of~~))Sections 25.09.280 and 25.09.300((~~of SMC Chapter 25.09, Regulations for Environmentally Critical Areas~~)).

Section 11. Subsection 23.53.010 B3 of the Seattle Municipal Code is amended to read:

SMC 23.53.010 Improvement requirements for new streets in all zones

* * * *

B. Required Right-of-way Widths for New Streets.

* * * *

3. Exceptions to Required Right-of-way Widths. The Director, after consulting with the Director of Transportation, may reduce the required right-of-way width for a new street when location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes the required right-of-way width impractical or undesirable.

Section 12. Subsection 23.53.015 D3a of the Seattle Municipal Code is amended to read:

SMC 23.53.015 Improvement requirements for existing streets in residential and commercial zones.

* * * *

D. Exceptions.

* * * *

3. Exceptions from Required Street Improvements. The Director may waive or modify the requirements for paving and drainage, dedication, setbacks, grading, no-protest agreements, landscaping and curb and sidewalk installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 13. Subsection 23.53.020 E3a of the Seattle Municipal Code is amended to read:

SMC 23.53.020 Improvement requirements for existing streets in industrial zones.

* * * *

E. Exceptions.

* * * *

3. Exceptions From Required Street Improvement Requirements. The Director may waive or modify the requirements for paving, dedication, setbacks, grading, no-protest agreements, landscaping and sidewalk and pedestrian walkway installation when it is determined that one (1) or more of the following conditions are met:

a. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable.

* * * *

Section 14. Subsection 23.53.025 H of the Seattle Municipal Code is amended to read:

SMC 23.53.025 Access easement standards.

* * * *

H. Exceptions From Access Easement Standards. The Director, in consultation with the Fire Chief, may modify the requirements for easement width and surfacing for properties located in environmentally critical areas or their buffers when it is determined that:

1. Such modification(s) would reduce adverse effects to identified environmentally critical areas or buffers; and

2. Adequate access and provisions for fire protection can be provided for structures served by the easement.

Section 15. Subsection 23.53.030 G1 of the Seattle Municipal Code is amended to read:

SMC 23.53.030 Alley improvements in all zones.

* * * *

G. Exceptions. The Director, after consulting with the Director of the Department of Transportation, may modify or waive the requirements for dedication, paving and drainage, setbacks, grading and no-protest agreements, if it is determined that one (1) or more of the following conditions are met. The Director may require access to be from a street if alley improvements are also waived.

1. Location in an environmentally critical area or buffer, disruption of existing drainage patterns, or removal of natural features such as significant trees makes widening and/or improving the right-of-way impractical or undesirable;

* * * *

Section 16. Section 23.84.010 of the Seattle Municipal Code is amended to read:

23.84.010 "E"

* * * *

"Environmentally critical area" means those areas ((~~designated by~~)) defined in ((~~the City of Seattle Environmentally Critical Areas Policies and regulated and mapped in~~))SMC Chapter 25.09, Regulations for Environmentally Critical Areas((~~, and other city codes~~)).

* * * *

Section 17. Subsection C of SMC Section 23.90.002 of the Seattle Municipal Code is amended as follows:

23.90.002 Violations

* * * * *

C. It is a violation of Title 23 to remove or deface any sign, notice, complaint or order required by or posted in accordance with Title 23 ((~~or Title 25~~)).

* * * *

Section 18. This ordinance shall take effect and be in force on the later of (a) May 9, 2006, or (b) thirty (30) days from and after its approval by the Mayor, or (c) if not approved and returned by the Mayor within ten (10) days after presentation, on the effective date as provided by Municipal Code Section 1.04.020.

Passed by the City Council the 27th day of March, 2006, and signed by me in open session in authentication of its passage this 27th day of March, 2006.

Nick Licata

President of the City Council