

Debbie Beadle

From: Reid Brockway <waterat@comcast.net>
Sent: Sunday, November 04, 2012 7:51 PM
To: ECA
Cc: Kathy Richardson
Subject: Testimony to 11/8/12 PC hearing
Attachments: PC Public Hearing Draft regs - 10-26-12 reb markup.docx; Status of stream related issues per draft.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Commissioners,

Attached are two documents offered as testimony to the forthcoming public hearing on the ECA code update.

One document is a review mark-up of the city's preliminary draft of ECA code revisions dated 10-26-12. This mark-up is in Word docx format and shows changes and comments and identifies the source – in my case designated “reb”. I have made some changes to fix obvious errata where I encountered them, but have not attempted to rewrite any code pending resolution of the underlying policy issues as reflected in the comments.

This review has focused on stream-related code, which has been my subject area as a member of the Environment sub-group of Citizens For Sammamish. Other members will presumably be submitting comments on other aspects of these code revisions.

The other document is a table reflecting my assessment of the extent to which stream-related problems previously brought to the Commission's attention, and discussed with Staff, are addressed in the 10-26-12 draft. As will be seen from that table, several significant problems remain of the nature of constraints on property owners that provide little or no environmental benefit. I have offered conceptual solutions to these problems in a number of cases.

I will be present at the November 8th hearing and will provide further testimony then, mainly to provide context for my comments.

Thank you for considering this input.

Reid Brockway 425-868-7899

EXHIBIT NO. 235.

Public Hearing Draft – 10/26/12

PRELIMINARY DRAFT

Chapter 21A.50
ENVIRONMENTALLY CRITICAL AREAS

Sections:

- [21A.50.010](#) Purpose.
- [21A.50.020](#) Applicability.
- [21A.50.030](#) Appeals.
- [21A.50.040](#) Critical areas rules.
- [21A.50.045](#) Fees.
- [21A.50.050](#) Complete exemptions.
- [21A.50.060](#) Partial exemptions – Critical areas.
- [21A.50.070](#) Exceptions.
- [21A.50.080](#) *Repealed*.
- [21A.50.090](#) Critical area maps and inventories.
- [21A.50.100](#) Disclosure by applicant.
- [21A.50.110](#) Critical area review.
- [21A.50.120](#) Critical areas study requirement.
- [21A.50.130](#) Contents of critical areas study.
- [21A.50.135](#) Avoiding impacts to critical areas.
- [21A.50.140](#) Mitigation, maintenance, monitoring and contingency.
- [21A.50.145](#) Mitigation plan requirements.
- [21A.50.150](#) Financial guarantees.
- [21A.50.160](#) Vegetation management plan.
- [21A.50.170](#) Critical area markers, signs and fencing.
- [21A.50.180](#) Notice on title.
- [21A.50.190](#) Critical area tracts and designations on site plans.
- [21A.50.200](#) *Recodified*.
- [21A.50.210](#) Building setbacks.
- [21A.50.220](#) Erosion hazard areas – Development standards and permitted alterations.
- [21A.50.225](#) Erosion hazards near sensitive water bodies – Special district overlay.
- [21A.50.230](#) Frequently flooded areas.
- [21A.50.240](#) *Repealed*.
- [21A.50.250](#) *Repealed*.
- [21A.50.260](#) Landslide hazard areas – Development standards and permitted alterations.
- [21A.50.270](#) Seismic hazard areas – Development standards and permitted alterations.
- [21A.50.280](#) Critical aquifer recharge areas – Development standards.
- [21A.50.290](#) Wetlands – Development standards.
- [21A.50.300](#) Wetlands – Permitted alterations.
- [21A.50.310](#) Wetlands – Mitigation requirements.
- [21A.50.315](#) Wetlands – Mitigation banking.

Comment [reb-1]: This is no longer the title of this section. This should be fixed here and elsewhere in this document where this section is referenced.

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1

[21A.50.320](#) Wetlands – Limited exemption.

2 [21A.50.322](#) Wetland management area – Special district overlay.

3 [21A.50.325](#) Fish and wildlife habitat conservation areas – Development standards.

4 [21A.50.327](#) Wildlife habitat corridors.

5 [21A.50.330](#) Streams – Development standards.

6 [21A.50.340](#) Streams – Permitted alterations.

7 [21A.50.350](#) Streams – Mitigation requirements.

8 [21A.50.351](#) Ponds – Development standards.

9 [21A.50.352](#) *Repealed.*

10 [21A.50.355](#) Lake management areas – Special district overlay.

11 [21A.50.360](#) Critical areas mitigation fee – Creation of fund.

12 [21A.50.370](#) Critical areas mitigation fee – Source of funds.

13 [21A.50.380](#) Critical areas mitigation fee – Use of funds.

14 [21A.50.390](#) Critical areas mitigation fee – Investment of funds.

15 [21A.50.400](#) Sunset provisions.

16 **21A.50.010 Purpose.**

17 The purpose of this chapter is to implement the goals and policies of the Washington State Growth
18 Management Act, Chapter 36.70A and 36.70B RCW, the State Environmental Policy Act, Chapter 43.21C
19 RCW, and the City of Sammamish comprehensive plan [as amended](#), that call for protection of the functions
20 and values of the natural environment and the public health and safety by:

21 (1) Establishing development standards to protect defined critical areas;

22 (2) Protecting members of the public and public resources and facilities from injury, loss of life, property
23 damage or financial loss due to flooding, erosion, landslides, seismic events, soil subsidence or steep slope
24 failures;

25 (3) Protecting unique, fragile, and valuable elements of the environment including, but not limited to, wildlife
26 and its habitat;

27 (4) Requiring mitigation of unavoidable impacts on environmentally critical areas by regulating alterations in
28 or near critical areas;

29 (5) Preventing cumulative adverse environmental impacts on water availability, water quality, groundwater,
30 wetlands, and streams;

31 (6) Measuring the quantity and quality of wetland and stream resources and preventing overall net loss of
32 wetland and stream functions and values;

33 (7) Protecting the public trust as to navigable waters and aquatic resources;

34 (8) Meeting the requirements of the National Flood Insurance Program and maintaining the City as an eligible
35 community for federal flood insurance benefits;

...

- ...
- 1 (9) Alerting members of the public including, but not limited to, appraisers, owners, potential buyers or
2 lessees to the development limitations of critical areas;
- 3 (10) Establishing special district overlays with alternative development standards for increasing minimum
4 requirements to address unique site characteristics in areas of increased sensitivity;
- 5 (11) Providing City officials with sufficient information to protect critical areas; and
- 6 (12) Providing the public with a clear review and approval process for the development of sites constrained
7 by critical areas. (Ord. O2005-193 § 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)
- 8 **21A.50.020 Applicability.**
- 9 (1) The provisions of this chapter shall apply to all land uses in the City of Sammamish, and all persons within
10 the City shall comply with the requirements of this chapter.
- 11 (2) The City shall not approve any [permit-development proposal](#) or otherwise issue any authorization to alter
12 the condition of any land, water or vegetation or to construct or alter any structure or improvement without
13 first assuring compliance with the requirements of this chapter.
- 14 (3) Approval of a development proposal pursuant to the provisions of this chapter does not discharge the
15 obligation of the applicant to comply with the provisions of this chapter.
- 16 (4) When any provision of any other chapter of the Sammamish Municipal Code conflicts with this chapter or
17 when the provisions of this chapter are in conflict, that provision that provides more protection to
18 environmentally critical areas shall apply unless specifically provided otherwise in this chapter or unless such
19 provision conflicts with federal or state laws or regulations.
- 20 (5) The provisions of this chapter shall apply to all forest practices over which the City has jurisdiction
21 pursuant to Chapter 76.09 RCW and WAC Title 222. (Ord. O2005-193 § 1; Ord. O99-29 § 1)
- 22 **21A.50.030 Appeals.**
- 23 Any decision to approve, condition or deny a development proposal based on the requirements of this
24 chapter may be appealed according to and as part of the appeal procedure for the permit or approval
25 involved. (Ord. O2005-193 § 1; Ord. O99-29 § 1)
- 26 **21A.50.040 Critical areas rules.**
- 27 Applicable departments within the City are authorized to adopt, pursuant to Chapter [2.55](#) SMC, such
28 administrative rules and regulations as are necessary and appropriate to implement this chapter and to
29 prepare and require the use of such forms as are necessary to its administration. (Ord. O2005-193 § 1; Ord.
30 O99-29 § 1)
- 31 **21A.50.045 Fees.**
- 32 (1) Consistent with the City's adopted fee schedule, the City shall establish fees for the application filing,
33 review and other services provided by the City for critical areas review. Basis for these fees shall include, but
34 not be limited to, the cost of engineering and planning review time, cost of inspection time, costs for

...

1 administration, costs for third-party peer review, and any other special costs attributable to the critical areas
2 review process.

3 (2) Unless otherwise indicated in this title, the applicant shall be responsible for the initiation, preparation,
4 submission, and expense of all required reports, assessments, studies, plans, reconnaissances, or other work
5 prepared in support of or necessary to review the application. (Ord. O2005-193 § 1)

6 **21A.50.050 Complete exemptions.**

7 The following are exempt from the provisions of this chapter and any administrative rules promulgated
8 thereunder:

9 (1) Alterations in response to emergencies that threaten the public health, safety, and welfare or that pose
10 an imminent risk of damage to private property as long as any alteration undertaken pursuant to this
11 subsection is reported to the department immediately. The director shall confirm that an emergency exists
12 and determine what, if any, mitigation shall be required to protect the health, safety, welfare and
13 environment and to repair any resource damage;

14 (2) Public water, electric, and natural gas distribution, public sewer collection, cable communications,
15 telephone utility, and related activities undertaken pursuant to City-approved best management practices, as
16 follows:

17 (a) Normal and routine maintenance or repair of existing utility structures or rights-of-way;

18 (b) Relocation of electric facilities, lines, equipment or appurtenances, not including substations,
19 with an associated voltage of 55,000 volts or less, only when required by a local governmental
20 agency that approves the new location of the facilities;

21 (c) Replacement, operation, repair, modification, installation, or construction in existing developed
22 utility corridors, an improved City street right-of-way or City-authorized private street of all electric
23 facilities, lines, equipment, or appurtenances, not including substations;

24 (d) Relocation of public sewer local collection, public water local distribution, natural gas, cable
25 communication or telephone facilities, lines, pipes, mains, equipment, or appurtenances, only when
26 required by a local governmental agency that approves the new location of the facilities; and

27 (e) Replacement, operation, repair, modification, installation, or construction of public sewer local
28 collection, public water local distribution, natural gas, cable communication or telephone facilities,
29 lines, pipes, mains, equipment, or appurtenances when such facilities are located within an
30 improved public right-of-way or authorized private street;

31 (3) Maintenance, operation, repair, modification, or replacement of publicly improved streets as long as any
32 such alteration does not involve the expansion of streets or related improvements into previously
33 unimproved rights-of-way or portions of rights-of-way;

34 (4) Maintenance, operation, or repair of parks, trails and publicly improved recreation areas as long as any
35 such alteration does not involve the expansion of improvements into previously unimproved areas or new
36 clearing of native vegetation beyond routine pruning and related activities; and

...

...

1 (5) All clearing and grading activities that are exempt from the requirement for a clearing and grading permit
2 as specified in SMC 16.15.050, unless these activities require other permits or authorizations as specified in
3 SMC 21A.50.020. (Ord. O2005-193 § 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)

Comment [reb-2]: This code external to the ECA regs provides some clarification as to what is meant by "maintenance", but the concept is still inadequately defined. See further discussion of this in "Elaboration of reb Comments" at the end of this document.

4 **21A.50.060 Allowances for Existing Urban Development and Other Uses** Partial exemptions – Critical areas.
5 The following developments, activities, and uses are allowed in critical areas and associated buffers and
6 building setbacks as specified in the following subsections, provided such activities are otherwise consistent
7 with this program and other applicable regulations. The Director may apply conditions to an underlying
8 permit or approval to ensure that the activities are consistent with the provisions of this chapter.

Comment [EM3]: 2-14c & 5-20

9 (1) Existing single-family homes, other structures, landscaping, and other existing uses that do not meet
10 the requirements of this chapter and that were legally established according to the regulations in
11 place at the time of establishment may be maintained.

12
13 (2) Addition, expansion, reconstruction or revision of existing single-family homes or other structures is
14 subject to the following:

15 a) Structural modification or replacement of legally established structures that do not meet the
16 building setback or buffer requirements for wetlands, streams, or landslide hazard areas is allowed if
17 the modification, replacement or related activity does not increase the existing footprint of the
18 structure lying within the critical area, buffer or building setback area, and there is no increased risk
19 to life or property.

20 b) Structural modification of, addition to, or replacement of legally created single detached
21 residences and associated impervious surfaces that do not meet the building setback or buffer
22 requirements for wetlands, streams, or landslide hazard areas are allowed a one-time up to 1,000
23 square foot increase in the existing total footprint of the single detached residence and associated
24 impervious surface areas lying within the buffer or building setback subject to the following:

Comment [reb-4]: "detached residence" is not defined. But beyond that, why should "single detached residences" be the only structures that receive this relief? For example, why shouldn't a duplex be expandable, or a single-car garage be expandable to a double-car garage, if these have no effect on the ECA in question? Replace "single detached residence" with simply "residence".

25 1. If the existing legally created single detached residence and associated impervious
26 surfaces are located within the building setback or buffer required for a landslide hazard
27 area, a critical areas study must be supplied and approved by the City that demonstrates that
28 there will be no increased risk to life or property by the proposed footprint expansion;

Comment [reb-5]: This is still an arbitrary constraint. If a structure is beyond the range of influence on the ECA in question, due to intervening structures, topography, or whatever, there should be no restrictions beyond those (like impervious surface limit) that apply to all residential construction.

29 2. If the existing legally created single detached residence and associated impervious
30 surfaces are located within a wetland, stream or landslide hazard area, no further expansion
31 within the wetland, stream or landslide hazard area is allowed; and

Comment [reb-6]: The concept of a residence and associated impervious surfaces being located "within...a stream" does not make sense. Within a buffer or setback does, but that is addressed in 3. below. Delete "stream" from this paragraph.

32 3. If the existing legally created single detached residence and associated impervious
33 surfaces are located within the building setback or buffer for a stream or wetland:

34 a. No portion of the modification, addition or replacement may be located
35 closer to the critical area than the nearest extent of the existing single family
36 residential structure; or

Comment [reb-7]: This is different terminology than has been used to this point. Is this an effort to make some distinction from "single detached residence"? If so, the distinction needs to be defined. If not, replace this with merely "residence" as elsewhere.

...

1 b. When there is an intervening single detached residential structure(s) on a
2 perpendicular line in between the subject critical area(s) and the single detached
3 residence that is proposed to be modified, added to, or replaced, the modification,
4 addition or replacement may be located closer to the critical area, provided no
5 portion of the modification, addition or replacement is located closer than 50-feet to
6 the critical area, and the following criteria are met:

Comment [reb-8]: Single detached residential structures are not the only man-made features that can constitute de facto barriers to influence on an ECA, so can garages, driveways, solid walls, etc. Buffer delineation is the solution to this problem. Regardless, replace this phrase with "structure or other barrier to influence on the stream or wetland".

7 i. A critical areas study approved by the City demonstrates a net
8 improvement in hydrologic and habitat values to the subject critical area(s)
9 through restoration of degraded critical areas and/or buffer or through
10 provision of additional vegetated buffer; and

Comment [reb-9]: 50-feet is another arbitrary "magic number". If the intervening feature is such that the modification will have no effect on the critical area, there should be no minimum distance specified. Delete this clause.

11 ii. Mitigation of impacts to disturbed critical areas or buffers is
12 provided in accordance with this chapter

Comment [reb-10]: If the modification has no effect on the critical area due to an intervening feature, no "net improvement" should be required. (Nor may it be feasible if the critical area is on someone else's property.) This is using arbitrary declarative buffers as a lever to impose an agenda of habitat restoration, and is a policy the Commission should reject.

13 (3) Revisions to existing legally-established landscaping are allowed subject to the following:

14 a) The landscaped area shall not be increased within the critical area or buffer; and,

Comment [reb-11]: Here again, any constraint on landscaping located beyond the range of influence on the critical area due to intervening structures or topography constitute unjustified restrictions on the homeowner. Provisions similar to (2) b) 3. b. above should be added. (Buffer delineation will solve this problem.)

15 b) Landscaping features may be revised or replaced with similar features or features with less
16 impact to the critical area or buffer, such that the remaining functions of the critical area and/or
17 buffer are maintained or improved (e.g. plant material replaced with alternate plant material,
18 hardscape replaced with alternate hardscape, hardscape replaced with plant material, etc.).

Comment [reb-12]: Same problem as with a) (see previous comment).

19 (4) Conservation, Preservation, Restoration and/or Enhancement is allowed within critical areas or
20 buffers subject to the following:

21 a) Conservation and preservation of soil, water, vegetation, fish and other wildlife is allowed where
22 it does not include alteration of the location, size, dimensions or functions of an existing critical
23 area or buffer.

Comment [reb-13]: Hardscape is not defined, nor is it a commonly used term. Add definition to 21A.15.

24 b) Restoration and enhancement of critical areas or buffers is allowed provided that actions do not
25 alter the location, dimensions or size of the critical area or buffer; that actions improve and do
26 not reduce the existing quality or functions of the critical areas or buffers; and that actions are
27 implemented according to a restoration or enhancement plan that has been approved by the
28 City of Sammamish.

29 (5) Select Vegetation Removal Activities.

30 a) Removal of non-native, invasive Washington State and/or King County listed noxious weeds from
31 up to 2,500 square feet of area within a critical area or buffer is allowed with no permit requirement
32 if the following provisions are met:

Comment [reb-14]: Only non-native? Himalayan Blackberries, for example, are native and invasive. This would seem to not allow their removal. Suggest change to "non-native or invasive" or simply delete "non-native".

33 i. The non-native plants are removed using hand labor and/or light equipment;

34 ii. Soil disturbance is minimized and no filling or modification of soil contours occurs;

Comment [reb-15]: Another instance of an unjustified constraint on the homeowner if the vegetation removal is beyond the range of influence on the critical area. Buffer delineation will solve this problem.

1 iii. Water quality is protected and no modification of hydrology patterns within the critical area
2 or buffer is permitted results;

3 iv. Native plants are protected from removal or damage;

4 v. Appropriate erosion-control measures are used; and

5 vi. The area is replanted with a like kind and density of native vegetation following non-native
6 plant removal. For example, if dense non-native blackberry is removed, at a minimum, dense
7 native shrubs must be replanted following blackberry removal, though native trees and
8 groundcover could also be included and are encouraged if desired.

9 b) For removal of non-native vegetation in an area greater than 2,500 square feet, a clearing and
10 grading permit is required and must be accompanied by a native plant restoration plan in accordance
11 with any applicable provisions of this chapter.

12
13 (6) An existing development that has been discontinued or an existing structure or site improvement
14 that has been damaged or destroyed may be re-established or reconstructed if:

15 (a) The existing use, structure, or site improvement that previously existed is not expanded except as
16 allowed for in (2) above;

17 (b) A new nonconformance is not created; and

18 (c) The existing use has not been discontinued for more than 12 months prior to its re-establishment,
19 or the existing structure or site improvement is reconstructed pursuant to a complete permit
20 application submitted to the department within 12 months of the occurrence of damage or
21 destruction.

22
23 (1) The following developments, activities and uses are exempt from the review process of this chapter,
24 except for the notice on title provisions, SMC 21A.50.180 and 21A.50.190, and the frequently flooded areas
25 provisions, SMC 21A.50.230, and provided such exempt activities are otherwise consistent with the purpose
26 of this chapter and other applicable regulations. The director may apply conditions to an underlying permit
27 or approval to ensure that the activities are consistent with the provisions of this chapter.

28 (a) Structural modification of, addition to or replacement of existing legally created structures, except
29 single detached residences in existence before November 27, 1990, which do not meet the building
30 setback or buffer requirements for wetlands, streams, ponds or landslide hazard areas if the
31 modification, addition, replacement or related activity does not increase the existing footprint of the
32 structure lying within the above-described building setback area, critical area or buffer.

33 (b) Structural modification of, addition to or replacement of legally created single detached residences
34 and improvements constructed on existing associated legally created impervious surfaces in existence

1 before November 27, 1990, which do not meet the building setback or buffer requirements for
2 wetlands, streams, lakes, ponds or landslide hazard areas if the modification, addition, replacement or
3 related activity does not increase the existing total footprint of the residence and associated
4 impervious surface lying within the above-described buffer or building setback area by more than
5 1,000 square feet over that existing before November 27, 1990, and no portion of the modification,
6 addition or replacement is located closer to the critical area or, if the existing residence is in the critical
7 area, extends farther into the critical area.

8 (c) Maintenance or repair of structures that do not meet the development standards of this chapter for
9 landslide or seismic hazard areas if the maintenance or repair does not increase the footprint of the
10 structure and there is no increased risk to life or property as a result of the proposed maintenance or
11 repair.

12 (d) Select Vegetation Removal Activities. The removal of the following invasive vegetation is allowed
13 with hand labor and/or light equipment; provided, that the appropriate erosion control measures are
14 used and the area is replanted with native vegetation according to a restoration or enhancement plan
15 that has been approved by the City of Sammamish:

16 (i) Noxious weeds as identified by Washington State or King County noxious weed lists;

17 (ii) Himalayan blackberry (*Rubus discolor*, *R. procerus*);

18 (iii) Evergreen blackberry (*R. laciniatus*);

19 (iv) Ivy (*Hedera* spp.); and

20 (v) Holly (*Ilex* spp.), laurel, Japanese knotweed (*Polygonum cuspidatum*), or any other species on
21 the King County noxious weed list.

22 Removal of any native vegetation or woody debris from a critical area is prohibited unless the action is
23 part of an approved alteration.

24 (e) Conservation, Preservation, Restoration and/or Enhancement.

25 (i) Conservation and preservation of soil, water, vegetation, fish and other wildlife that does not
26 entail alteration of the location, size, dimensions or functions of an existing critical area or buffer;
27 and

28 (ii) Restoration and enhancement of critical areas or buffers; provided, that actions do not alter
29 the location, dimensions or size of the critical area or buffer; that actions improve and do not
30 reduce the existing quality or functions of the critical areas or buffers; and that actions are
31 implemented according to a restoration or enhancement plan that has been approved by the City
32 of Sammamish.

33 (2) Existing and ongoing agriculture and grazing of livestock is exempt from the provisions of this chapter and
34 any administrative rules promulgated thereunder, except for the livestock restriction provisions, SMC

...

1 ~~21A.50.290 and 21A.50.330, and any animal density limitations established by law, if the agriculture or~~
2 ~~grazing activity was in existence before November 27, 1990.~~

3 ~~(3) A permit or approval sought as part of a development proposal where previous critical areas review has~~
4 ~~been completed is exempt from the provisions of this chapter and any administrative rules promulgated~~
5 ~~thereunder, except for the notice on title provisions, SMC 21A.50.180 and 21A.50.190, if:~~

6 (a) ~~The City previously reviewed all critical areas on the site;~~

7 (b) ~~There is no material change in the development proposal since the prior review that would affect a~~
8 ~~critical area;~~

9 (c) ~~There is no new information available that is important to any critical area review of the site or~~
10 ~~particular critical area;~~

11 (d) ~~No more than five years have lapsed since the issuance of the permit or approval under which the~~
12 ~~prior review was conducted; provided, that the director may allow a longer time period if new review~~
13 ~~would be unlikely to provide new information about the critical area; and~~

14 (e) ~~The prior permit or approval, including any conditions, has been complied with. (Ord. O2009-264 §~~
15 ~~1 (Att. A); Ord. O2005-193 § 1; Ord. O99-29 § 1)~~

16 **21A.50.070 Exceptions.**

17 (1) Public Agency and Utility Exception. If the application of this chapter would prohibit an activity or a
18 development proposal by a public agency or utility, the agency or utility may apply for an exception pursuant
19 to this section:

20 (a) The public agency or utility shall apply to the department and shall make available to the
21 department other related project documents such as permit applications to other agencies, special
22 studies and SEPA documents.

23 (b) The director may approve alterations to critical areas, buffers and critical area setbacks by an
24 agency or utility not otherwise allowed by this chapter when the following criteria are met:

25 (i) There is no other reasonable alternative to the activity or proposed development with less
26 impact on the critical area; and

27 (ii) The activity or development proposal is designed to avoid, minimize, and mitigate the
28 impact on environmentally critical areas consistent with the avoidance and mitigation
29 sequencing requirements in this chapter; and, if applicable:

30 (iii) The proposed development or activity is of a linear nature and is on an existing corridor or
31 connects to public lands, trails, utility corridors, rights-of-way or other public infrastructure, or
32 is required for functional reasons such as gravity flow.

...

...
1 (c) The department shall process exceptions, provide public notice, provide opportunity for the
2 public to request a public hearing, and provide an appeal process consistent with the provisions of
3 Chapter 20.05 SMC.

4 (2) Reasonable Use Exception. If the application of this chapter would deny all reasonable use of the
5 property, the applicant may apply for an exception pursuant to this subsection:

6 (a) The director may approve alterations to critical areas, critical area buffers and setbacks to allow a
7 reasonable use not otherwise allowed by this chapter when the following criteria are met:

8 (i) The application of this chapter would deny all reasonable use of the property;

9 (ii) There is no other reasonable use with less impact on the critical area;

10 (iii) The proposed development does not pose an unreasonable threat to the public health,
11 safety, or welfare on or off the development proposal site and is consistent with the general
12 purposes of this chapter and the public interest; and

13 (iv) Any alterations permitted to the critical area or buffer shall be the minimum necessary to
14 allow for reasonable use of the property; and any authorized alteration of a critical area under
15 this subsection shall be subject to conditions established by the department including, but not
16 limited to, mitigation under an approved mitigation plan. (Ord. O2005-193 § 1; Ord. O2005-172
17 § 4; Ord. O99-29 § 1)

18 **21A.50.080 Modification or waiver of sensitive area requirements – Urban lots.**

19 *Repealed by Ord. O2005-193. (Ord. O99-29 § 1)*

20 **21A.50.090 Critical area maps and inventories.**

21 Not all of the critical areas in the City of Sammamish are mapped and therefore, for many development
22 proposals and on a site by site basis, critical areas will need to be evaluated and mapped by a qualified
23 professional. The distribution of many environmentally critical areas in the City of Sammamish is displayed in
24 the City's critical areas map folio, as amended. Additionally, the following maps are referenced and/or
25 maintained by the City:

26 (a) Additionally, mMany of the wetlands located within the City's boundaries are inventoried in the
27 King County wetlands inventory notebooks.

28
29 (b) Many fFlood hazard areas are mapped by the Federal Insurance Administration in a scientific and
30 engineering report entitled "The Flood Insurance Study for King County."

31
32 (c) The wetland management, erosion hazard near sensitive water bodies, and lake management
33 special overlay districts are designated on maps maintained by the City of Sammamish
34 Department of Ceommunity Development.

...
1 All maps are deemed advisory with the exception of the [Critical Aquifer Recharge Area, Flood Insurance Study](#)
2 [for King County, Wetland Management Area and Erosion Hazard Near Sensitive Water Bodies overlay maps.](#)
3 If there is a conflict among the [advisory](#) maps, inventory and/or site-specific features, the Department of
4 [Community Development](#) shall verify the actual presence or absence of the features defined in this title as
5 critical areas. The determination may be challenged by the property owner. (~~Ord. O2005-193 § 1; Ord. O99-~~
6 ~~29 § 1~~)

Comment [CdS16]: Item 5-4

7 **21A.50.100 Disclosure by applicant.**

8 (1) The applicant shall disclose to the City the presence of critical areas on the development proposal site and
9 any mapped or identifiable critical areas within the distance equal to the largest potential required buffer
10 applicable to the development proposal area on the applicant's property.

11 (2) If the development proposal site contains or is within a critical area or buffer, the applicant shall submit
12 an affidavit that declares whether the applicant has knowledge of any illegal alteration to any or all critical
13 areas or their buffers on the development proposal site and whether the applicant previously has been found
14 in violation of this chapter, pursuant to SMC Title 23. If the applicant previously has been found in violation,
15 the applicant shall declare whether such violation has been corrected to the satisfaction of the City. (Ord.
16 O2005-193 § 1; Ord. O99-29 § 1)

17 **21A.50.110 Critical area review.**

18 (1) The City shall perform a critical area review prior to issuing any approval for a development proposal
19 permit application or other request for permission to proceed with an alteration on a site that includes a
20 critical area or is within an identified critical area buffer or building setback area.

21 (2) As part of the critical area review, the City shall:

22 (a) Confirm whether critical areas or buffers have been mapped or identified within the distance
23 equal to the largest potential required buffer applicable to the development proposal area;

24 (b) Confirm the nature and type of the critical area;

25 (c) Determine whether a critical areas study is required;

26 (d) Evaluate the critical areas study. ~~An independent third party review may be required; and;~~

Comment [CdS17]: Item 4-10

27 (e) Determine whether the development proposal is consistent with this chapter;

28 (f) Determine whether any proposed alteration to the critical area is necessary; and

29 (g) Determine if the mitigation and monitoring plans and bonding measures proposed by the
30 applicant are sufficient to protect the public health, safety, and welfare, consistent with the goals,
31 purposes, objectives, and requirements of this chapter. (Ord. O2005-193 § 1; Ord. O99-29 § 1)

32 **21A.50.120 Critical areas study requirement.**

33 (1) An applicant for a development proposal where alteration of an [environmentally critical area-landslide](#)
34 [hazard area, wetland, stream, or fish and wildlife habitat conservation area](#) or modification or reduction of a

Comment [reb-18]: This section, if taken literally, requires that a resident must submit a development proposal and critical areas study for any modification to an ECA buffer. Presumably that includes anything beyond mowing, pruning and applying ground cover as discussed in the elaboration of reb-1 below. (E.g., replacing an ornamental shrub requires a critical area study unless the director waives it. 21A.50.060 now seems to say one can do it, but does not say a development proposal is not required.) If the intent is truly that any modification requires a development proposal, that is excessive and unwarranted. If it is not the intent, then this section should contain or reference a threshold that triggers this requirement.

...

1 buffer [associated with an environmentally critical area](#) is proposed shall submit a critical areas study at a
2 level determined by the director to adequately evaluate the proposal and probable impacts. ~~A critical areas
3 study shall also be required for a development proposal located in erosion and seismic hazard areas, critical
4 aquifer recharge areas, and frequently flooded areas, consistent with the requirements of this chapter, as
5 determined by the director.~~

6 (2) The director may waive or modify the requirement for a critical areas study if the applicant shows, to the
7 director's satisfaction, that:

8 (a) There will be no alteration of the critical area or buffer;

9 (b) The development proposal will not have an impact on the critical area in a manner contrary to
10 the goals, purposes, objectives, and requirements of this chapter; and

11 (c) The minimum standards required by this chapter are met; or

12 (d) Critical areas are located off-site and access to applicable off-site property is restricted.

13 (3) If the development proposal will affect only a part of the development proposal site, the department may
14 limit the scope of the required critical areas study to include only that area that is affected by the
15 development proposal.

16 (4) If necessary to ensure compliance with this chapter, the director may require additional information from
17 the applicant, separate from the critical areas study.

18 (5) A development proposal may be allowed to utilize past studies from neighboring properties, if confirmed
19 that the study findings remain accurate and applicable to proposed development. (Ord. O2005-193 § 1; Ord.
20 O99-29 § 1)

21 **21A.50.130 Contents of critical areas study.**

22 (1) The critical areas study shall be in the form of a written report prepared by a qualified professional [using](#)
23 [guidance based on best available science per RCW 36.70A](#) and shall contain the following, as determined to
24 be applicable by the director:

25 (a) Identification and characterization of all critical areas and buffers within the distance equal to the
26 largest potential required buffer that can be reasonably ascertained from the subject property;

27 (b) Assessment of the impacts or risks of any alteration proposed for a critical area or buffer,
28 assessment of the impacts of any alteration on the development proposal, other properties and the
29 environment, and/or assessment of the impacts to the development proposal resulting from
30 development near the critical area or buffer;

31 (c) A description of efforts made to apply mitigation sequencing pursuant to SMC [21A.50.135](#) to
32 avoid, minimize and mitigate impacts to critical areas;

Comment [reb-19]: Requiring a critical areas study prepared by a qualified professional to replace a shrub anywhere within 150 ft of a Type F watercourse is not reasonable. So is requiring it within 50 ft of any Type Ns trickle. See previous comment about the need for a trigger threshold.

Comment [CdS20]: Item 5-6 (1 of 4)

...

1 ...
2 (d) Studies that propose adequate mitigation, maintenance, monitoring, and contingency plans and
3 bonding measures as necessary to offset impacts to the critical area from the development
4 proposal;

5 (e) A scale map of the development proposal site;

6 (f) Photographic records of the site both before and after any alteration;

Comment [CdS21]: Item 5-6 (2 of 4)

7 (fg) Detailed studies, as required by this chapter, for individual critical areas or as otherwise deemed
8 necessary for critical areas protection by the director;

9 (gh) Assessment of potential impacts that may occur downstream or downhill from the
10 development site, such as sedimentation or erosion;

11 (hi) Assessment of potential impacts to wetland management areas, lake management areas, and
12 other areas designated for special protection, where applicable; and

13 (ij) Consideration of the protection recommendations of the East Lake Sammamish Basin and
14 Nonpoint Action Plan (1994), the Lake Washington/Cedar/Sammamish Watershed Chinook Salmon
15 Conservation Plan – WRIA 8 Steering Committee, and adopted sub-basin plans.

16 (2) A critical areas study may be combined with any studies required by other laws and regulations.

17 (3) If the development proposal will affect only a part of the development proposal site, the director may
18 limit the scope of the required critical areas study to include only that part of the site that may be affected by
19 the development. (Ord. O2005-193 § 1; Ord. O99-29 § 1)

20 **21A.50.135 Avoiding impacts to critical areas.**

21 (1) An applicant for a development proposal, activity, or alteration shall document the consideration and
22 subsequently shall implement the following sequential measures, which appear in order of preference, to
23 avoid, minimize, and mitigate impacts to environmentally critical areas and associated buffers:

24 (a) Avoiding the impact or hazard by not taking a certain action, or redesigning the proposal to
25 eliminate the impact. The applicant shall consider reasonable, affirmative steps and make best
26 efforts to avoid critical area impacts. However, avoidance shall not be construed to mean
27 mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is
28 an allowed, permitted, conditional, or special use in the SMC. In determining the extent to which the
29 proposal should be redesigned to avoid the impact, the department may consider the purpose,
30 effectiveness, engineering feasibility, commercial availability of technology, best management
31 practices, safety and cost of the proposal and identified modifications to the proposal.

32 The department may also consider the extent to which the avoidance of one type or location of an
33 environmentally critical area could require or lead to impacts to other types or locations of nearby
34 or adjacent environmentally critical areas. The department should seek to avoid, minimize and
mitigate overall impacts based on the functions and values of all of the relevant environmentally

...
1 critical areas and based on the recommendations of a critical areas study. If impacts cannot be
2 avoided through redesign, or because of site conditions or project requirements, the applicant shall
3 then proceed with the sequence of steps in subsection (1)(b) through (g) of this section.

4 (b) Minimizing the impact or hazard by limiting the degree or magnitude of the action or impact with
5 appropriate technology or by changing the timing of the action.

6 (c) Restoring the impacted critical areas by repairing, rehabilitating or restoring the affected critical
7 area or its buffer.

8 (d) Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through
9 plantings, engineering or other methods.

10 (e) Reducing or eliminating the impact or hazard over time by preservation or maintenance
11 operations during the life of the development proposal, activity or alteration.

12 (f) Compensating for the adverse impact by enhancing critical areas and their buffers or creating
13 substitute critical areas and their buffers as required in the SMC.

14 (g) Monitoring the impact, hazard or success of required mitigation and taking remedial action
15 based upon findings over time.

16 (2) In addition to the above steps, the specific development standards, permitted alteration requirements,
17 and mitigation requirements of this chapter and elsewhere in the SMC apply.

18 (3) The department shall document the decision-making process used under this section as a part of the
19 critical areas review conducted pursuant to SMC [21A.50.110](#). (Ord. O2005-193 § 1)

20 **21A.50.140 Mitigation, maintenance, monitoring and contingency.**

21 (1) When mitigation is required by this chapter to compensate for adverse impacts, unless otherwise
22 provided, mitigation, maintenance, monitoring measures and contingency plans shall be in place to protect
23 critical areas and buffers from alterations occurring on the development proposal site.

24 (2) Where monitoring reveals a significant deviation from predicted impacts or a failure of mitigation or
25 maintenance measures, the applicant shall be responsible for appropriate corrective action which, when
26 approved, shall be subject to further monitoring.

27 (3) Mitigation shall be in-kind and on-site when feasible and sufficient to maintain critical area and buffer
28 functions, and to prevent risk from a hazard posed by a critical area.

29 (4) The city may approve off-site mitigation if an applicant demonstrates that:

30 (a) It is not feasible to mitigate on the development proposal site; and

31 (b) The off-site mitigation will achieve equivalent or greater hydrological, water quality and wetland
32 or aquatic area habitat functions.
33

...

1 (5) When off-site mitigation is authorized, the city shall give priority to locations in the following order of
2 preference:

3 (a) Within the same drainage subbasin and

4 (b) Within the city limits

5 (c) Within the boundaries of an approved fee-in-lieu mitigation program.

Comment [CdS22]: Item 2-8 & 3-3 (part 2 of 6)

6 ~~(6)~~ Mitigation shall not be implemented until after the City of Sammamish approves the applicable critical
7 areas study, mitigation plan and any required permits. Following City approval, mitigation shall be
8 implemented in accordance with the provisions of the approved critical areas study and mitigation plan.
9 (Ord. O2005-193 § 1; Ord. O99-29 § 1)

10 **21A.50.145 Mitigation plan requirements.**

11 When mitigation is required, the applicant shall submit, for approval by the City of Sammamish, a mitigation
12 plan as part of, or in addition to, the critical areas study. The mitigation plan shall include, or be accompanied
13 by a report with, the following information, as determined to be applicable by the director:

14 (1) Existing Conditions and Proposed Impacts. A description of existing critical area(s) and/or buffer(s)
15 conditions, functions, and values and a description of the anticipated impacts;

16 (2) Proposed Mitigation. A description of proposed mitigating actions and mitigation site selection criteria;

17 (3) Environmental Goals and Objectives. A description of the goals and objectives of proposed mitigation. The
18 goals and objectives shall be related to the functions and values of the impacted critical area(s) and/or
19 buffer(s);

20 (4) Best Available Science. A review of the best available science supporting proposed mitigation, a
21 description of the plan/report author's experience to date in restoring or creating the type of critical area
22 proposed, and an analysis of the likelihood of success of the mitigation project;

23 (5) Performance Standards. A description of specific measurable criteria for evaluating whether or not the
24 goals and objectives of the mitigation plan have been successfully attained and whether or not the
25 requirements of this chapter have been met;

26 (6) Detailed Construction Plans. Detailed site diagrams, cross-sectional drawings, topographic elevations at
27 one- or two-foot contours, slope percentage, final grade elevations, and any other drawings appropriate to
28 show construction techniques or anticipated final outcome. In addition, plans should include specifications
29 and descriptions of:

30 (a) Proposed construction sequence, timing, and duration;

31 (b) Grading and excavation details;

32 (c) Erosion and sediment control features;

...

...
1 (d) A planting plan specifying plant species, quantities, locations, size, spacing, and density; and
2 (e) Measures to protect and maintain plants until established;

3 (7) Monitoring Program. Mitigation plans shall include a program for monitoring construction of the
4 compensation project, and for assessing a completed project. A protocol shall be included that outlines the
5 schedule for site monitoring and how the monitoring data will be evaluated to determine if the performance
6 standards are being met. A monitoring report shall be submitted as needed to document milestones,
7 successes, problems, and contingency actions of the compensation project. The compensation project shall
8 be monitored for a period necessary to establish that performance standards have been met. The monitoring
9 period shall be five years; provided, that the director may approve a greater period when needed to ensure
10 mitigation success or lesser period for minor mitigation; ~~and~~

11 (8) Contingency Plan. The mitigation plan shall include identification of potential courses of action, and any
12 corrective measures to be taken if monitoring or evaluation indicates project performance standards are not
13 being met. (Ord. O2005-193 § 1; Ord. O2005-172 § 4); and

14 (9) Fee in lieu program. If fee-in lieu mitigation is proposed, a critical areas study shall be supplied that
15 demonstrates how proposed impacts and mitigation meet the requirements of SMC 21A.50.140 and
16 21A.50.310 or 21A.50.350, whichever is applicable, and also the requirements of the fee-in-lieu mitigation
17 program to be utilized.

18 **21A.50.150 Financial guarantees.**
19 Financial guarantees shall be required consistent with the provisions of SMC Title 27A. (Ord. O2005-193 § 1;
20 Ord. O99-29 § 1)

21 **21A.50.160 Vegetation management plan.**
22 (1) For all development proposals where preservation of existing vegetation is required by this chapter, a
23 vegetation management plan shall be submitted and approved prior to issuance of the permit or other
24 request for permission to proceed with an alteration.

25 (2) The vegetation management plan shall identify the proposed clearing limits for the project and any areas
26 where vegetation in a critical area or its buffer is proposed to be disturbed.

27 (3) Where clearing includes cutting any merchantable stand of timber, as defined in WAC 222-16-010(28), the
28 vegetation management plan shall include a description of proposed logging practices that demonstrates
29 how all critical areas will be protected in accordance with the provisions of this chapter.

30 (4) Clearing limits as shown on the plan shall be marked in the field in a prominent and durable manner.
31 Proposed methods of field marking shall be reviewed and approved by the City prior to any site alteration.
32 Field marking shall remain in place until the certificate of occupancy or final project approval is granted.

33 (5) The vegetation management plan may be incorporated into a temporary erosion and sediment control
34 plan or landscaping plan where either of these plans is required by other laws or regulations.

...

Comment [CdS23]: Item 2-8 & 3-3 (part 3 of 6)

1 ...
2 (6) Submittal requirements for vegetation management plans shall be set forth by the department. (Ord.
3 O2005-193 § 1; Ord. O99-29 § 1)

4 **21A.50.170 Critical area markers, signs and fencing.**

5 (1) Markers. Permanent survey stakes delineating the boundary between adjoining property and critical area
6 tracts shall be set, using markers capable of being magnetically located and as established by current survey
7 standards.

8 (2) Signs. The boundary between a critical area ~~buffer tract~~ and contiguous land shall be identified with
9 permanent signs. Permanent signs shall be a City-approved type designed for high durability. Signs must be
10 posted at an interval of one per lot or every 50 feet, whichever is less, and must be maintained by the
11 property owner or homeowners' association in perpetuity. The wording, number and placement of the signs
12 ~~shall maybe as at specified by~~ modified by the director based on specific site conditions.

Comment [CdS24]: Item 5-7 (1 of 3)

Comment [reb-25]: Is this serious? Based on my inspection, there are in excess of 25 watercourses flowing into Lake Sammamish within city limits (ref. my 9/13 submittal). (There are 19 identified as high value on the Known High Value Wetlands and Streams map.) All of these require a buffer per current code. That equates to at least 50 signs, and that is just for a narrow band next to the lake. City-wide the number will be far greater. I believe this signage requirement to be unjustified, both as a practical matter and in terms of cost.

13 (3) Fencing. ~~The director may require fencing to protect the functions of a critical area. If found to be~~
14 ~~necessary, permanent~~ Permanent fencing shall be required at the outer edge of the critical area ~~or~~ buffer
15 under the following circumstances:

Comment [CdS26]: Item 5-7 (2 of 3)

16 (a) Development proposals for:

17 (i) Plats;

18 (ii) Short plats;

19 (iii) Parks;

20 (iv) Other development proposals, including but not limited to multifamily, mixed use, and
21 commercial development where such fencing is necessary to protect the functions of the
22 critical area.

23 (d) Buffer reductions is employed as part of a development proposal;

24 (e) Buffer averaging is employed as part of a development proposal; and

25 (f) At the director's discretion to protect the values and functions of a critical area.

Comment [CdS27]: Item 5-7 (3 of 3)

26 ~~Fencing installed in accordance with this section shall be designed to not interfere with fish and wildlife~~
27 ~~migration and shall be constructed in a manner that minimizes critical areas impacts. (Ord. O2005-193 § 1;~~
28 ~~Ord. O99-29 § 1)~~

29 **21A.50.180 Notice on title.**

30 (1) The owner of any property containing critical areas or buffers on which a development proposal is
31 submitted or any property on which mitigation is established as a result of development, except a public
32 right-of-way or the site of a permanent public facility, shall file a notice approved by the City with the records
33 and elections division. The required contents and form of the notice shall be determined by the director. The
34 notice shall inform the public of the presence of critical areas, buffers or mitigation sites on the property, of

Comment [reb-28]: This is an example of a problem with the current ambiguity regarding what does and does not constitute "development". The new definition of development in 21A.15 includes landscaping, and 16.15.050 seems to require a development proposal for anything beyond mowing, pruning, and applying groundcover (ref. discussion of reb-1 below). Does this mean merely changing some plantings will trigger a notice on title? That is not reasonable. Limitations need to be specified for what triggers the requirement to file a notice on title.

...

1 the application of this chapter to the property and that limitations on actions in or affecting such critical
2 areas or buffers may exist. The notice shall run with the land.

3 (2) The applicant shall submit proof that the notice has been filed for public record before the City shall
4 approve any development proposal for the property or, in the case of subdivisions, short subdivisions and
5 binding site plans, at or before recording. (Ord. O2005-193 § 1; Ord. O99-29 § 1)

6 **21A.50.190 Critical area tracts and designations on site plans.**

7 (1) Critical area tracts shall be used to delineate and protect those critical areas and buffers listed below in
8 development proposals for subdivisions, short subdivisions, or binding site plans and shall be recorded on all
9 documents of title of record for all affected lots:

10 (a) All landslide hazard areas and buffers that are one acre or greater in size;

11 (b) All wetlands and buffers;

12 (c) All streams and buffers; and

13 (d) All fish and wildlife habitat conservation areas and buffers.

14 (2) Any required critical area tract shall be held in an undivided interest by each owner of a building lot within
15 the development with this ownership interest passing with the ownership of the lot or shall be held by an
16 incorporated homeowners' association or other legal entity which assures the ownership, maintenance, and
17 protection of the tract, or dedicated to the City of Sammamish, at the City's discretion.

18 (3) Site plans submitted as part of development proposals for building permits, master plan developments,
19 and clearing and grading permits shall include and delineate all flood hazard areas (if they have been mapped
20 by FEMA or King County or if a critical areas study is required), landslide hazard areas, streams and wetlands,
21 buffers, and building setbacks. If only a part of the development site has been mapped pursuant to SMC
22 [21A.50.130](#)(3), the part of the site that has not been mapped shall be clearly identified and labeled on the
23 site plans. The site plans shall be attached to the notice on title required by SMC [21A.50.180](#). (Ord. O2005-
24 193 § 1; Ord. O99-29 § 1)

25 **21A.50.200 Alteration.**

26 *Recodified to SMC [21A.15.056](#) by Ord. O2005-172. (Ord. O99-29 § 1)*

27 **21A.50.210 Building setbacks.**

28 Unless otherwise provided, buildings and other structures shall be set back a distance of 15 feet from the
29 edges of a critical area buffer. The following may be allowed in the building setback area:

30 (1) Landscaping;

31 (2) Uncovered decks;

32 (3) Building overhangs if such overhangs do not extend more than 18 inches into the setback area;

...

Comment [reb-29]: This regulation, if taken literally, says that a resident cannot so much as place a small storage shed within 165 feet of a watercourse that meets the broad definition of a Type F stream. That is regardless of how many houses, driveways, etc. are between that location and the stream. This is an arbitrary and unjustified restriction of the rights of the property owner. Allowance should be made for intervening features and topography, (ref. comments on 21A.50.060 (2) b.) Note that providing the option of buffer delineation would solve this problem.

...

1 (4) Impervious ground surfaces, such as driveways and patios; provided, that such improvements may be
2 subject to special drainage provisions adopted for the various critical areas; and

3 (5) Trails. (Ord. O2009-264 § 1 (Att. A); Ord. O2005-193 § 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)

4 **21A.50.220 Erosion hazard areas – Development standards and permitted alterations.**

5 (1) Land clearing, grading, filling, and foundation work in an erosion hazard area is allowed only from May 1st
6 to September 30th, except that:

7 (a) Construction outside of this seasonal development limitation may be authorized if the director
8 determines that the hazard area will not be adversely impacted by the proposed construction work
9 or the applicant demonstrates that erosion hazards will be fully mitigated through an erosion
10 management plan that includes:

11 (i) Pre-design site inspection by a licensed engineer or geologist to identify erosion hazard
12 areas, no-disturbance areas, and resources downstream of the site that are to be protected;

13 (ii) Development and implementation of a temporary erosion and sediment control plan, which
14 must include:

15 (A) The minimum requirements from the adopted Surface Water Design Manual
16 most recently adopted by the City;

17 (B) Provisions to store site construction runoff and treat runoff sufficiently to
18 meet water quality standards prior to discharge;

19 (C) Daily and post-storm inspections of temporary erosion and sediment control
20 best management practices;

21 (D) Establishment of a manager, who is a Certified Erosion and
22 Sediment Control Lead (CESCL) in the State of Washington, and will be
23 available on-call and respond to temporary erosion and sediment control
24 non-compliance;

25 (E) A water-quality monitoring plan for site discharges, where the applicant is
26 responsible for measuring turbidity of stormwater released from the site
27 and maintaining records of monitoring data that shall be available upon
28 request by the City or Ecology. Monitoring protocols should conform to the
29 monitoring requirements of the construction stormwater general permit;

30 (F) A Contingency Plan incorporated into the temporary erosion and sediment
31 control plan that identifies corrective actions and BMPs that will be
32 implemented if monitoring shows discharge water quality exceeds water
33 quality standards, and that specifies materials to be stockpiled on site for use
34 in an erosion and sediment control ESC response;

35 (G) A Seasonal Suspension Plan for suspending work until the end of the rainy
36 season if temporary erosion and sediment control measures are found to be
37 inadequate;

...

1 ...
2 (iii) Construction stormwater systems and temporary erosion and sediment control
3 best management practices are to be sized for a minimum of a 10-year storm interval.

4 (iv) The owner must provide a financial guarantee in accordance with SMC
5 27A.15 specifically to cover all costs of implementing the approved temporary erosion
6 and sediment control plan, monitoring site discharges, permanently stabilizing the site,
7 and restoring any off-site impacts, including materials, labor, and City costs, to be used
8 if the development is stalled or not completed;

9 (v) Preparation and implementation of site grading, stabilization, and restoration plans
10 by a licensed engineer, with certification by a geotechnical engineer that these plans
11 are sufficient to prevent erosion and sedimentation of susceptible soils; and

12 (vi) Preparation of a vegetation management plan by a qualified professional
13 foreestablishment of permanent vegetation on the site following completion of clearing and
14 grading work.

15 (b) In addition to the requirements of 21A.50.220(1)(a), the director may require a critical
16 areas additional studies of the site, grading, structural improvements, hydrology, soils and storm
17 water retention studies, erosion control measures, restoration plans, and/or an
18 indemnification/release agreement.

Comment [CdS30]: Item 4-1 (part 2 of 3)

19 (c) Timber harvest may be allowed pursuant to an approved forest practice permit issued by the
20 Washington Department of Natural Resources.

21 (d) The director may halt wet season construction as necessary to protect the hazard area and/or to
22 prevent downstream impacts.

Comment [CdS31]: Item 4-1 (part 3 of 3)

23 (2) All development proposals on sites containing erosion hazard areas shall include a temporary erosion
24 control plan consistent with this section and other laws and regulations prior to receiving approval. Specific
25 requirements for such plans shall be set forth in the adopted surface water design manual or as otherwise
26 specified by the department.

27 (3) All subdivisions, short subdivisions, or binding site plans on sites with erosion hazard areas shall comply
28 with the following additional requirements:

29 (a) Except as provided in this section, existing vegetation shall be retained on all lots until building
30 permits are approved for development on individual lots;

31 (b) If any vegetation on the lots is damaged or removed during construction of the subdivision
32 infrastructure, the applicant shall be required to submit a restoration plan to the department for
33 review and approval. Following approval, the applicant shall be required to implement the plan;

34 (c) Clearing of vegetation on lots will not be allowed unless the City determines that:

35 (i) Such clearing is a necessary part of a large-scale grading plan;

(ii) It is not a reasonable alternative to perform such grading on an individual lot basis; and

...
1 (iii) Drainage from the graded area will meet water quality standards to be established by the
2 adopted surface water design manual.

3 (4) Where the City determines that erosion from a development site poses a significant risk of damage to
4 downstream receiving waters, based either on the size of the project, the proximity to the receiving water or
5 the sensitivity of the receiving water, the applicant shall be required to provide regular monitoring of surface
6 water discharge from the site as required by the adopted Surface Water Design Manual and City of
7 Sammamish Addendum (2009). If the project does not meet the applicable provisions of the adopted water
8 quality standards as established by law, the City may suspend further development work on the site until
9 such standards are met.

Comment [CdS32]: Item 4-2

10 (5) The use of hazardous substances, pesticides, and fertilizers in erosion hazard areas may be prohibited by
11 the City. (Ord. O2005-193 § 1; Ord. O99-29 § 1)

12 **21A.50.225 Erosion hazards near sensitive water bodies – ~~Special district overlay~~.**

13 (1) The purpose of the erosion hazards near sensitive water bodies ~~special overlay district~~ is to provide a
14 means to designate sloped areas posing erosion hazards that drain directly to lakes or streams of high
15 resource value that are particularly sensitive to the impacts of increased erosion and the resulting sediment
16 loads from development.

17 (2) General development standards. The following development standards shall be applied to all properties
18 within the erosion hazard near sensitive water body overlay:

Comment [EM33]: Re-organization for clarity

19 (a) The one (1) acre exemption in the Storm Water Design Manual Addendum shall not apply
20 within the erosion hazards near sensitive water body overlay.

Comment [EM34]: Item 4-15d

21 (b) If the application of this section would deny all reasonable use of property, the applicant may
22 apply for a reasonable use exception pursuant to SMC 21A.50.070(2).

23 (c) The director may modify the property-specific development standards required by this
24 section when a critical areas study is conducted by the applicant and approved by the director which
25 demonstrates that the proposed development substantially increases water quality by showing the
26 following:

27 (i) Water quality on site is improved through site enhancements and/or other innovative
28 management techniques;

29 (ii) The development project will not subject downstream channels to increased risk of
30 landslide or erosion; and

31 (iii) The development project will not subject the nearest sensitive water body to additional
32 erosion hazards.

Comment [EM35]: Re-organization for clarity

33 The department of community development shall maintain a map of the boundaries of the erosion hazard
34 near sensitive water bodies overlay district.

...

1 (3) No-disturbance area development standards. The following development standards shall be applied, in
2 addition to all applicable requirements of this chapter, to development proposals located within the no-
3 disturbance area erosion hazards near a sensitive water bodies special district overlay:

4 ~~(a) A no-disturbance area shall be established on the sloped portion of the special district overlay to~~
5 ~~prevent damage from erosion. The upslope boundary of the no-disturbance area lies at the first~~
6 ~~obvious break in slope from the upland plateau over onto the steep valley walls. The downslope~~
7 ~~boundary of the no-disturbance area is the extent of those areas designated as erosion or landslide~~
8 ~~hazard areas. The department shall maintain maps of the approximate location of the no-~~
9 ~~disturbance areas, which shall be subject to field verification for new development proposals.~~

10 ~~(ab) Land clearing or d~~Development shall not occur in the no-disturbance area, except for the
11 ~~clearing-development~~ activities listed in subsection (3)(~~ba~~)~~(i)~~ of this section. Clearing-Development
12 activities listed in subsection (3)(~~ba~~)~~(i)~~ of this section shall only be permitted if they meet the
13 requirements of subsection (3)(~~ab~~)~~(ii)~~ of this section.

14 (i) Clearing-Development activities may be permitted as follows:

15 (A) For single-family residences, associated landscaping and any appurtenances on pre-
16 existing separate lots;

17 (B) For utility corridors to service existing development along existing rights-of-way
18 including any vacated portions of otherwise contiguous rights-of-way, or for the
19 construction of utility corridors identified within an adopted water, storm water, or sewer
20 comprehensive plan;

21 (C) For streets providing sole access to buildable property and associated utility facilities
22 within those streets; ~~or~~

23 (D) For public park facilities including parking lots, restrooms or recreational structures
24 and pedestrian trail/sidewalks; ~~or~~.

25 (E) Work authorized pursuant to the pilot program.

26 (ii) The clearing-development activities listed in subsection (3)(~~ba~~)~~(i)~~ of this section may be
27 permitted only if the following requirements are met:

28 (A) ~~A-Where applicable under SMC 21A.50.120, a~~ report that meets the requirements of
29 SMC 21A.50.130 shall show that the clearing-development activities will not subject the
30 area to risk of landslide or erosion and that the purpose of the no-disturbance area is not
31 compromised in any way;

32 (B) The clearing-development activities shall be mitigated, monitored and bonded
33 consistent with the mitigation requirements applicable to critical areas;

...

1 (C) The clearing-development activities are limited to the minimal area and duration
2 necessary for construction; and

3 (D) The clearing-development activities are consistent with this chapter.

4 (b) New single-family home construction or modifications or additions to existing single-family homes
5 on existing legal lots that will result in a total site impervious surface of more than 2,000 square feet
6 shall provide a drainage design, using the following sequential measures, which appear in order of
7 preference:

Comment [EM36]: Re-organization for clarity

8 (i) Infiltration of all site runoff shall be required to the maximum extent technically feasible in
9 soil conditions, consistent with the infiltration system design requirements of the KCSWDM;

10 (ii) Development proposals that meets the goals of Low Impact Development, by providing:

11 (A) Sixty-five (65) percent of the site shall remain as open space.

12 (B) Ten (10) percent of the gross site area may be covered with impervious surface.

13 (C) Effective impervious surface on the site shall be minimized to the maximum extent
14 practically feasible by limiting stormwater discharge volumes to match average annual
15 volume discharged from the pre-developed forested site conditions as determined
16 using a calibrated continuous simulation hydrologic model based on the EPA's HSPF
17 program or an approved equivalent model. The city may modify these requirements
18 based upon site specific analysis of the feasibility of required improvements, standards
19 and specifications. Such analysis shall include evaluation of site and vicinity soils,
20 hydrology, and other factors, as determined by the City, affecting the successful design
21 of the stormwater or low impact development improvements. The city shall consider
22 purpose, effectiveness, engineering feasibility, commercial availability of technology,
23 best management practices, safety and cost of the proposal when evaluating a waiver
24 or modification request. The applicant shall bear the burden of proof that a waiver or
25 modification is warranted.

Comment [EM37]: Item 4-15e

26 (iii) For development proposals that cannot infiltrate all site runoff, the applicant shall design a
27 drainage system that provides a drainage outlet designed using the best available science
28 techniques to limit the risk of landslide or erosion to the no-disturbance area; and

29 (iv) Structural modification of, addition to or replacement of legally created single detached
30 residences and improvements that were legally established according to the regulations in
31 place at the time of establishment, shall be exempt from the provisions of this section.

32 (4) Development standards for properties draining to the no-disturbance area. The following development
33 standards shall be applied, in addition to all applicable requirements of this chapter, to development
34 proposals located within the erosion hazards near sensitive water body overlay that drain to no-disturbance
35 area:

Comment [EM38]: Re-organization for clarity

1 (ae) New proposed subdivisions, short subdivisions, public institutions, commercial site
2 development permits, and binding site plans for sites that drained predeveloped runoff to the no-
3 disturbance zone shall evaluate the suitability of on-site soils for infiltration. All runoff from newly
4 constructed impervious surfaces shall be retained on site unless this requirement precludes a
5 proposed subdivision or short subdivision from achieving 75 percent of the maximum net density as
6 identified in Chapter 21A.25 SMC. When 75 percent of the maximum net density cannot be met, the
7 applicant shall retain runoff on site and a perforated tightline (Figure C.2.1, Appendix C, of the 1998
8 KCSWDM, as amended per the adopted stormwater design manual) shall be used to connect each lot
9 to the central drainage system. The following drainage systems shall be evaluated, using the
10 following sequential measures, which appear in order of preference:

Comment [CdS39]: Item 4-5

11 (i) Infiltration of all site runoff shall be required in granular soils as defined in the King County
12 Surface Water Design Manual (KCSWDM);

13 (ii) Infiltration of downspouts shall be required in granular soils and in soil conditions defined
14 as allowable in the KCSWDM when feasible to fit the required trench lengths on site. All flows
15 not going to an individual infiltration system shall be detained on site using the most restrictive
16 flow control standard; and

17 (iii) When infiltration of downspouts is not feasible, the applicant shall design a drainage
18 system that will detain flows on site using the applicable flow control standard and shall install
19 an outlet from the drainage system designed using the best available science techniques to
20 limit the risk of landslide or erosion to the no-disturbance area; provided, that in no case shall
21 development proposals generating more than 2,000 square feet of impervious surface create
22 point discharges in or upstream of the no-disturbance or landslide hazard areas.

23 ~~(d) New single-family home construction or modifications or additions to existing single-family
24 homes on existing legal lots that will result in a total site impervious surface of more than 2,000
25 square feet shall provide a drainage design, using the following sequential measures, which appear
26 in order of preference:~~

27 ~~(i) Infiltration of all site runoff shall be required to the maximum extent technically feasible in
28 soil conditions, consistent with the infiltration system design requirements of the KCSWDM;~~

29 ~~(ii) For development proposals that cannot infiltrate all site runoff, impervious surfaces shall be
30 infiltrated to the maximum extent technically feasible in soil conditions, consistent with the
31 infiltration system design requirements of the KCSWDM;~~

32 ~~(iii) For development proposals that cannot infiltrate all site runoff, the applicant shall design a
33 drainage system that provides a drainage outlet designed using the best available science
34 techniques to limit the risk of landslide or erosion to the no-disturbance area; and~~

35 ~~(iv) Structural modification of, addition to or replacement of legally created single detached
36 residences and improvements in existence before January 1, 2006, that do not increase the
37 existing total footprint of the residence and associated impervious surface by more than 200~~

1 square feet over that existing before January 1, 2006, shall be exempt from the provisions of
2 this section.

3 (eb) For the portions of proposed subdivisions, short subdivisions and binding site plans that cannot
4 infiltrate runoff up to the 100-year peak flow, at least 25 percent shall remain undisturbed and set
5 aside in an open space tract consistent with SMC [21A.50.160](#) through [21A.50.190](#). The open space
6 tract shall be located adjacent to any required critical area tracts and shall be designed to maximize
7 the amount of separation between the critical area and the proposed development. If no critical
8 areas tracts are required, the open space tract shall be located to provide additional protection to
9 the no-disturbance area.

10 (fc) For the portions of all subdivisions and short subdivisions that cannot infiltrate runoff up to the
11 100-year peak flow, no more than 35 percent of the gross site area shall be covered by impervious
12 surfaces. For new subdivisions and short subdivisions, maximum lot coverage should be specified for
13 subsequent residential building permits on individual lots.

14 (5) Pilot Program.

Comment [EM40]: Item 4-15d

15 (a) Establishment of Pilot Program. A Pilot Program is hereby established to allow clearing and
16 development projects within the no-disturbance area as set forth herein on land that has slopes of
17 less than 40 percent grade and that is located outside of critical area buffers.

18 (b) Purpose. The purpose of this Pilot Program is to allow for limited development within the no
19 disturbance area under strict limitations in order to evaluate the ability to allow increased
20 development within the no-disturbance area without adversely affecting the water quality of Lake
21 Sammamish. Projects qualifying for this Pilot Program would not be subject to the preceding
22 sections of 21A.50.225.

23 (c) Eligible Projects. Projects eligible for inclusion in this Pilot Program include, without
24 limitation, three (3) subdivisions, and three (3) short subdivisions that are designed subject to one
25 of the following:

26 (i) Where direct access to Lake Sammamish is available, the applicant shall install permanent
27 water quality treatment and a tightline storm drain system discharging directly into Lake
28 Sammamish designed by a professional engineer using the most current drainage manual
29 and technologies. The applicant shall also install temporary erosion sediment control
30 improvements, in particular active water quality treatment. The tightline system shall extend
31 through the property and be available by extension or easement upstream to properties that
32 naturally drain to the subject property; or,

33 (ii) Where direct access to Lake Sammamish is not available, the applicant shall design a
34 project consistent with the development standards of Low Impact Development, in particular
35 the project shall:

Comment [EM41]: Item 4-15d

- 1 (A) Sixty-five (65) percent of the site shall remain as forested open space. Re-
2 vegetation shall be required to convert no forested open space to forested as
3 part of the project approval.
- 4 (B) Ten (10) percent of the gross site area may be covered with impervious surface.
- 5 (C) Effective impervious surface on the site shall be minimized to the maximum
6 extent practically feasible by limiting stormwater discharge volumes to match
7 average annual volume discharged from the pre-developed forested site
8 conditions as determined using a calibrated continuous simulation hydrologic
9 model based on the EPA's HSPF program or an approved equivalent model. The
10 city may modify these requirements based upon site specific analysis of the
11 feasibility of required improvements, standards and specifications. Such analysis
12 shall include evaluation of site and vicinity soils, hydrology, and other factors, as
13 determined by the City, affecting the successful design of the stormwater or low
14 impact development improvements. The city shall consider purpose,
15 effectiveness, engineering feasibility, commercial availability of technology, best
16 management practices, safety and cost of the proposal when evaluating a waiver
17 or modification request. The applicant shall bear the burden of proof that a
18 waiver or modification is warranted.

19 (d) Applications for eligible projects meeting the provisions of 5(c) above must be submitted
20 within three calendar years from the effective date of the adoption by ordinance of the Pilot
21 Program on forms provided by the Department. The Pilot Program shall expire and no further
22 applications may be accepted after such three year period. Projects for which applications are
23 accepted into the Pilot Program may be reviewed, approved and constructed, under the terms of
24 the Pilot Program, even if such review, approval, or construction occurs after the Pilot Program has
25 expired. The City shall maintain a register of applications submitted after the maximum number of
26 application have been received. In the event that an application for a project accepted into the Pilot
27 Program is withdrawn by the applicant or cancelled by the City prior to the expiration of the Pilot
28 Program, the next submitted application on the register for the same development type shall be
29 accepted into the Pilot Program.

30 (e) Development Restrictions. Projects accepted under this Pilot Program may conduct clearing
31 and development in the no-disturbance area, and shall not be subject to subsection 21A.50.225(2)
32 so long as such clearing and development meets all of the following requirements:

33 (i) Clearing of the site shall be limited based on the treatment capacity designed into the
34 permanent and temporary water quality treatment systems installed.

35 (ii) Construction Season Work Limits - Land clearing and grading may only occur between
36 May 1st to September 30th with the phases of construction limited as follows:

- 37 (A) On or after May 1st, site clearing and grading necessary for the installation of
38 permanent and temporary water quality treatment and conveyance may occur.
39 Clearing and grading shall be limited to those portions of a site where such work

1 is necessary to install tight-line stormwater conveyance, permanent and
2 temporary stormwater detention, and/or water quality facilities. For the
3 purposes of temporary erosion control, the required tightline system may be
4 either a portion of the permanent stormwater conveyance system if feasible, or
5 a temporary tightline system to be replaced by the permanent system as
6 construction progresses;

7 (B) On or after June 1st, development of the site may occur.

8 (C) No later than September 30th, all site clearing and grading activity must be
9 completed and the site fully prepared for winter rains, through techniques such
10 as hydroseeding or stabilization as set forth in an approved Construction Season
11 Work Limit Plan.

12 (D) Seasonal construction limitations may be extended with permission of the
13 director if appropriate erosion control measures and practices are in place and
14 weather patterns permit.

15 (iii) Construction Season Work Limit Implementation. City approval of a temporary
16 erosion control plan consistent with this section and other laws and regulations is
17 required prior to any site work. The erosion control plan must demonstrate
18 compliance with the grading limit area must include a Construction Season Work
19 Limit confirming compliance with the construction season limitations and a Close Out
20 Plan identifying the actions that will be taken to ready the site for winter weather.
21 The Close Out Plan shall be updated as follows:

22 (A) By August 15th City approval of any proposed changes to the Close Out Plan to
23 assure that the site will be prepared for winter weather by September 30th is
24 required.

25 (B) By September 1st review and approval of any revisions to the close out plan is
26 required.

27 (C) By September 15th inspection of the site to confirm that all elements of the
28 Close Out Plan are being implemented is required. Following inspections, the
29 applicant of additional actions that are necessary and may order all construction
30 work to be stopped other than work to prepare the site for winter weather.

31 (D) By September 30th the all site work to prepare the site for winter weather shall
32 be completed.

33 (E) Seasonal construction limitations may be extended with permission of the
34 director if appropriate erosion control measures and practices are in place and
35 weather patterns permit.

36 (iv) Early Installation of Permanent Stormwater Management System. In addition to
37 installation of all required Temporary Sediment and Erosion Control measures, and
38 prior to any grading, other than grading necessary for installation of the stormwater
39 management system, the applicant shall construct the Project's stormwater
40 management systems in accordance with plans approved by the City. Stormwater
41 systems shall include permanent and temporary water quality treatment and

1 detention facilities specified in the latest approved version of the Surface Water
2 Design Manual and the pipes and outlet facilities necessary to convey stormwater to
3 the approved discharge location.

4 (A) Temporary water quality treatment facilities shall be sized to treat runoff
5 generated by cleared areas during a 25 year storm event and release treated
6 runoff with a measured turbidity of no more than 25 NTU.

7 (B) Temporary water quality treatment facilities shall include active sediment
8 controls, such as chemical treatment, enhanced filtration or a combination of
9 both per DOE guidelines (Section C250 & C251, Volume II, Department of Ecology
10 Stormwater Management Manual).

11 (v) No more than one (1) subdivision and one (1) short subdivision may start
12 construction per dry season.

13 (vi) Ongoing monitoring data shall be collected by the applicant in accordance with the
14 NPDES permit at the natural discharge location. Monitoring data shall be collected
15 prior to the start of construction, through the construction period and until the last
16 house has been built on the site. Data shall be summarized in annual reports to the
17 city. Developer reports shall evaluate the effect on King County water quality data
18 from Lake Sammamish.

19 (f) Pilot Program Evaluation. The city shall monitor the pilot program through the annual
20 reports and shall summarize the report findings in a report evaluating how well the project
21 achieved its purpose and goals and present the report to the City Council.

22 (g) If the application of this section would deny all reasonable use of property, the applicant may
23 apply for a reasonable use exception pursuant to SMC 21A.50.070(2).

24 (h) The director may modify the property-specific development standards required by this section
25 when a critical areas study is conducted by the applicant and approved by the director which
26 demonstrates that the proposed development substantially increases water quality by showing the
27 following:

28 (i) Water quality on site is improved through site enhancements and/or other innovative
29 management techniques;

30 (ii) The development project will not subject downstream channels to increased risk of
31 landslide or erosion; and

32 (iii) The development project will not subject the nearest sensitive water body to additional
33 erosion hazards. (Ord. O2009-250 § 1; Ord. O2005-193 § 1)

34 **21A.50.230 Frequently flooded areas.**

...

1 (1) Frequently flooded areas include all areas of special flood hazards within the jurisdiction of the City of
2 Sammamish.

3 ~~(a)~~ The areas of special flood hazard are identified by the Federal Insurance Administration in a scientific and
4 engineering report entitled "the Flood Insurance Study for King County," as amended, as stated in SMC
5 15.10.060. The flood insurance study is on file at Sammamish City Hall. The best available information for
6 flood hazard area identification as outlined in SMC 15.10.130(2) shall be the basis for regulation until a new
7 FIRM is issued that incorporates the data utilized under SMC 15.10.130(2).

8 ~~(b) The director may use additional flood information that is more restrictive or detailed than that
9 provided in the Flood Insurance Study conducted by the Federal Emergency Management Agency
10 (FEMA) to designate frequently flooded areas, including data on channel migration, historical data,
11 high water marks, photographs of past flooding, location of restrictive floodways, maps showing
12 future build-out conditions, maps that show riparian habitat areas, or similar information.~~

Comment [EM42]: Clarification

13 (2) Development in frequently flooded areas shall be subject to the provisions in Chapter 15.10 SMC. (Ord.
14 O2005-193 § 1; Ord. O99-29 § 1)

15 **21A.50.240 Flood hazard areas – Certification by engineer or surveyor.**

16 *Repealed by Ord. O2005-193. (Ord. O99-29 § 1)*

17 **21A.50.250 Channel relocation and stream meander areas.**

18 *Repealed by Ord. O2005-193. (Ord. O99-29 § 1)*

19 **21A.50.260 Landslide hazard areas – Development standards and permitted alterations.**

20 A development proposal containing, or within 50 feet of, a landslide hazard area shall meet the following
21 requirements:

22 (1) A minimum buffer of 50 feet shall be established from all edges the top and toe of the landslide hazard
23 area. The buffer shall be extended as required to mitigate a landslide or erosion hazard or as otherwise
24 necessary to protect the public health, safety, and welfare.

Comment [CdS43]: Item 4-7

25 (2) The buffer may be reduced to a minimum of 15 feet if, based on a critical areas study, the City determines
26 that the reduction will adequately protect the proposed development and other properties, the critical area
27 and other critical areas off-site.

28 (a) For single-family residential building permits only, the City may waive the reduce the scope of the
29 critical areas study requirements if other development in the area has already provided sufficient
30 information or if such information is otherwise readily available.

Comment [CdS44]: Item 5-8

31 (b) In addition to the general requirements for critical areas studies that may be required consistent
32 with SMC 21A.50.130, the critical areas study for a landslide hazard areas shall be:

33 (i) A geotechnical report prepared by a qualified professional consistent with SMC
34 21A.15.545, unless otherwise approved by the city; and

Comment [CdS45]: Item 5-6 (3 of 4)

...

1 (ii) Inclusive of the following elements shall specifically include:

Comment [CdS46]: Item 5-6 (4 of 4)

2 (A) A description of the extent and type of vegetative cover;

3 (B) A description of subsurface conditions based on data from site-specific explorations;

4 (C) Descriptions of surface and groundwater conditions, public and private sewage
5 disposal systems, fills and excavations, and all structural improvements;

6 ~~(D) An estimate of slope stability and the effect construction and placement of
7 structures will have on the slope over the estimated life of the structure;~~

Comment [CdS47]: 4-11 (1 of 3)

8 (E) An estimate of the bluff retreat rate that recognizes and reflects potential
9 catastrophic events such as seismic activity or a 100-year storm event;

10 (F) Consideration of the run-out hazard of landslide debris and/or the impacts of
11 landslide run-out on downslope properties;

12 ~~(G) A study of slope stability including an analysis of proposed cuts, fills, and other site
13 grading;~~

Comment [CdS48]: 4-11 (2 of 3)

14 (H) Recommendations for building siting limitations; and

15 (I) An analysis of proposed surface and subsurface drainage, and the vulnerability of
16 the site to erosion; and

17 (H) A comprehensive study of slope stability including an analysis of proposed cuts,
18 fills, and other site grading and construction effects where the overall minimum factor of
19 safety for slope stability is 1.5 for static conditions and 1.1 for seismic conditions as
20 based on current building code seismic design conditions.

Comment [CdS49]: Item 4-11 (3 of 3)

21 (3) Unless otherwise provided herein or as part of an approved alteration, removal of any vegetation from a
22 landslide hazard area or buffer shall be prohibited, except for limited removal of vegetation necessary for
23 surveying purposes and for the removal of hazard trees determined to be unsafe by the City. The City may
24 require the applicant to submit a report prepared by a certified arborist to confirm hazard tree conditions.
25 Notice to the City shall be provided prior to any vegetation removal permitted by this subsection.

26 (4) Vegetation on slopes within a landslide hazard area or buffer that has been damaged by human activity or
27 infested by noxious weeds may be replaced with native vegetation pursuant to an enhancement plan
28 approved by the City. The use of hazardous substances, pesticides, and fertilizers in landslide hazard areas
29 and their buffers may be prohibited by the City.

30 (5) Alterations to landslide hazard areas and buffers may be allowed only as follows:

31 (a) A landslide hazard area located on a slope 40 percent or steeper may be altered only if the
32 alteration meets the following standards and limitations:

1 (i) Approved surface water conveyances, as specified in the applicable City-adopted storm
2 water requirements, may be allowed in a landslide hazard area if they are installed in a manner
3 to minimize disturbance to the slope and vegetation;

4 (ii) Public and private trails may be allowed in a landslide hazard area subject to the standards
5 and mitigations contained in this chapter, development standards in Chapter [21A.30 SMC](#), and
6 requirements elsewhere in the SMC, when locating outside of the hazard area is not feasible;

7 (iii) Utility corridors may be allowed in a landslide hazard area if a critical areas study shows
8 that such alteration will not subject the area to the risk of landslide or erosion;

9 (iv) Limited trimming and pruning of vegetation may be allowed in a landslide hazard area
10 pursuant to an approved vegetation management plan for the creation and maintenance of
11 views if the soils are not disturbed;

12 (v) Stabilization of sites where erosion or landsliding threatens public or private structures,
13 utilities, roads, driveways or trails, or where erosion and landsliding threaten any lake, stream,
14 wetland, or shoreline. Stabilization work shall be performed in a manner that causes the least
15 possible disturbance to the slope and its vegetative cover; and

16 (vi) Reconstruction, remodeling, or replacement of an existing structure upon another portion
17 of an existing impervious surface that was established pursuant to City ordinances and
18 regulations may be allowed; provided:

19 (A) If within the buffer, the structure is located no closer to the landslide hazard area than
20 the existing structure; and

21 (B) The existing impervious surface within the buffer or landslide hazard area is not
22 expanded as a result of the reconstruction or replacement.

23 (b) A landslide hazard area located on a slope less than 40 percent may be altered only if the
24 alteration meets the following requirements:

25 (i) The development proposal will not decrease slope stability on contiguous properties; and

26 (ii) Mitigation based on the best available engineering and geological practices is implemented
27 that either eliminates or minimizes the risk of damage, death, or injury resulting from
28 landslides; and

29 (c) Neither buffers nor a critical area tract shall be required if the alteration meets the standards of
30 subsection (5)(b) of this section.

31 ~~(6) New development proposals that will result in a total site impervious surface of more than 2,000 square~~
32 ~~feet shall submit a drainage plan which complies with all applicable and project specific provisions of the~~
33 ~~King CountySDM and City of Sammamish Addendum. provide a drainage design, using the following~~
34 ~~sequential measures, which appear in order of preference:~~

Comment [CdS50]: Item 4-9

1 ~~(a) Infiltration of all site runoff shall be required to the maximum extent technically feasible in soil~~
2 ~~conditions, consistent with the infiltration system design requirements of the KCSWDM;~~

3 ~~(b) For development proposals that cannot infiltrate all site runoff, impervious surfaces shall be~~
4 ~~infiltrated to the maximum extent technically feasible in soil conditions, consistent with the~~
5 ~~infiltration system design requirements of the KCSWDM;~~

6 ~~(c) For development proposals that cannot infiltrate all site runoff, the applicant shall design a~~
7 ~~drainage system that provides a drainage outlet designed using the best available science~~
8 ~~techniques to limit the risk of landslide or erosion to the no-disturbance area; and~~

9 ~~(d) Structural modification of, addition to or replacement of legally created single detached~~
10 ~~residences and improvements in existence before January 1, 2006, that do not increase the existing~~
11 ~~total footprint of the residence and associated impervious surface by more than 200 square feet~~
12 ~~over that existing before January 1, 2006, shall be exempt from the provisions of this section.~~

13 ~~(76)~~ The following are exempt from the provisions of this section:

14 (a) Slopes that are 40 percent or steeper with a vertical elevation change of up to 20 feet if no
15 adverse impact will result from the exemption based on the City's review of and concurrence with a
16 soils report prepared by a [licensed](#) geologist or geotechnical engineer; and

17 (b) The approved regrading of any slope that was created through previous legal grading activities.
18 (Ord. O2009-250 § 1; Ord. O2005-193 § 1; Ord. O99-29 § 1)

19
20 **21A.50.270 Seismic hazard areas – Development standards and permitted alterations.**

21 A development proposal containing a seismic hazard area shall meet the following requirements:

22 (1) All applicable building code requirements; and

23 (2) Alterations to seismic hazard areas may be allowed only as follows:

24 (a) The evaluation of site-specific subsurface conditions shows that the proposed development site
25 is not located in a seismic hazard area; or

26 (b) Mitigation based on the best available engineering and geological practices is implemented that
27 either eliminates or minimizes the risk of damage, death, or injury resulting from seismically induced
28 settlement or soil liquefaction. (Ord. O2005-193 § 1; Ord. O99-29 § 1)

29 **21A.50.280 Critical aquifer recharge areas – Development standards.**

30 (1) Groundwater Quantity Protection Standards. For developments in all CARA classes, the applicant shall
31 provide surface water infiltration as follows:

...
1 (a) Seventy-five percent of on-site storm water volume generated from the proposed development
2 shall be infiltrated; provided, that a lesser standard may apply or on-site infiltration may be waived
3 when:

4 (i) The applicant demonstrates that infiltration is not a reasonable alternative due to site-
5 specific soil and/or geologic conditions;

6 (ii) It is determined that increased saturation of soils would result in an increased risk to
7 existing facilities and/or adjacent properties;

8 (iii) Infiltration would result in significant unavoidable impacts to other critical areas or result in
9 an excessive loss of native vegetation; or

10 (iv) The applicant proposes an addition of no more than 700 square feet of total new
11 impervious surface compared cumulatively to 2005 levels.

12 (b) If infiltration is not feasible or required, then storm water facilities shall be constructed in
13 accordance with City standards.

14 (c) The design and implementation of infiltration facilities shall follow the ecology infiltration
15 guidelines specified in the Western Washington Stormwater Manual (2005), or other technical
16 guidance as approved by the City.

17 (d) To prevent groundwater contamination, storm water infiltration may be prohibited for all or a
18 portion of a site that includes use of hazardous substances.

19 (2) Groundwater Quality Protection Standards. The following provisions shall apply to development in all
20 CARA classes:

21 (a) Activities may only be permitted in a critical aquifer recharge area if the proposed activity will
22 not result in a significant increased risk of contamination of drinking water supplies;

23 (b) The City shall impose development conditions when necessary to prevent degradation of
24 groundwater. Conditions to permits shall be based on known, available and reasonable methods of
25 prevention control and treatment; and

26 (c) The proposed activity must comply with the water source protection requirements and
27 recommendations of the Federal Environmental Protection Agency, State Department of Ecology,
28 State Department of Health, and the Seattle-King County health district.

29 (3) Regulation of Facilities Handling and Storing Hazardous Materials.

30 (a) New and existing commercial and industrial land uses and activities located in Class 1 and Class 2
31 CARAs shall submit a hazardous materials inventory statement with a land use or building permit
32 application.

1 (b) Report Requirement. Commercial and industrial land uses and activities that involve the use,
2 storage, transport or disposal of hazardous materials, as defined in this chapter, in quantities equal
3 to or greater than 20 gallons or the equivalent of 200 pounds, located in Class 1 and Class 2 CARAs,
4 shall submit a critical areas study in accordance with SMC [21A.50.130](#) including, as necessary, a
5 hydrogeologic critical area assessment report, spill containment and response plan and/or
6 groundwater monitoring plan, except for the following uses/activities:

7 (i) Retail sale of containers five gallons or less in size, where there is less than 500 total gallons;
8 and

9 (ii) Hazardous materials of no risk to the aquifer.

10 (c) A hydrogeologic critical area assessment report, when required by subsection (3)(b) of this
11 section, shall be prepared by a qualified professional to determine potential impacts of
12 contaminants on the aquifer. The report shall include the following site- and proposal-related
13 information, at a minimum:

14 (i) Information regarding geologic and hydrogeologic characteristics of the site including the
15 surface location of all CARA classes located on site or immediately adjacent to the site and
16 permeability of the unsaturated/vadose zone;

17 (ii) Groundwater depth, flow direction and gradient;

18 (iii) Data on wells and springs within 1,300 feet of the project area;

19 (iv) Location of other critical areas, including surface waters, within 1,300 feet of the project
20 area;

21 (v) Historic hydrogeologic data for the area to be affected by the proposed activity;

22 (vi) Best management practices (BMPs) and integrated pest management (IPM) proposed to be
23 used; and

24 (vii) Discussion of the effects of the proposed project on the groundwater quality and quantity,
25 including:

26 (A) Predictive evaluation of groundwater withdrawal and recharge effects on nearby wells
27 and surface water features;

28 (B) Predictive evaluation of contaminant transport based on potential releases to
29 groundwater; and

30 (C) Predictive evaluation of changes in the infiltration/recharge rate.

31 (d) A spill containment and response plan, when required by subsection (3)(b) of this section, is
32 required to identify equipment and/or structures that could fail and shall include provisions for

...
1 inspection as required by the applicable state regulations, repair and replacement of structures and
2 equipment that could fail.

3 (e) A groundwater monitoring plan, when required by subsection (3)(b) of this section, may be
4 required to monitor quality and quantity of groundwater, surface water runoff, and/or site soils. The
5 City may require the owner of a facility to install one or more groundwater monitoring wells to
6 accommodate the required groundwater monitoring.

7 (i) Criteria used to determine the need for site monitoring shall include, but not be limited to,
8 the proximity of the facility to production or monitoring wells, the type and quantity of
9 hazardous materials on-site, and whether or not the hazardous materials are stored in
10 underground vessels.

11 (ii) The City may employ an outside consultant at the applicant's expense to review the
12 monitoring plan and analysis, to ensure that the monitoring plan is followed, and that
13 corrective actions are completed.

14 (4) Prohibited Uses. Where land uses or materials prohibited in this section are allowed in the Table of
15 Permitted Land Uses (Chapter [21A.20](#) SMC), this section shall control and the use shall be prohibited.

16 (a) Table 21A.50.280a identifies land uses and materials prohibited in Class 1, 2 and 3 CARAs for new
17 uses; and

18 (b) Table 21A.50.280b identifies land uses and materials that should be discontinued, removed and
19 decommissioned where existing in Class 1, 2 and 3 CARAs. The City shall require discontinuation,
20 removal and decommissioning of these uses from Class 1, 2 and 3 CARAs at the time of development
21 and redevelopment, in proportion to the degree and nature of the proposal.

Table 21A.50.280a

Prohibited Land Uses and Materials (New Uses/Activities)	Class 1 (1- and 5-year WHPA)	Class 2 (10-year WHPA)	Class 3 (High Recharge Areas)
Hazardous liquid transmission pipelines	prohibited	allowed subject to compliance with federal and state standards	
Mining, processing and reclamation of any type	prohibited	prohibited	reviewed under development permit
Processing, storage, and disposal of radioactive substances (except certain medical uses)	prohibited	prohibited	prohibited
Underground storage tanks (UST)	prohibited	prohibited	prohibited

Table 21A.50.280a

Prohibited Land Uses and Materials (New Uses/Activities)	Class 1 (1- and 5-year WHPA)	Class 2 (10-year WHPA)	Class 3 (High Recharge Areas)
UST with double walls, vault and monitor	prohibited	allowed	subject to compliance with federal and state standards
Above ground storage tanks for hazardous substances or hazardous waste with primary and secondary containment area and spill protection plan	allowed	subject to compliance with federal and state standards	
Wells for class B and private water systems, when located in a water service area	prohibited	prohibited	allowed subject to compliance with federal and state standards
Golf courses	prohibited	**	**
Land use activities that require the use of nitrates, phosphorus, pesticides, and other chemicals that have a potential to degrade groundwater and surface water quality when used inappropriately or in excess.	Prohibited	**	**
Closed loop geothermal / heat exchange wells	Prohibited	Prohibited	**
Closed loop geothermal/heat exchange systems (surface)	Prohibited	**	**
Open loop geothermal / heat exchange wells	Prohibited	Prohibited	Prohibited
Injection Wells (storm water or reclaimed water)	Prohibited	Prohibited	**
Cemeteries	prohibited	**	**
Wrecking yards	prohibited	prohibited	prohibited
Landfills with hazardous waste, municipal solid waste, or special waste	prohibited	prohibited	prohibited
Dry cleaning using chlorinated solvents	prohibited	prohibited	prohibited
**Best management practices (BMPS) and integrated pest management (IPM) are required for these uses.			

Comment [EM51]: Item 1-1

Comment [EM52]: Item 1-2 (1 of 3)

Comment [EM53]: Item 1-2 (2 of 3)

Comment [EM54]: Item 1-3 (1 of 2)

Table 21A.50.280b

Restricted Land Uses and Materials – (Existing Uses/Activities)	Class 1 (1- and 5-year WHPA)	Class 2 (10-year WHPA)	Class 3 (High Recharge Areas)
UST (underground storage tank)	Remove, decommission or upgrade to comply with federal and state standards		
Abandoned wells	Decommission to comply with federal and state standards		
Existing uses that have a long-term potential to degrade water quality in the WHPA	Discontinue, remove or mitigate potential impacts		

1 (5) Requirements for Specific Uses and Activities.

2 (a) Commercial Vehicle Repair and Servicing.

3 (i) In all CARA classes, vehicle repair and servicing must be conducted over impermeable pads,
 4 with containment curbs, and within a covered structure capable of withstanding normally
 5 expected weather conditions. Chemicals used in the process of vehicle repair and servicing
 6 must be stored in a manner that protects them from weather and provides containment
 7 should leaks occur.

8 (ii) In all CARA classes, no dry wells shall be allowed on sites used for vehicle repair and
 9 servicing. Dry wells existing on the site prior to facility establishment must be abandoned using
 10 techniques approved by the State Department of Ecology prior to commencement of the
 11 proposed activity.

12 (b) Use of Pesticides, Herbicides, and Fertilizers.

13 (i) Residential Use. In all CARA classes, application of household pesticides, herbicides, and
 14 fertilizers shall not exceed times, rates, concentrations and locations specified on the
 15 packaging.

16 (ii) Other Uses. In Class 1 and 2 CARA areas, proposed developments with maintained
 17 landscape areas greater than 10,000 square feet in area shall prepare an operations and
 18 maintenance manual using best management practices (BMPs) and integrated pest
 19 management (IPM) for fertilizer and pesticide/herbicide applications. The BMPs shall include
 20 recommendations on the quantity, timing and type of fertilizers applied to lawns and gardens
 21 to protect groundwater quality.

22 (c) Spreading or Injection of Storm Water or Reclaimed Water. Water reuse projects for reclaimed
 23 water and storm water are regulated in accordance with the adopted water, sewer or storm water
 24 comprehensive plans that have been approved by the Departments of Ecology and Health. [Injection
 25 wells are prohibited in Class 1 and 2 CARA areas. Injection wells are allowed, subject to city review
 26 and approval, in Class 3 CARA areas provided injection wells shall comply with the requirements of
 27 WAC 173-200 and 173-218 and Sammamish Municipal Code.](#)

Comment [EM55]: Item 1-3 (2 of 2)

1 ...
2 (d) Construction Activity. In all CARA classes, if construction vehicles will be refueled on a
3 construction site and/or the quantity of hazardous materials that will be used or stored on a site
4 exceeds 20 gallons, exclusive of the quantity of hazardous materials contained in fuel or fluid
5 reservoirs of construction vehicles, then persons obtaining construction permits shall provide
6 information to the public works department regarding the types and quantities of hazardous
7 materials that will be on-site and then use BMPs to prevent and respond to spills. Construction site
8 refueling must be conducted over impermeable pads, with containment curbs. The operator of the
9 site shall immediately report to the City any spills and is responsible for complete recovery and
cleanup.

10 (e) Fill Quality Standards and Imported Fill Source Statement. In all CARA classes, fill material shall
11 not contain concentrations of contaminants that exceed cleanup standards for soil as specified in
12 the Model Toxics Control Act (MTCA). An imported fill source statement is required for all projects
13 where more than 100 cubic yards of fill will be imported to a site. The City may require analytical
14 results to demonstrate that fill materials do not exceed cleanup standards. The imported fill source
15 statement shall include:

- 16 (i) Source location of imported fill;
- 17 (ii) Previous land uses of the source location; and
- 18 (iii) Whether or not fill to be imported is native, undisturbed soil.

19 (f) In Class 1 and 2 CARAs, on lots smaller than one acre, new on-site septic systems are prohibited,
20 unless:

- 21 (i) The system is approved by the Washington State Department of Health and the system
22 either uses an upflow media filter system or a proprietary packed-bed filter system or is
23 designed to achieve approximately 80 percent total nitrogen removal for typical domestic
24 wastewater; or
- 25 (ii) The Seattle–King County department of public health determines that the systems required
26 under subsection (5)(f)(i) of this section will not function on the site.

27 (g) In Class 3 CARAs, geothermal / heat exchange wells are allowed, subject to city review and
28 approval, provided:

- 29 (i) The system is approved by the Washington Department of Ecology as compliant with the
30 provisions of WAC 173-160; and
- 31 (ii) A notice on title is recorded documenting the maintenance requirements of the
32 geothermal / heat exchange wells

33 **21A.50.290 Wetlands – Development standards.**

Comment [EM56]: Item 1-2 (3 of 3)

...

1 A development proposal on a parcel or parcels containing a wetland or associated buffer of a wetland
2 located on-site or off-site shall meet the following requirements:

3 (1) The following standard buffers shall be established from the wetland edge:

Wetland Category		Standard Buffer Width (ft) by Impact of Land Use
Category I:	Natural Heritage or bog wetlands	All Land Use Types - 215
	Habitat score 29-36	Low - 150 Moderate - 190 High - 200
	Habitat score 20-28	Low - 125 Moderate - 150 High - 150
	Not meeting above criteria	All Land Use Types - 125
Category II:	Habitat score 29-36	Low - 125 Moderate - 150 High - 190
	Habitat score 20-28	Low - 75 Moderate - 100 High - 110
	Not meeting above criteria	All Land Use Types - 75
Category III:	Habitat score 20-28	Low - 60 Moderate - 75 High - 100
	Not meeting above criteria	All Land Use Types - 50
Category IV:		All Land Use Types - 50
Category III and IV:	subject to SMC 21A.50.320	

Comment [EM57]: Item 3-4

4 (a) High, moderate, and low impact land uses are defined as follows:

Comment [EM58]: Item 3-4

5 (i) High impact land uses include: commercial, industrial, institutional, retail sales, high-
6 intensity recreation (golf courses, ball fields), and residential uses on property zoned with a
7 density of more than one dwelling unit per acre.

8 (ii) Moderate impact land uses include residential uses on property zoned with a density of
9 one unit per acre or less, moderate-intensity open space (parks), and paved trails.

...

1 [\(iii\) Low impact land uses include: low-intensity open space \(such as passive recreation and](#)
2 [natural resources preservation\) and unpaved trails.](#)

3 [\(b\) Where a legally established and constructed street or the East Lake Sammamish Trail](#) transects a
4 wetland buffer, the department may approve a modification of the standard buffer width to the
5 edge of the street [or the East Lake Sammamish Trail](#) if the isolated part of the buffer does not
6 provide additional protection of the wetland and provides insignificant biological, geological or
7 hydrological buffer functions relating to the wetland. If the resulting buffer distance is less than 50
8 percent of the standard buffer for the applicable wetland category, no further reduction shall be
9 allowed.

10 [\(cb\) Where a buffer has been previously established on a legally created parcel or tract that was](#)
11 [legally established according to the regulations in place at the time of establishment through City or](#)
12 [county development review on or after November 27, 1990, and is permanently recorded on title or](#)
13 [placed within a separate tract, the buffer shall be remain](#) as previously established, provided it is [at](#)
14 [least as large as equal to or greater than](#) 50 percent of the [current](#) required standard buffer distance
15 for the applicable wetland category.

Comment [CdS59]: Item 5-9

16 [\(de\) Where wetland functions have been improved due to voluntary implementation of an approved](#)
17 [stewardship, restoration and/or enhancement plan that is not associated with required mitigation](#)
18 [or enforcement, the standard wetland buffer width shall be determined based on the previously](#)
19 [established wetland category and habitat score as documented in the approved stewardship and](#)
20 [enhancement plan.](#)

21 [\(2\) Repealed by Ord. O2009-264. Removal of any native vegetation or woody debris from a wetland or](#)
22 [wetland buffer may be allowed only as part of an approved alteration. Only native vegetation can be planted](#)
23 [in wetland or buffer areas, unless the planting is otherwise allowed by SMC 21A.50.060 –Allowance for](#)
24 [Existing Urban Development and Other Uses.](#)

Comment [EM60]: Item 5-3

25 (3) Activities and uses shall be prohibited from wetlands and associated buffers, except as provided for in this
26 chapter.

27 (4) Any wetland restored, relocated, replaced, or enhanced because of a wetland alteration shall have the
28 buffer required for the highest wetland class involved.

29 (5) For a wetland buffer that includes a landslide hazard area, the buffer width shall be the greater of either
30 the buffer width required by the wetland's category in this section or 25 feet beyond the top of the landslide
31 hazard area.

32 (6) Buffer Averaging. Buffer width averaging may be allowed by the department if:

33 (a) It will provide additional protection to wetlands or enhance their functions, as long as the total
34 area contained in the buffer on the development proposal site does not decrease (see also SMC
35 [21A.30.210](#)(5) for buffer compensation requirements for trails);

1 (b) The wetland contains variations in sensitivity due to existing physical characteristics or the
2 character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a
3 wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

4 (c) The buffer width is not reduced to less than 50 percent of the standard buffer width at any
5 location; ~~and~~

6 (de) The buffer width is decreased on one part of a wetland and increased on another part of the
7 same wetland feature; and

Comment [CdS61]: Item 5-10

8 (ef) The buffer is associated with a development proposal and it will not further encumber a
9 neighboring property not owned by the applicant.

Comment [CdS62]: Item 5-11 (part 1 of 2)

10 (fe) Buffer averaging may be used in conjunction with buffer reduction options in this section,
11 provided the total combined reduction does not reduce the buffer to less than 50 percent of
12 standard buffer width at any location.

13 (7) Increased Buffers. Increased buffer widths may be required by a distance necessary to protect wetland
14 functions and provide connectivity to other wetland and habitat areas when the following occur:

15 (a) When a Category 1 or 2 wetland with a habitat score of greater than 29 points (per Washington
16 State Wetland Rating System for Western Washington – Department of Ecology 2009 or as revised) is
17 located within 200 feet of the wetland subject to the increased buffer;

18 (b) Critical drainage areas are at risk;

19 (c) Critical wildlife habitat and habitat connections are present;

20 (d) Landslide or erosion hazard areas are contiguous to wetlands;

21 (e) Groundwater recharge and discharge areas are at risk;

22 (f) Or to offset buffer impacts, such as trail and utility corridors; and

23 (g) Ecological wetland functions are at risk including, but not limited to the following:

24 (i) Habitat complexity, connectivity and biological functions;

25 (ii) Seasonal hydrological dynamics as provided in the adopted Surface Water Design Manual;

26 (iii) Sediment removal and erosion control;

27 (iv) Pollutant removal;

28 (v) Large wood debris (LWD) recruitment;

29 (vi) Water temperature;

...
1 (vii) Wildlife habitat; and

2 (viii) Microclimate Increased Buffers. The department may require the standard buffer to be
3 increased by the greater of 50 feet or a distance necessary to protect wetland functions and provide
4 connectivity to other wetland and habitat areas when a Category 1 or 2 wetland with a habitat score greater
5 than 20 points is located within 300 feet of:

6 (a) Another Category 1 or 2 wetland;

7 (b) A fish and wildlife habitat conservation area; or

8 (c) A type S or F stream.

9 The increased buffer distance may be limited to those areas that provide connectivity or are necessary to
10 protect wetland and habitat functions.

11 (8) Buffer Reduction. Buffers may be reduced when buffer reduction impacts are mitigated and result in
12 equal or greater protection of the wetland functions. Prior to considering buffer reductions, the applicant
13 shall demonstrate application of mitigation sequencing as required in SMC [21A.50.135](#). A plan for mitigating
14 buffer-reduction impacts must be prepared using selected incentive-based mitigation options from the list
15 below. The following incentive options for reducing standard buffer widths shall be considered cumulative up
16 to a maximum reduction of 50 percent of the standard buffer width. In all circumstances where a substantial
17 portion of the remaining buffer is degraded, the buffer reduction plan shall include replanting with native
18 vegetation in the degraded portions of the remaining buffer area and shall include a five-year monitoring and
19 maintenance plan.

20 (a) Installation of biofiltration/infiltration mechanisms: up to 20 percent reduction in the standard
21 buffer width may be allowed for the installation of bioswales, [Water quality is improved in excess of](#)
22 [the requirements of King County Stormwater Design Manual though the use of](#) created and/or
23 enhanced wetlands, or ponds supplemental to existing storm drainage and water quality
24 requirements.

25 (b) Removal of existing impervious surfaces:

26 (i) Up to 10 percent reduction in standard buffer width if impervious surfaces within the to-be-
27 remaining buffer area are reduced by at least 50 percent; or

28 (ii) Up to 20 percent reduction in standard buffer width if the to-be-remaining buffer area is
29 presently more than 50 percent impervious and all of it is to be removed.

30 (c) Removal of invasive, nonnative vegetation: up to 10 percent reduction in standard buffer width
31 for the removal and extended (minimum five-year) monitoring and continued-removal maintenance
32 of relatively dense stands of invasive, nonnative vegetation from significant portions of the
33 remaining buffer area.

1 (d) Restoration, preservation and maintenance of the existing wetland and buffer vegetation if the
2 following conditions are present and/or attainable as a result of action:

3
4 (i) An undisturbed vegetated buffer of 100 feet is preserved; and,

5
6 (ii) Existing buffer conditions are degraded such that more than 40 percent of the buffer is
7 covered by non-native/invasive plant species and are restored according to a city-approved
8 restoration plan to improve wetland buffer functions; and,

9
10 (iii) Tree or shrub vegetation covers less than 25 percent of the total buffer area and the area
11 will be re-vegetated according to a city-approved restoration plan with trees and shrubs to
12 replace impacted buffer functions; and,

13
14 (iv) The wetland buffer has slopes of less than 25 percent.

15
16 The buffer reduction determination and percentage shall be on a site by site basis based on the
17 applicant's plan and demonstration of improvement to water quality and habitat functions.

Comment [CdS63]: Item 3-10

18
19 ~~(de)~~ If not already required under an existing development proposal, installation of oil/water
20 separators for storm water quality control: up to 10 percent reduction in standard buffer width.

21 ~~(ef)~~ Use of pervious material for driveway/road construction: up to 10 percent reduction in standard
22 buffer width.

23 ~~(fg)~~ Restoration of on-site buffer and wetland areas, or restoration of off-site buffer and wetland
24 areas within the same sub-basin of the impacted wetland if no on-site restoration is possible:

25 (i) Up to 10 percent reduction in standard buffer width if restoration area is at a 2:1 ratio or
26 greater; or

27 (ii) Up to 20 percent reduction in standard buffer width if restoration area is at a 4:1 ratio or
28 greater.

29 ~~(gh)~~ Removal of significant refuse or sources of toxic material: up to 10 percent reduction in
30 standard buffer width.

31 ~~(hi)~~ Percentages listed above may be added together to create a total buffer reduction; provided,
32 that the total reduction does not exceed 50 percent of the standard buffer width.

33 (9) The use of hazardous substances, pesticides and fertilizers in the wetland and its buffer may be prohibited
34 by the City.

35 (10) The introduction of livestock into a wetland or wetland buffer is prohibited. Unless otherwise provided,
36 the following restrictions shall apply to all development proposals that include the introduction of livestock
37 on sites with wetlands or wetland buffers:

38 (a) A plan to protect and enhance the wetland's water quality shall be implemented pursuant to the
39 adopted surface water design manual standards; and

...

1 (b) Fencing located not closer to the wetland than the outer wetland buffer edge shall be required. (Ord.
2 O2009-264 § 1 (Att. A); Ord. O2005-193 § 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)

Comment [CdS64]: 5-12 (part 1 of 2)

3 **21A.50.300 Wetlands – Permitted alterations.**

4 Alterations to wetlands and wetland buffers are not allowed, except as provided for by complete
5 exemptions, partial exemptions and exceptions in this chapter or as allowed for by this section.

6 (1) Alterations may be permitted if the department determines, based upon its review of critical areas
7 studies completed by qualified professionals, that the proposed development will:

8 (a) Protect, restore or enhance the wildlife habitat, natural drainage, or other valuable functions of
9 the wetland resulting in a net improvement to the functions of the wetland system;

10 (b) Design, implement, maintain, and monitor a mitigation plan prepared by a qualified professional;

11 (c) Perform the mitigation under the direction of a qualified professional; and

12 (d) Will otherwise be consistent with the purposes of this chapter.

13 (2) If a wetland is in a flood hazard area, the applicant shall notify affected communities and native tribes of
14 proposed alterations prior to any alteration and submit evidence of such notification to the Federal Insurance
15 Administration.

16 (3) There shall be no introduction of any nonnative or invasive plant or wildlife into any wetland or wetland
17 buffer ~~unless authorized except as required~~ by a state or federal permit or approval ~~or as otherwise allowed~~
18 ~~by SMC 21A.50.060 – Allowance for Existing Urban Development and Other Uses.~~

Comment [EM65]: Item 5-15 (part 1 of 2)

19 (4) Utilities may be allowed in wetland buffers if:

20 (a) The director determines that no reasonable alternative location is available; and

21 (b) The utility corridor meets any additional requirements for installation, replacement of vegetation
22 and maintenance, as needed to mitigate impacts.

23 (5) Sewer utility corridors may be allowed in wetland buffers only if:

24 (a) The applicant demonstrates that ~~the sewer lines~~ are location is necessary for gravity flow;

25 (b) The corridor is not located in a wetland or buffer used by species listed as endangered or
26 threatened by the state or federal government or containing critical or outstanding actual habitat
27 for those species or heron rookeries or raptor nesting trees;

28 (c) The corridor alignment including, but not limited to, any allowed maintenance roads follows a
29 path farthest from the wetland edge as feasible;

...

1 ...
2 (d) Corridor construction and maintenance protects the wetland and buffer and is aligned to avoid
3 cutting trees greater than 12 inches in diameter at breast height, when possible, and pesticides,
herbicides and other hazardous substances are not used;

4 (e) An additional, contiguous and undisturbed buffer, equal in width to the proposed corridor,
5 including any allowed maintenance roads, is provided to protect the wetland;

6 (f) The corridor is revegetated with appropriate native vegetation at preconstruction densities or
7 greater immediately upon completion of construction or as soon thereafter as possible, and the
8 sewer utility ensures that such vegetation survives;

9 (g) Any additional corridor access for maintenance is provided, to the extent possible, at specific
10 points rather than by a parallel road; and

11 (h) The width of any necessary parallel road providing access for maintenance is as small as possible,
12 but not greater than 15 feet; the road is maintained without the use of herbicides, pesticides or
13 other hazardous substances; and the location of the road is contiguous to the utility corridor on the
14 side away from the wetland.

15 (6) Joint use of an approved sewer utility corridor by other utilities may be allowed.

16 (7) Where technically feasible, surface water discharge shall be located outside of the wetland and wetland
17 buffer. The following surface water management activities and facilities may be allowed in wetlands or their
18 buffers only as follows. The following shall apply:

19 (a) Surface water discharge to a wetland from a flow control or water quality treatment facility,
20 sediment pond or other surface water management activity or facility may be allowed if the
21 discharge does not increase the rate of flow, change the plant composition in a forested wetland or
22 decrease the water quality of the wetland;

23 (b) Isolated Category 4 wetlands and buffers may be used as a flow control facility if:

24 (i) Presettlement pond or water quality treatment is required prior to flow into the wetland;
25 and

26 (ii) They are not part of, or immediately adjacent to, a designated wildlife habitat corridor and
27 all requirements of the applicable City-adopted storm water requirements are met; and

28 (c) Use of a wetland buffer for a surface water management activity or facility, other than a flow
29 control or water quality treatment facility, such as an energy dissipater and associated pipes, may be
30 allowed only if the applicant demonstrates, to the satisfaction of the department, that:

31 (i) No reasonable alternative exists; and

32 (ii) The functions of the buffer or the wetland are not adversely affected.

Comment [CdS66]: Item 5-13 (part 1 of 2)

...

1 (8) Public and private trails may be allowed in wetland buffers consistent with the standards and
2 requirements in this chapter, development standards in Chapter [21A.30](#) SMC, and requirements elsewhere in
3 the SMC. Proposals for constructing viewing platforms, associated access trails, and spur trails must be
4 reviewed by a qualified professional and a critical areas study may be required.

5 (9) A dock, pier, moorage, float, or launch facility may be allowed, subject to the provisions of SMC Title [25](#),
6 if:

7 (a) The existing and zoned density around the wetland is three dwelling units per acre or more;

8 (b) At least 75 percent of the lots around the wetland have been built upon and no significant buffer
9 or wetland vegetation remains on these lots; and

10 (c) Open water is a significant component of the wetland.

11 (10) Crossings. The use of existing crossings, including but not limited to utility corridors, road and railroad
12 rights-of-way, within wetlands or buffers for public or private trails is preferred to new crossings, subject to
13 the standards and requirements in the SMC. New wetland road and trail crossings may be allowed if:

14 (a) The director determines that:

15 (i) The crossing is identified as a part of a corridor shown in a City-adopted parks or trails plan,
16 park master plan, transportation plan, or comprehensive plan, or otherwise is necessary to
17 connect or construct the road or trail to publicly owned lands, utility corridors, rights-of-way or
18 other public infrastructure, or is required to provide access to property where no other
19 reasonable alternative access is possible; or

20 (ii) The applicant demonstrates that the new crossing creates less overall or less incremental
21 impacts to critical areas and habitat than the use of an existing corridor while still achieving
22 overall project goals and objectives;

23 (b) All crossings avoid or minimize impact to the wetland and provide mitigation for unavoidable
24 impacts through restoration, enhancement or replacement of disturbed areas as described in this
25 chapter and in the SMC;

26 (c) Crossings do not significantly change the overall wetland hydrology;

27 (d) Crossings do not diminish the flood storage capacity of the wetland; and

28 (e) All crossings are constructed during summer low water periods.

29 (11) Reconstruction, Remodeling, or Replacement of Existing Structures. Reconstruction, remodeling, or
30 replacement of an existing structure upon another portion of an existing impervious surface that was
31 established pursuant to ordinances and regulations in effect at the time may be allowed, provided:

...

...

1 (a) If within the buffer, the structure is located no closer to the wetland than the existing structure;
2 and

3 (b) The existing impervious surface within the buffer or wetland is not expanded as a result of the
4 reconstruction or replacement.

5 (12) Enhancement and Restoration. Wetland enhancement or restoration not associated with any other
6 development proposal may be allowed if accomplished according to a plan for its design, implementation,
7 maintenance and monitoring prepared by and carried out under the direction of a qualified professional.
8 Restoration or enhancement must result in a net improvement to the functions of the wetland system.

9 (13) Wetland Restoration Project. A wetland restoration project for habitat enhancement may be allowed if:

10 (a) The restoration is sponsored by a public agency with a mandate to do such work;

11 (b) The restoration is not associated with mitigation of a specific development proposal;

12 (c) The restoration is limited to revegetation of wetlands and their buffers and other specific fish and
13 wildlife habitat improvements that result in a net improvement to the functions of the wetland
14 system;

15 (d) The restoration only involves the use of hand labor and light equipment, or the use of helicopters
16 and cranes that deliver supplies to the project site; provided, that they have no contact with critical
17 areas or their buffers; and

18 (e) The restoration is performed under the direction of a qualified professional. (Ord. O2005-193 §
19 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)

20 **21A.50.310 Wetlands – Mitigation requirements.**

21 When mitigation for wetland and/or wetland buffer impacts is required, mitigation shall meet the
22 requirements listed in SMC [21A.50.145](#) in addition to the following supplementary requirements:

23 (1) Equivalent or Greater Biological Functions. Mitigation for alterations to wetland(s) and/or wetland
24 buffer(s) shall achieve equivalent or greater biologic functions and shall be consistent with the Department of
25 Ecology Guidance on Wetland Mitigation in Washington State (2004, Department of Ecology Publication No.
26 04-06-013), or as revised.

27 (2) No Net Loss. Wetland mitigation actions shall not result in a net loss of wetland area.

28 (3) Functions and Values. Mitigation actions shall address and provide equivalent or greater wetland and
29 buffer functions and values compared to wetland and buffer conditions existing prior to the proposed
30 alteration.

31 (4) Mitigation Type and Location. Mitigation actions shall be in-kind and conducted within the same sub-
32 basin and on the same site as the alteration except when the following apply:

...

1 (a) There are no reasonable on-site opportunities for mitigation, or on-site opportunities do not
2 have a high likelihood of success due to development pressures, adjacent land uses, or on-site
3 buffers or connectivity are inadequate;

4 (b) Off-site mitigation has a greater likelihood of providing equal or improved wetland functions
5 than the impacted wetland; and

6 (c) Off-site locations ~~shall be in the same sub-basin~~ have been identified and evaluated in the
7 following ~~sequence~~ order of preference:-

8 (i) Approved fee-in-lieu or mitigation bank program sites within the city limits in accordance
9 with SMC 21A.50.315;

10 (ii) Approved fee-in-lieu or mitigation bank program sites within the WRIA 8 in accordance
11 with SMC 21A.50.315.

Comment [CdS67]: Item 2-8 & 3-3 (part 4 of 6)

12
13 (5) Mitigation Timing. Where feasible, mitigation projects shall be completed prior to activities that will
14 disturb wetlands. In all other cases, mitigation shall be completed immediately following disturbance and
15 prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed
16 to reduce impacts to existing wildlife and flora.

17 (6) Mitigation Ratios.

18 ~~(a) Acreage Replacement Ratios. The following ratios shall apply to wetland creation or restoration~~
19 ~~that is in-kind, on-site, the same category, and has a high probability of success. The first number~~
20 ~~specifies the acreage of replacement wetlands and the second specifies the acreage of wetlands~~
21 ~~altered.~~

Category I	6 to 1
Category II	3 to 1
Category III	2 to 1
Category IV	1.5 to 1

23 (a) Wetland Mitigation Ratios. The following ratios shall apply to required wetland and/or wetland
24 buffer mitigation. The first number specifies the acreage of replacement wetlands and the second
25 specifies the acreage of wetlands altered.

Comment [EM68]: Item 3-6

26 (i) Permanent Wetland Mitigation. The following ratios of area of mitigation to area of
27 alteration apply to mitigation measures for permanent alterations.

<u>Category and type of wetland</u>	<u>Wetland reestablishment or creation</u>	<u>Wetland rehabilitation</u>	<u>1:1 Wetland reestablishment or wetland creation (R/C) and wetland enhancement (E)</u>	<u>Wetland enhancement only *Only after minimum</u>

				<u>1:1 replacement requirement met. See SMC 21A.50.310(7)</u>
<u>Category IV</u>	<u>1.5:1</u>	<u>3:1</u>	<u>1:1 R/C and 2:1 E</u>	<u>6:1</u>
<u>Category III</u>	<u>2:1</u>	<u>4:1</u>	<u>1:1 R/C and 2:1 E</u>	<u>8:1</u>
<u>Category II</u>	<u>3:1</u>	<u>8:1</u>	<u>1:1 R/C and 4:1 E</u>	<u>12:1</u>
<u>Category I forested</u>	<u>6:1</u>	<u>12:1</u>	<u>1:1 R/C and 10:1 E</u>	<u>Case-by-case</u>
<u>Category I based on score for functions</u>	<u>4:1</u>	<u>8:1</u>	<u>1:1 R/C and 6:1 E</u>	<u>Case-by-case</u>
<u>Category I natural heritage site</u>	<u>Not allowed</u>	<u>6:1 rehabilitation of a natural heritage site</u>	<u>Case-by-case</u>	<u>Case-by-case</u>
<u>Category I bog</u>	<u>Not allowed</u>	<u>6:1 rehabilitation of a bog</u>	<u>Case-by-case</u>	<u>Case-by-case</u>

(ii) Temporary Wetland Mitigation. The following ratios of area of mitigation to area of alteration apply to mitigation measures for temporary alterations where wetlands will not be impacted by permanent fill material:

<u>Wetland category</u>	<u>Permanent conversion of forested and shrub wetlands into emergent wetlands</u>			<u>Mitigation for temporal loss of forested and shrub wetlands when the impacted wetlands will be revegetated to forest or shrub communities</u>		
	<u>Enhancement</u>	<u>Re-habilitation</u>	<u>Creation or restoration</u>	<u>Enhancement</u>	<u>Re-habilitation</u>	<u>Creation or restoration</u>
<u>Category I</u>	<u>6:1</u>	<u>4.5:1</u>	<u>3:1</u>	<u>3:1</u>	<u>2:1</u>	<u>1.5:1</u>
<u>Category II</u>	<u>3:1</u>	<u>2:1</u>	<u>1.5:1</u>	<u>1.5:1</u>	<u>1:1</u>	<u>.75:1</u>
<u>Category III</u>	<u>2:1</u>	<u>1.5:1</u>	<u>1:1</u>	<u>1:1</u>	<u>.75:1</u>	<u>.5:1</u>
<u>Category IV</u>	<u>1.5:1</u>	<u>1:1</u>	<u>.75:1</u>	<u>Not applicable</u>	<u>Not applicable</u>	<u>Not applicable</u>

(b) Wetland Buffer Replacement Ratio. Altered wetland buffer area shall be replaced at a minimum ratio of one-to-one.

Comment [EM69]: Item 3-5

(cb) Increased Replacement Ratio. The director may increase the ratios under the following circumstances:

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

1 ...
2 (ii) A significant period of time will elapse between impact and replication of wetland functions; or

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

5 (iv) The impact was an unauthorized impact.

6 (de) Decreased Replacement Ratio. The director may decrease these ratios under the following
7 circumstances:

8 (i) Documentation by a qualified professional demonstrates that the proposed mitigation
9 actions have a very high likelihood of success. This documentation should specifically identify
10 how the proposed mitigation actions are similar to other known mitigation projects with
11 similar site-specific conditions and circumstances that have been shown to be successful;

12 (ii) Documentation by a qualified professional demonstrates that the proposed mitigation
13 actions will provide functions and values that are significantly greater than the wetland being
14 impacted; or

15 (iii) The proposed mitigation actions are conducted in advance of the impact and have been
16 shown to be successful over the course of at least one full year.

17 (d) Minimum Replacement Ratio. In all cases, a minimum acreage replacement ratio of one to one
18 shall be required.

19 (7) Wetland Enhancement as Mitigation.

20 (a) Impacts to wetlands may be mitigated by enhancement of existing significantly degraded
21 wetlands only after a one-to-one minimum acreage replacement ratio has been satisfied. Applicants
22 proposing to enhance wetlands must produce a critical areas study that identifies how enhancement
23 will increase the functions of the degraded wetland and how this increase will adequately mitigate
24 for the loss of wetland function at the impact site.

25 (b) At a minimum, enhancement acreage shall be double the acreage required for creation or
26 restoration under subsection (6)(a) of this section. The ratios shall be greater than double the
27 required acreage where the enhancement proposal would result in minimal gain in the performance
28 of wetland functions and/or result in the reduction of other wetland functions currently being
29 provided in the wetland.

30 (8) Restoration Required. Restoration shall be required when a wetland or its buffer is altered in violation of
31 law or without any specific permission or approval by the City in accordance with the following provisions:-

32 (a) A mitigation plan for restoration shall conforming to the requirements of this chapter and section
33 shall be provided. ~~(Ord. O2005-193 § 1; Ord. O99-29 § 1)~~

1 ...
2 (b) On sites where non-native vegetation was cleared, restoration shall include installation of native
3 vegetation with a density equal to or greater than the pre-altered site conditions.

Comment [CdS70]: Item 5-14 (part 1 of 2)

4 **21A.50.315 Wetlands – Alternative Mitigation-banking-**

5 (1) Wetland banking:

6 (a) Credits from a wetland mitigation bank may be approved for use as compensation for
7 unavoidable impacts to wetlands when:

8 (i) Criteria in SMC 21A.50.310(4) are met;

9 (ii) ~~a~~ The bank is certified under Chapter 173-700 WAC;

10 (iii) ~~b~~ The department determines that the wetland mitigation bank provides appropriate
11 compensation for the authorized impacts;

12 (iv) ~~c~~ The proposed use of credits is consistent with the terms and conditions of the bank's
13 certification; and

14 (v) ~~d~~ The compensatory mitigation agreement occurs in advance of authorized impacts.

15 (b) ~~2~~ Replacement ratios for projects using bank credits shall be consistent with replacement ratios
16 specified in the bank's certification.

17 (c) ~~3~~ Credits from a certified wetland mitigation bank may be used to compensate for impacts
18 located within the service area specified in the bank's certification. In some cases, bank service
19 areas may include portions of more than one adjacent drainage basin for specific wetland functions.

20 (d) ~~4~~ Implementation of a mitigation bank is subject to City council review and approval. (~~Ord.~~
21 ~~O2005-193-S-1~~)

22 (2) Fee-in-lieu Mitigation:

Comment [EM71]: Item 2-8 & 3-3 (part 5 of 6)

23 (a) Fee-in-lieu mitigation may be approved for use as compensation for unavoidable impacts to
24 wetlands, when:

25 (i) Criteria in SMC 21A.50.310(4) are met;

26 (ii) The fee-in-lieu mitigation program is state certified;

27 (iii) The department determines that the wetland fee-in-lieu mitigation provides appropriate
28 compensation for the authorized impacts;

29 (iv) The proposed use of fee-in-lieu mitigation is consistent with the terms and conditions of the
30 fee-in-lieu mitigation program; and

1 (v) The compensatory mitigation agreement occurs in advance of authorized impacts.

2
3 (b) Fee-in-lieu mitigation may be authorized ~~int-ehin~~ the city based upon the following order of
4 preference:

5 (i) A city approved program that utilizes receiving mitigation sites within the city of
6 Sammamish.

7 (ii) The King County Mitigation Reserves Program, or other approved program that gives
8 priority to sites within the same sub-basin and/or a pre-defined service area that includes the
9 city of Sammamish.

10 **21A.50.320 Wetlands – Limited exemption Development Flexibilities.**

11 (1) Isolated wetlands with an area of less up to than 1,000 square feet may be exempted from the provisions
12 of SMC 21A.50.290 and may be altered by filling or dredging if the City determines that the cumulative
13 impacts do not unduly counteract the purposes of this chapter and are mitigated pursuant to an approved
14 mitigation plan.

15 (2) Isolated category III and IV wetlands with an area of more than 1,000 square feet and up to 2,500 square
16 feet may be exempted from the provisions of SMC 21A.50.290 and may be altered, provided:

17 (a) A critical areas study is prepared that includes a review of the existing functions that the wetland
18 provides, and determines how the isolated wetland should be managed for ecological function of
19 the watershed as a whole; and,

20 (b) The wetland is not associated with a riparian corridor; and,

21 (c) The wetland is not part of a wetland mosaic; and,

22 (d) The wetland scores 15 points or less for habitat in the adopted Western Washington Rating
23 System; and,

24 (e) The wetland does not contain habitat identified as essential for local populations of priority
25 species identified by Washington Department of Fish and Wildlife; and,

26 (f) Mitigation to replace lost wetland functions and values, consistent with SMC 21A.50.310 shall be
27 prepared for review and approval by the City.

28 {Ord. O2005-193 § 1; Ord. O99-29 § 1}

29 (3) Category III and IV wetlands with a total area of 4,000 square feet or less may have the buffer reduced to
30 15 feet, provided:

31 (a) The wetland does not score 15 points or greater for habitat in the adopted Western Washington
32 Rating System; and,

33 (b) The wetland is not part of a wetland mosaic; and,

Comment [EM72]: Item 3-7 & 3-19c

Comment [EM73]: Item 3-19d

1 [\(c\) The buffer functions associated with the area of the reduced buffer width are mitigated through](#)
2 [the enhancement of the wetland, the remaining on-site wetland buffer area, and/or other adjoining](#)
3 [high value habitat areas as needed to replace lost buffer functions and values; and;](#)

4 [\(d\) No subsequent buffer reduction or averaging is authorized.](#)

5 **21A.50.322 Wetland management area – Special district overlay.**

6 (1) The purpose of the wetland management area special overlay district is to provide a means to designate
7 certain unique and outstanding wetlands when necessary to protect their functions and values from the
8 impacts created from geographic and hydrologic isolation and impervious surface.

9 (2) The wetland management area special overlay district shall be designated on critical areas maps
10 maintained by the department of community development.

11 (3) The following development standards shall be applied in addition to all applicable requirements of this
12 chapter to development proposals located within a wetland management area district overlay:

13 (a) All development proposals on properties zoned R-1 in wetland management areas shall have a
14 maximum impervious surface area of eight percent of the gross acreage of the site. Distribution of
15 the allowable impervious area among the platted lots shall be recorded on the face of the plat.
16 Impervious surface of existing streets need not be counted towards the allowable impervious area.
17 The provisions of this section shall not apply to the Sammamish Town Center Study Area as
18 identified in Ordinance O2005-185;

19 (b) All subdivisions and short subdivisions on properties identified in a management area for
20 clustering and set aside requirements in the East Lake Sammamish Basin and Nonpoint Action Plan
21 (1994) shall be required to cluster away from wetlands or the axis of corridors along stream
22 tributaries and identified swales connecting wetlands. At least 50 percent of all portions of the
23 property located within wetland management areas identified for vegetation retention shall be left
24 in native vegetation, preferably forest, and placed in a permanent open space tract. The open space
25 tract shall be designed to maximize the amount of separation between any critical areas and the
26 proposed development. If no critical area tracts are required, the open space tract shall be located
27 to provide additional protection to nearby wetlands;

28 (c) Clearing and grading activity from October 1st through April 30th shall meet the provisions of
29 SMC [16.15.120\(4\)](#) wherever not already applicable;

30 (d) All R-1 zoned properties within wetland management areas, as identified in the East Lake
31 Sammamish Basin and Nonpoint Action Plan, shall retain native vegetation, or revegetate with trees
32 to meet the following standards:

33 (i) Fifty percent of the site area shall be used to retain trees or revegetate with trees;

34 (ii) Retained vegetation shall be located primarily within the 50 percent open space area
35 required by SMC [21A.25.030](#);

1 ...
2 (iii) Retained vegetation shall consist primarily of trees with 0.0096 significant trees per square foot;

3 (iv) Areas revegetated shall provide 0.012 trees per square foot. Planted trees shall meet the
4 following specifications:

5 (A) Coniferous trees shall be at least three feet tall;

6 (B) Deciduous trees shall be at least five feet tall; and

7 (C) Trees shall be planted primarily in the required open space area;

8 (v) The provisions of this section shall not apply to the Sammamish Town Center Study Area as
9 identified in Ordinance O2005-185; and

10 (e) The director may, based upon review and approval of a critical areas special study, modify the
11 provisions of this chapter to allow for:

12 (i) The installation of site access; provided, that the applicant shall limit impervious surfaces to
13 the minimum required to grant access; or

14 (ii) Development using low impact development techniques to achieve standards adopted by
15 the City that will demonstrably minimize development impacts consistent with subsections
16 (3)(a) through (c) of this section. (Ord. O2005-193 § 1)

17
18 **21A.50.325 Fish and wildlife habitat conservation areas – Development standards.**

19 A development proposal that includes ~~alteration of~~ a fish and wildlife habitat conservation area or buffer
20 shall meet the following requirements:

21 (1) When appropriate due to the type of habitat or species present or the project area conditions, the
22 director may require a critical areas study that includes a habitat management plan consistent with the latest
23 guidance from the Department of Fish and Wildlife. If the habitat conservation area is also classified as a
24 stream, lake, pond or a wetland, then the stream, lake, pond or wetland protection standards shall apply and
25 habitat management shall be addressed as part of the stream, lake, pond or wetland review; provided, that
26 the City may impose additional requirements when necessary to provide for protection of the habitat
27 conservation areas consistent with this chapter.

28 (2) The director may require the following site- and proposal-related information with the critical areas
29 study:

30 (a) Identification of any endangered, threatened, sensitive or candidate species that have a primary
31 association with habitat on or adjacent to the project area, and an assessment of potential project
32 impacts to the species;

Comment [EM74]: Item 2-13

1 (b) A discussion of any federal or state management recommendations, including Washington
2 Department of Fish and Wildlife habitat management recommendations, that have been developed
3 for species or habitats located on or adjacent to the project area;

4 (c) A discussion of any ongoing management practices that will protect habitat after the project site
5 has been developed, including any proposed monitoring, maintenance, and adaptive management
6 programs; ~~and~~

7 (d) When appropriate due to the type of habitat or species present or the project area conditions,
8 the director may also require the habitat management plan to include an evaluation by the State
9 Department of Fish and Wildlife, local Native American Indian Tribe, or other qualified professional
10 regarding the applicant's analysis and the effectiveness of any proposed mitigating measures or
11 programs, to include any recommendations as appropriate.

12 (e) When appropriate, information from the Washington Department of Fish and Wildlife's Fish and
13 Wildlife's Backyard Wildlife Sanctuary Program shall be included.

Comment [CdS75]: Item 2-13c

14 (3) General Requirements. Habitat conservation areas that are lakes shall be governed by the requirements
15 of the Sammamish Shoreline Master program. Other habitat conservation areas are subject to the following
16 provisions:

17 (a) The department shall require the establishment of buffer areas for development activities in, or
18 adjacent to, habitat conservation areas when needed to protect habitat conservation areas. Buffers
19 shall consist of an undisturbed area of native vegetation, or areas identified for restoration, established
20 to protect the integrity and functions of the habitat. Required buffer widths shall consider the
21 management recommendations identified in subsection (2) of this section and reflect the sensitivity of
22 the habitat and the type and intensity of human activity proposed to be conducted nearby. When a
23 species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions
24 may apply. Development activities may be further restricted and buffers may be increased during the
25 specified season.

26 (b) Where applicable, a fish and wildlife habitat corridor required in 21A.50.327.

Comment [CdS76]: Item 2-13c

27 ~~(c)~~ A habitat conservation area may be altered only if the proposed alteration of the habitat or the
28 mitigation proposed does not reduce the quantitative and qualitative functions and values of the
29 habitat, except in accordance with this chapter.

30 (d) Removal of any native vegetation or woody debris from the habitat conservation area may be
31 allowed only as part of an approved habitat management plan, critical areas study, and/or alteration
32 plan.

Comment [C77]: Item 5-3 (3 of 6)

33 ~~(e)~~ Low impact uses and development activities which are consistent with the purpose and function of
34 the habitat conservation area and do not detract from its integrity may be permitted within the
35 conservation area depending on the sensitivity of the habitat area. Examples of uses and development
36 activities which may be permitted in appropriate cases include trails that are pervious, viewing

1 platforms, storm water management facilities such as grass-lined swales, utility easements and other
2 similar uses and development activities; provided, that any impacts to the habitat resulting from such
3 permitted facilities shall be fully mitigated.

4 ~~(f)~~ Whenever development activities are proposed in or adjacent to a habitat conservation area with
5 which state or federally endangered or threatened species have a primary association, such area shall
6 be protected through the application of measures in accordance with a critical areas report prepared
7 by a qualified professional and approved by the City of Sammamish, with guidance provided by the
8 appropriate state and/or federal agencies.

9 ~~(g)~~ Plant, wildlife, or fish species not indigenous to the coastal region of the Pacific Northwest shall not
10 be introduced into habitat conservation areas unless authorized by this chapter and by any required
11 state or federal permit or approval.

12 (g) Mitigation sites shall be located to achieve contiguous wildlife habitat corridors in accordance with
13 a mitigation plan that is part of an approved critical areas report to minimize the isolating effects of
14 development on habitat areas, so long as mitigation of aquatic habitat is located within the same
15 aquatic ecosystem as the area disturbed.

16 (h) The director shall condition approvals of development activities allowed within or adjacent to a
17 habitat conservation area or its buffers, as necessary, to minimize or mitigate any potential adverse
18 impacts. Conditions may include, but are not limited to, the following:

- 19 (i) Establishment of buffer zones;
- 20 (ii) Preservation of critically important vegetation;
- 21 (iii) Limitation of public access to the habitat area, including fencing to deter unauthorized access;
- 22 (iv) Seasonal restriction of development activities;
- 23 (v) Establishment of a duration and timetable for periodic review of mitigation activities; and
- 24 (vi) Requirement of a performance bond, when necessary, to ensure completion and success of
25 proposed mitigation.

26 ~~(i)~~ Mitigation of alterations to habitat conservation areas shall achieve equivalent or greater biologic
27 functions, and shall include mitigation for adverse impacts from the proposed development as
28 appropriate. Mitigation shall address each function affected by the alteration to achieve functional
29 equivalency or improvement on a per-function basis. (Ord. O2005-193 § 1)

30 **21A.50.327 Fish and Wildlife habitat corridors.**

31 Habitat ~~On development proposal sites that contain Type F or Np streams and/or wetlands with a high~~
32 ~~habitat score greater than or equal to 29, that are also located within 200 feet of an on-site or off-site Type F~~
33 ~~or Np stream and/or wetland with a high habitat score greater than or equal to 29, we corridors as defined in~~

Comment [EM78]: Item 2-13

Comment [reb-79]: This requirement for corridors to allow the travel of wildlife is to some extent at odds with the requirement to maintain stream buffers in a natural state. In a matter of just a few years once open areas along streams can become so overgrown with vegetation that passage of larger animals is not possible. (I can provide a good example.) If the passage of larger animals is an intended function of corridors along streams, there needs to be some provision for controlling the density of the vegetation in the corridor, and it needs to be reconciled with the hands-off policy reflected in the Streams code. There is currently no such provision in this subsection; indeed, sub-item (5) seems to discourage it. This issue should be addressed in this update.

...

1 ~~21A.15.467~~ a fish and wildlife habitat corridor shall be set aside and protected ~~for preserving connections~~
2 ~~between habitats along the designated wildlife habitat network~~ as follows:

3 ~~(1) Habitat corridors shall be identified and protected in one of the following ways:~~

4 ~~(1) (a)~~ Subdivisions and short subdivisions shall either place the corridor in a contiguous permanent open
5 space tract with all developable lots sited on the remaining portion of the project site, or shall design the lots
6 so that conservation easements on individual lots can form a contiguous easement covering the corridor;

7 ~~(2) (b)~~ Individual lots shall place the corridor in a conservation easement.

8 ~~(2) (3)~~ The fish and wildlife habitat corridor shall be sited on the property in order to meet the following
9 conditions:

10 (a) Forms one contiguous tract ~~that connects on-site high value habitat areas to other on-site or off-~~
11 ~~site high value habitat areas. that enters and exits the property at the points the designated wildlife~~
12 ~~habitat network crosses the property boundary;~~

13 (b) ~~New development proposals shall provide a minimum fish and wildlife habitat corridor width of~~
14 ~~300 feet or a corridor width that is consistent with an approved habitat management plan. Maintains~~
15 ~~a width, wherever possible, of 300 feet. The network width shall not be less than 150 feet wide at~~
16 ~~any point;~~

17 ~~(c) Development proposals on sites constrained by a fish and wildlife habitat corridor and where~~
18 ~~development already exists, shall maintain a minimum fish and wildlife habitat corridor width of 300~~
19 ~~feet unless through an approved habitat management plan it can be shown that a lesser habitat~~
20 ~~corridor width supports and maintains the corridor's function and value; and~~

21 ~~(ed)~~ Be contiguous with and may include ~~sensitive-critical~~ area tracts ~~and their~~ buffers ~~and open~~
22 ~~space tracts or wooded areas on adjacent properties, if present; and~~

23 ~~(e) The director may modify corridor widths based on supporting conditions from an approved~~
24 ~~habitat management plan.~~

Comment [EM80]: Item 2-13

Comment [EM81]: Item 2-13

25 (3) When feasible, the fish and wildlife habitat corridor shall be sited on the property in order to meet the
26 following conditions:

27 (a) Connect isolated critical areas or habitat; and

28 (b) Connect with ~~other fish and~~ wildlife habitat corridors, open space tracts or wooded areas on
29 adjacent properties, if present.

30 ~~(4) The wildlife corridor tract shall be permanently marked consistent with the methods contained in SMC~~
31 ~~21A.50.170. Conservation easements are exempt from the permanent marking requirement.~~

...

...

1) (54) A management plan for the wildlife corridor contained within a tract or tracts shall be prepared that specifies the permissible extent of recreation, forestry or other uses compatible with preserving and enhancing the wildlife habitat value of the tract or tracts. The management plan shall be reviewed and approved by the department. The approved management plan for a subdivision shall be contained within and recorded with the covenants, conditions and restrictions (CCRs). If the wildlife corridor is contained in a conservation easement, a management plan is not required, but may be submitted to the department for review and approval, and recorded with the conservation easement.

8) (55) Clearing within the wildlife corridor contained in a tract or tracts shall be limited to that allowed by the management plan or as otherwise allowed by this chapter. No clearing, including the removal of woody debris, shall be allowed within a wildlife corridor contained within a conservation easement on individual lots, unless the property owner has an approved management plan.

Comment [CdS82]: Item 5-3 (4 of 6)

(66) A homeowners' association or other entity capable of long-term maintenance and operation shall be established to monitor and assure compliance with the management plan. The association shall provide homeowners with information on Washington Department of Fish and Wildlife's Backyard Wildlife Sanctuary Program.

Comment [CdS83]: Item 2-13c

(89) Wildlife corridors set aside in tracts or conservation easements shall meet the provisions in SMC 16.15.120.

(910) The permanent open space tract containing the wildlife corridor may be credited toward the other applicable requirements such as surface water management and the recreation space requirement of SMC 21A.30.140, provided the proposed uses within the tract are compatible with preserving and enhancing the wildlife habitat value. Restrictions on other uses within the wildlife corridor tract shall be clearly identified in the management plan.

(119) Low impact uses and activities which are consistent with the purpose and function of the habitat corridor and do not detract from its integrity may be permitted within the corridor depending on the sensitivity of the habitat area. Examples of uses and activities which may be permitted in appropriate cases include trails that are pervious, viewing platforms, storm water management facilities such as grass-lined swales, utility easements and other similar uses, or activities otherwise described and approved by the Washington Department of Fish and Wildlife and activities; provided, that any impacts to the corridor resulting from such permitted facilities shall be fully mitigated.

Comment [C84]: Item 2-13

(124) At the discretion of the director, these standards may be waived or reduced for public facilities such as schools, fire stations, parks, and public road projects. (Ord. O2005-193 § 1)

21A.50.330 Streams – Development standards.

A development proposal on a parcel or parcels containing a stream or associated buffer of a stream located on-site or off-site shall meet the following requirements:

Comment [reb-85]: This is another case where the overreaching use of the term "development" is a problem. This section should only apply to new development, and that should be made clear here. See "Elaboration of reb Comments" at end of this document for further discussion.

(1) The following standard buffers shall be established from the ordinary high water mark or from the top of the bank if the ordinary high water mark cannot be identified:

...

Stream Type	Standard Buffer Width (ft)
Type S:	150
Type F:	150
Type Np:	75
Type Ns:	50

(a) Where a legally established and constructed street or the East Lake Sammamish Trail transects a stream buffer, the department may approve a modification of the standard buffer width to the edge of the street or the East Lake Sammamish Trail if the isolated part of the buffer does not provide additional protection of the stream and provides insignificant biological, geological or hydrological buffer functions relating to the stream. If the resulting buffer distance is less than 50 percent of the standard buffer, no further reduction shall be allowed.

Comment [reb-86]: These are not the only man-made features that can define a de facto boundary to a buffer. Driveways, buildings, and solid fences and walls can also. Changes to 21A.50.060 recognize this for buildings, at least in part. There needs to be recognition as well of driveways and other paved surfaces (where they do not allow sheet flow over them toward a stream), walls, and other solid barriers to influence. Buffer delineation will provide for this.

(b) Where a buffer has been previously established on a legally created parcel or tract that was legally established according to the regulations in place at the time of establishment through City or county development review on or after November 27, 1990, and is permanently recorded on title or placed within a separate tract, the buffer shall ~~be remain~~ as previously established, provided it is at least equal to or greater than 50 percent of the required standard buffer distance for the applicable stream category.

Comment [reb-87]: This 50 percent constraint is yet another "magic number" that is arbitrary and has no basis in science. If the far side of a barrier is less than 50% of the standard buffer width (which itself is arbitrary), there is no reason to impose a larger buffer. Delete this clause.

Comment [CdS88]: Item 5-9

(2) Any stream with an ordinary high water mark within 25 feet of the toe of a slope 30 percent or steeper, but less than 40 percent, shall have:

(a) The minimum buffer required for the stream class involved or a 25-foot buffer beyond the top of the slope, whichever is greater, if the horizontal length of the slope, including small benches and terraces, is within the buffer for that stream class; or

(b) A 25-foot buffer beyond the minimum buffer width required for the stream class involved if the horizontal length of the slope, including small benches and terraces, extends beyond the buffer for that stream class.

(3) Any stream adjoined by a riparian wetland or other contiguous critical area shall have the buffer required for the stream type involved or the buffer that applies to the wetland or other critical area, whichever is greater.

(4) Buffer Averaging. Buffer width averaging may be allowed by the City if:

(a) It will provide additional natural resource protection, as long as the total area contained in the buffer on the development proposal site does not decrease (see also SMC 21A.30.210(4) for buffer compensation requirements for trails);

1 (b) The stream contains variations in sensitivity due to existing physical characteristics or the
2 character of the buffer varies in slope, soils, or vegetation, and the stream would benefit from a
3 wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

4 (c) The buffer width is not reduced to less than 50 percent of the standard buffer; ~~and~~

5 (de) The buffer is associated with a development proposal and it will not further encumber a
6 neighboring property not owned by the applicant; ~~and~~,

Comment [CdS89]: Item 5-11 (part 2 of 2)

7 (ed) Buffer averaging may be used in conjunction with buffer reduction options in this section,
8 provided the total combined reduction does not reduce the buffer to less than 50 percent of the
9 standard buffer width at any location. ~~and~~

10 (5) Increased Buffers. Increased buffer widths shall ~~may~~ be required by ~~the a distance necessary City when~~
11 ~~necessary~~ to protect:

12 (a) Critical drainage areas;

13 (b) Critical fish and wildlife habitat and habitat connections based on an approved habitat
14 management plan as defined by the Department of Fish and Wildlife;

15 (c) Landslide or erosion hazard areas contiguous to streams;

16 (d) Groundwater recharge and discharge area;

17 (e) Or to offset buffer impacts, such as trail and utility corridors; and

18 (f) At risk ecological streams functions including, but not limited to the following; ~~critical drainage~~
19 ~~areas, critical fish and wildlife habitat, landslide or erosion hazard areas contiguous to streams, and~~
20 ~~groundwater recharge and discharge area, or to offset buffer impacts, such as trail and utility corridors.~~

21 (i) Habitat complexity, connectivity and biological functions;

22 (ii) Seasonal hydrological dynamics as provided in the adopted Surface Water Design Manual;

23 (iii) Sediment removal and erosion control;

24 (iv) Pollutant removal;

25 (v) Large woody debris (LWD) recruitment;

26 (vi) Water temperature;

27 (vii) Wildlife habitat; and

28 (viii) Microclimate.

Comment [CdS90]: Item 2-5

...

1 (6) Buffer Reduction. Buffers may be reduced when buffer-reduction impacts are mitigated and result in
2 equal or greater protection of the ecological stream functions as defined in 21A.50.330:

Comment [CdS91]: Item 2-4

3 Prior to considering buffer reductions, the applicant shall demonstrate application of mitigation sequencing
4 as required in SMC 21A.50.135. A plan for mitigating buffer-reduction impacts must be prepared using
5 selected incentive-based mitigation options from the list below, and is subject to approval by the City. The
6 following incentive options for reducing standard buffer widths shall be considered cumulative up to a
7 maximum reduction of 50 percent of the standard buffer width. In all circumstances where a substantial
8 portion of the remaining buffer is degraded, the buffer reduction plan shall include replanting with native
9 vegetation in the degraded portions of the remaining buffer area and shall include a five-year monitoring and
10 maintenance plan.

11 (a) ~~Installation of biofiltration/infiltration mechanisms: up to 20 percent reduction in standard buffer~~
12 ~~width for the installation of bioswales.~~ Water quality is improved in excess of the requirements of
13 King County Stormwater Design Manual though the use of created and/or enhanced wetlands, or
14 ponds supplemental to existing storm drainage and water quality requirements.

15 (b) Removal of existing impervious surfaces:

16 (i) Up to 10 percent reduction in standard buffer width if impervious surfaces within the to-be-
17 remaining buffer area are reduced by at least 50 percent; or

18 (ii) Up to 20 percent reduction in standard buffer width if the to-be-remaining buffer area is
19 presently more than 50 percent impervious and all of it is to be removed.

20 (c) Removal of invasive, nonnative vegetation: up to 10 percent reduction in standard buffer width
21 for the removal and extended (minimum five-year) monitoring and continued-removal maintenance
22 of relatively dense stands of invasive, nonnative vegetation from significant portions of the
23 remaining buffer area.

24 (d) Restoration, preservation and maintenance of the existing stream and buffer vegetation if the
25 following conditions are present and/or attainable as a result of action:

26
27 (i) An undisturbed vegetated buffer of 100 feet is preserved; and,

28
29 (ii) Existing buffer conditions are degraded such that more than 40 percent of the buffer is
30 covered by non-native/invasive plant species and are restored according to a city-approved
31 restoration plan to improve wetland buffer functions; and,

32
33 (iii) Tree or shrub vegetation covers less than 25 percent of the total buffer area the area will
34 be re-vegetated according to a city-approved restoration plan with trees and shrubs to
35 replace impacted buffer functions; and,

36
37 (iv) The stream buffer has slopes of less than 25 percent.

38
39 The buffer reduction determination and percentage shall be on a site by site basis based on the
40 applicant's plan and demonstration of improvement to water quality and habitat functions.

...

1 (ed) In-stream habitat enhancement:

2 (i) Up to 20 percent reduction in standard buffer width for log structure placement,
3 bioengineered bank stabilization, or culvert removal; or

4 (ii) Up to 30 percent reduction in standard buffer width for improving fish passage and/or
5 creation of side channel or backwater areas.

6 (fe) If not already required under an existing development proposal, installation of oil/water
7 separators for storm water quality control: up to 10 percent reduction in standard buffer width.

8 (gf) Use of pervious material for driveway/road construction: up to 10 percent reduction in standard
9 buffer width.

10 (hg) Restoration of on-site buffer and habitat areas, or restoration of off-site buffer and habitat
11 areas within the same sub-basin of the impacted stream if no on-site restoration is possible:

12 (i) Up to 10 percent reduction in standard buffer width if restoration area is at a 2:1 ratio or
13 greater; or

14 (ii) Up to 20 percent reduction in standard buffer width if restoration area is at a 4:1 ratio or
15 greater.

16 (jh) Removal of significant refuse or sources of toxic material: up to 10 percent reduction in standard
17 buffer width.

18 (78) The use of hazardous substances, pesticides and fertilizers in the stream corridor and its buffer may be
19 prohibited by the City.

20 (89) ~~The introduction of livestock into a stream or stream buffer is prohibited. The livestock restrictions in~~
21 ~~SMC 21A.50.290 shall also apply to Type S and F streams and their buffers. (Ord. O2005-193 § 1; Ord. O2005-~~
22 ~~172 § 4; Ord. O99-29 § 1)~~

23 (10) ~~Removal of any native vegetation or woody debris from the stream or stream buffer may be allowed~~
24 ~~only as part of an approved habitat management plan, critical areas study, and/or alteration plan.~~

25 **21A.50.340 Streams – Permitted alterations.**

26 Alterations to streams and stream buffers are not allowed except as provided for by complete exemptions,
27 partial exemptions and exceptions in this chapter or as allowed for by this section.

28 (1) Alterations may only be permitted if based upon a critical areas study conducted in accordance with SMC
29 [21A.50.130](#) that determines the proposed development will:

30 (a) Protect, restore or enhance the habitat, natural drainage, or other valuable functions of the
31 stream resulting in a net improvement to the stream and stream buffer;

Comment [CdS92]: Item 5-12 (part 2 of 2)

Comment [C93]: Item 5-3 (5 of 6)

Comment [reb-94]: This requirement as applied to stream buffers in developed neighborhoods is overreaching. These plans/study should only be required for actions of significant scale and within viable habitat; they should not apply to maintenance and enhancement of established landscaping regardless of whether the city is going to insist on "development proposals" for that or not.

This problem can be solved by either better defining/limiting what scale of activity requires a "development proposal" or by explicitly excluding normal maintenance and enhancement actions here as discussed in Elaboration of reb Comments below for reb-85.

1 (b) Design, implement, maintain and monitor a restoration or enhancement plan prepared by a
2 qualified professional;

3 (c) Perform the restoration or enhancement under the direction of a qualified professional; and

4 (d) Will otherwise be consistent with the purposes of this chapter.

5 (2) The applicant shall notify affected communities and native tribes of proposed alterations prior to any
6 alteration if a stream is in a flood hazard area and shall submit evidence of such notification to the Federal
7 Insurance Administration.

8 (34) There shall be no introduction of any plant or wildlife which is not indigenous to the coastal region of the
9 Pacific Northwest into any stream or buffer unless ~~required~~ authorized by a state or federal permit or
10 approval or as otherwise allowed by SMC 21A.50.060 – Allowance for Existing Urban Development and Other
11 Uses.

Comment [reb-95]: (3) is now missing.

Comment [reb-96]: With this revision, this now seems like a rather strange requirement. Are there actions a developer or resident might take that entail a state or federal permit or approval and that **require** the introduction into a stream or buffer of plants or wildlife that are not indigenous to the coastal region of the PNW? If not, this clause is meaningless and should be deleted.

12 (45) Utilities may be allowed in stream buffers if:

13 (a) No reasonable alternative location is available;

14 (b) The utility corridor meets any additional requirements for installation, replacement of vegetation
15 and maintenance, as needed to mitigate impacts;

16 (c) The requirements for sewer utility corridors in SMC [21A.50.300](#) shall also apply to streams; and

17 (d) Joint use of an approved sewer utility corridor by other utilities may be allowed.

18 (56) Where technically feasible, surface water discharge shall be located outside of the stream and stream
19 buffer. If surface water discharge to a stream or stream buffer is unavoidable, the following management
20 activities and provisions shall apply:

Comment [CdS97]: Item 5-13 (part 2 of 2)

21 The following surface water management activities and facilities may be allowed in stream buffers as follows:

22 (a) Surface water discharge to a stream from a flow control or water quality treatment facility,
23 sediment pond or other surface water management activity or facility may be allowed if the
24 discharge is in compliance with the applicable City-adopted storm water requirements.

25 (b) A Type ~~Np or~~ Ns stream buffer may be used as a regional storm water management facility if:

26 (i) A public agency and utility exception is granted pursuant to SMC [21A.50.070](#);

27 (ii) All requirements of the applicable City-adopted storm water requirements are met;

28 (iii) The use will not lower the rating or alter the factors used in rating the stream; and

29 (iv) There are no significant adverse impacts to the stream or habitat.

...

1 | (67) Except as provided in subsection (7) of this section, public and private trails may be allowed in stream
2 | buffers consistent with the standards and requirements in this chapter, the development standards in
3 | Chapter 21A.30 SMC, and requirements elsewhere in the SMC. Proposals for constructing viewing platforms,
4 | associated access trails, and spur trails must be reviewed by a qualified professional and a critical areas study
5 | may be required.

6 | (78) Crossings. The use of existing crossings, including but not limited to utility corridors, road and railroad
7 | rights-of-way, across streams or buffers for public or private trails is preferred to new crossings, subject to
8 | the standards and requirements in the SMC. New stream crossings may be allowed and may encroach on the
9 | otherwise required stream buffer if:

10 | (a) Bridges, bottomless culverts or other appropriate methods demonstrated to provide fisheries
11 | protection shall be used for stream crossings and the applicant shall demonstrate that such methods
12 | and their implementation will pose no harm to the stream habitat or inhibit migration of
13 | anadromous fish;

14 | (b) All crossings are constructed during the summer low flow and are timed to avoid stream
15 | disturbance during periods when use is critical to resident or anadromous fish including salmonids;

16 | (c) Crossings do not occur over spawning areas used by resident or anadromous fish including
17 | salmonids unless the City determines that no other reasonable crossing site exists;

18 | (d) Bridge piers or abutments are not placed within the FEMA floodway or the ordinary high water
19 | mark;

20 | (e) Crossings do not diminish the flood-carrying capacity of the stream;

21 | (f) Underground utility crossings are laterally drilled and located at a depth of four feet below the
22 | maximum depth of scour for the base flood predicted by a civil engineer licensed by the state of
23 | Washington. Temporary bore pits to perform such crossings may be permitted within the stream
24 | buffer established in SMC 21A.50.330. Crossing of Type Ns streams when dry may be made with
25 | open cuts; and

26 | (g) Trail crossings shall use bridges and boardwalks consistent with the design requirements of the
27 | Washington Department of Fish and Wildlife [WDFW, 2003, Design of Road Culverts for Fish Passage
28 | as amended]; and

Comment [EM98]: Item 2-3

29 | (h)(g) The number of crossings is minimized and consolidated to serve multiple purposes and
30 | properties whenever possible.

31 | (89) Relocations. Stream relocations may be allowed only for:

32 | (a) Type F, Np, and Ns streams as part of a public road, trail, or park project for which a public agency
33 | and utility exception is granted pursuant to SMC 21A.50.050; and

Comment [EM99]: Item 2-7

34 | (b) Type E, Np and Ns streams for the purpose of enhancing resources in the stream if:

Comment [EM100]: Item 2-6

...

1 (i) Appropriate floodplain protection measures are used; and

2 (ii) The relocation occurs on-site, except that relocation off-site may be allowed if the applicant
3 demonstrates that any on-site relocation is impracticable, the applicant provides all necessary
4 easements and waivers from affected property owners and the off-site location is in the same
5 drainage sub-basin as the original stream.

6 (910) For any relocation allowed by this section, the applicant shall demonstrate, based on information
7 provided by qualified professionals, including a civil engineer and a biologist, that:

- 8 (a) The equivalent base flood storage volume and function will be maintained;
- 9 (b) There will be no adverse impact to local groundwater;
- 10 (c) There will be no increase in velocity;
- 11 (d) There will be no interbasin transfer of water;
- 12 (e) There will be no increase in sediment load;
- 13 (f) Requirements set out in the mitigation plan are met;
- 14 (g) The relocation conforms to other applicable laws; and
- 15 (h) All work will be carried out under the direct supervision of a qualified biologist.

16 (4011) A stream channel may be stabilized if:

- 17 (a) Movement of the stream channel threatens existing residential or commercial structures, public
18 facilities or improvements, unique natural resources or the only existing access to property;
- 19 (b) The stabilization is done in compliance with the requirements of SMC [21A.50.230](#); and
- 20 (c) Soft-bank stabilization techniques are utilized unless the applicant demonstrates that soft-bank
21 techniques are not a reasonable alternative due to site-specific soil, geologic and/or hydrologic
22 conditions.

23 (4412) Replacement of existing culverts to enhance stream habitat, not associated with any other
24 development proposal, may be allowed if accomplished according to a plan for its design, implementation,
25 maintenance, and monitoring prepared by qualified professionals, including a civil engineer and a biologist,
26 and carried out under the direction of a qualified biologist.

27 (4213) Stream and habitat restoration or enhancement may be allowed if:

- 28 (a) The restoration is sponsored **or approved** by a public agency with a mandate to do such work;
- 29 (b) The restoration is unassociated with mitigation of a specific development proposal;

Comment [reb-101]: How is this distinguished from the provisions of 21A.50.060 (4) above? It appears that by adding that, redundancy has been created, which at the least makes it more difficult to maintain this code. But if there is some basic distinction between the treatment here and above that needs to be understood, that should be spelled out.

Comment [CdS102]: Item 5-16

1 ...
2 (c) The restoration is limited to placement of rock weirs, log controls, spawning gravel, and other
3 specific habitat improvements for resident or anadromous fish including salmonids;

4 (d) The restoration only involves the use of hand labor and light equipment; or the use of helicopters
5 and cranes that deliver supplies to the project site; provided, that they have no contact with critical
6 areas or their buffers; ~~and~~

7 (e) The restoration is performed under the direction of qualified professionals; and,

8 (f) The restoration is part of a relocation plan consistent with 21A.50.340;

Comment [EM103]: Item 2-6

9 ~~(1314)~~ Roadside ditches that carry streams with salmonids may be maintained through the use of best
10 management practices developed in consultation with relevant City, state, and federal agencies.

11 ~~(1415)~~ Reconstruction, remodeling, or replacement of an existing structure upon another portion of an
12 existing impervious surface that was established pursuant to City ordinances and regulations may be allowed,
13 provided:

14 (a) If within the buffer, the structure is located no closer to the stream than the existing structure;
15 and

16 (b) The existing impervious surface within the buffer or stream is not expanded as a result of the
17 reconstruction or replacement. (Ord. O2005-193 § 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)

18 **21A.50.350 Streams – Mitigation requirements.**

19 When mitigation for stream or stream buffer impacts is required, mitigation shall meet the requirements
20 listed in SMC [21A.50.145](#) in addition to the following supplementary requirements:

21 (1) Equivalent or Greater Functions. Mitigation for alterations to stream(s) and/or stream buffer(s) shall
22 achieve equivalent or greater functions including, but not limited to:

23 (a) Habitat complexity, connectivity, and other biological functions;

24 (b) Seasonal hydrological dynamics, water storage capacity and water quality; and

25 (c) Geomorphic and habitat processes and functions.

26 (2) Mitigation Type and Location. Mitigation actions shall be in-kind and conducted within the same sub-
27 basin and on the same site as the alteration, except when the following apply:

28 (a) There are no reasonable on-site opportunities for mitigation or on-site opportunities do not have
29 a high likelihood of success due to development pressures, adjacent land uses, or on-site buffers or
30 connectivity are inadequate;

31 (b) Off-site mitigation has a greater likelihood of providing equal or improved functions than the
32 impacted stream; and

1 (c) Off-site locations ~~shall~~ have been identified and evaluated in the following order of preference:

2 (i) Fee-in-lieu program sites within the city limits in accordance with the provisions of this
3 section;

4 (ii) Fee-in-lieu program sites within the WRIA 8 in accordance with the provisions of this
5 section, be in the same sub-basin.

6 (3) Fee-In-Lieu Stream Mitigation Program. Fee-in-lieu mitigation may be authorized for streams, subject to
7 the avoidance sequence requirements and mitigation measures of this title, and the approval of a program
8 by the city, to be used in the following order of preference:

9 (a) A city approved program that utilizes receiving sites within the city of Sammamish.

10 (b) The King County Mitigation Reserves Program, or other similar program that gives priority to
11 sites within the same sub-basin and/or a pre-defined service area that includes the city of
12 Sammamish.

13
14 (3) Mitigation Timing. Where feasible, mitigation projects shall be completed prior to activities that will
15 disturb streams. In all other cases, mitigation shall be completed immediately following disturbance and prior
16 to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to
17 reduce impacts to existing wildlife and flora.

18 (4) Restoration Required. Restoration shall be required when a stream or its buffer is altered in violation of
19 law or without any specific permission or approval by the City. A mitigation plan for restoration shall conform
20 to the requirements of this chapter and demonstrate that:

21 (a) The restoration will reliably and demonstrably improve the water quality and fish and wildlife
22 habitat of the stream; ~~and~~

23 (b) The restoration will have no lasting significant adverse impact on any stream functions; ~~;~~

24 (c) On sites where non-native vegetation was cleared, restoration shall include installation of native
25 vegetation with a density equal to or greater than the pre-altered site conditions.

26 (5) Surface water management or flood control alterations shall not be considered enhancement unless
27 other functions are simultaneously improved. (Ord. O2005-193 § 1; Ord. O2005-172 § 4; Ord. O99-29 § 1)

28 21A.50.351 Ponds – Development standards.

29 (1) Naturally Occurring Ponds – New Residence Setback and Tree Retention.

30 (a) A 50-foot building setback for new residences shall be established from the ordinary high water
31 mark (OHWM) for naturally occurring ponds that are not otherwise regulated by the Sammamish
32 shoreline master program.

33 (b) On lots abutting a pond or containing the 50-foot setback area, 25 percent of existing significant
34 trees shall be retained on site. Half of the significant trees to be retained shall be located within the

Comment [reb-104]: Once again the issue is raised of what constitutes "alteration". This implies that **any** alteration within a stream buffer requires approval by the City. Does that mean the homeowner has to get City approval to replace a shrub, and if he doesn't get permission and is reported, he will be forced to replace it with native vegetation? That's what this says, taken literally. To require City approval for such minor "alterations" is unjustified (ref. Elaboration of reb-1 below). This requirement needs to be qualified by text, or reference text elsewhere, that conveys that there is a threshold below which activities within a buffer do not require City approval. Note that the definition of "alteration" in 21A.15.056 only addresses critical areas, not critical area buffers, and so use of the term here in connection with buffers is unclear.

Comment [CdS105]: Item 5-14 (part 2 of 2)

50 foot building setback area. Where half of the trees to be retained are not present within the setback area, the remaining number may be retained elsewhere on site. (Ord. O2009-264 § 1 (Att. A); Ord. O2005-193 § 1)

Comment [CdS106]: Item 5-17 (1 of 2)

21A.50.352 Lake Sammamish buffer – Permitted alterations.

Repealed by Ord. O2009-264. (Ord. O2005-193 § 1)

21A.50.355 Lake management areas – Special district overlay.

(1) The purpose of lake management areas is to designate the Beaver Lake and Pine Lake watersheds as special management areas for total phosphorus loading control and to establish standard procedures for evaluating drainage plans and related materials for applications of development within the Beaver Lake and Pine Lake Watersheds (within the East Lake Sammamish drainage basin).

(2) The lake management areas special overlay district shall be designated on critical areas maps maintained by the department of community development.

~~(3) Definitions. In addition to the definitions listed below, all definitions included in the King County Surface Water Design Manual are hereby adopted by reference.~~

~~(a) "AKART" means all known, available, and reasonable methods of prevention, control, and treatment.~~

~~(b) "Eutrophic" means a trophic status characterized by moderately high algal productivity, more serious oxygen depletion in the bottom waters, some recreational use impairment, summer chlorophyll a concentration greater than 10 micrograms/liter, a summer Secchi depth of less than two meters, and a winter total phosphorus concentration greater than 20 micrograms/liter.~~

~~(c) "Hypereutrophic" means a trophic status characterized by high algal productivity, intense algal blooms, fish kills due to oxygen depletion in the bottom waters, frequent recreational use impairment, summer chlorophyll a concentration greater than 10 micrograms/liter, a summer Secchi depth generally less than two meters, and a winter total phosphorus concentration greater than 30 micrograms/liter.~~

~~(d) "Lake management plan" means the plan (and supporting documents as appropriate) describing the lake management recommendations and requirements.~~

~~(e) "Mesotrophic" means a trophic status characterized by moderate algal productivity, oxygen depletion in the bottom waters, usually no recreational use impairment, summer chlorophyll a concentration averaging four to 10 micrograms/liter, a summer Secchi depth of two to five meters, and a winter total phosphorus concentration ranging from 10 to 20 micrograms/liter.~~

~~(f) "Oligotrophic" means a trophic status characterized by low algal productivity, algal blooms are rare, water clarity is high, all recreational uses unimpaired, summer chlorophyll a concentration average less than four micrograms/liter, a summer Secchi depth greater than five meters, and a winter total phosphorus concentration ranging from zero to 10 micrograms/liter.~~

1 (g) "Phosphorus" means elemental phosphorus and for the purposes of this section shall be
2 measured as total phosphorus.

3 (h) "Phosphorus concentration" means the mass of phosphorus per liquid volume.

4 (i) "Phosphorus loading" means the total mass of phosphorus per time basis.

5 (j) "Total phosphorus" means the phosphorus concentration as determined by a state-certified
6 analytical laboratory using EPA 365.3 or SM 4500 P-B, E or an equivalent method.

7 (k) "Trophic state index" means a classification system which uses algal biomass as the basis for
8 classification which can be independently measured by chlorophyll a, Secchi depth, and total
9 phosphorus concentration.

10 (l) "Trophic status" means a classification which defines lake quality by the degree of biological
11 productivity.

Comment [CdS107]: Item 5-18 (1 of 13)

12 (43) The Beaver Lake watershed as generally identified in the Beaver Lake management plan, which is
13 available at the City of Sammamish community development department, is a sensitive lake and is hereby
14 designated a critical drainage area. This designation is:

15 (a) Existing whole-lake total phosphorus concentration for the combined Beaver Lake system is 23
16 micrograms/liter. Beaver Lake 1 and Beaver Lake 2, individually, have whole-lake total phosphorus
17 concentrations of 36 (± 2) micrograms/liter and 20 (± 1) micrograms/liter, respectively;

18 (b) Whole-lake total phosphorus concentration, chlorophyll a, and Secchi depth indicate that the
19 Beaver Lake system is bordering on eutrophic conditions;

20 (c) Modeling of the Beaver Lake system's future trophic status indicates that the lake will become
21 hypereutrophic with a whole-lake total phosphorus concentration predicted to be 36
22 micrograms/liter without additional phosphorus removal via storm water treatment; and

23 (d) Maintaining existing trophic status is a management plan goal. To maintain existing trophic
24 status, an 80 percent total phosphorus annual loading removal goal was established for new
25 impervious surface development prior to storm water discharges to Beaver Lake.

26 (54) The Pine Lake watershed is generally identified in the City of Sammamish comprehensive plan (Figure IV-
27 1 in the comprehensive plan [or as updated](#)). All appropriate Beaver Lake specific water quality regulations
28 shall be extended to the Pine Lake drainage basin ~~as well~~.

29 (a) These ~~interim~~ regulations shall only be in effect until such time that a customized Pine Lake
30 water quality strategy is developed and development regulations are adopted based on approved
31 findings of the study.

1 (b) An applicant for development within the Pine Lake drainage basin may apply for a variance from
2 the standards specified in subsection (8) of this section if it can be proven that conditions are clearly
3 different than at Beaver Lake.

4 ~~(65)~~ The standards specified in subsection (8) of this section shall apply to all development proposals located
5 within the Beaver Lake and Pine Lake watersheds which require drainage review as specified in the King
6 County Surface Water Design Manual.

7 ~~(76)~~ Development proposals within the Beaver Lake or Pine Lake watersheds may be exempt from
8 management plan requirements if they demonstrate to the satisfaction of the community development
9 department that on-site surface and storm water runoff drainage does not in fact drain into the basin in
10 question.

11 ~~(87)~~ Phosphorous Control Required.

12 (a) Applicability. Unless the conditions identified in subsection (6) of this section are documented to
13 the satisfaction of the community development department, the following development proposals are
14 subject to the conditions and standards contained subsections 8(b) through 8(d) below:

Comment [EM108]: Item 3-12 (1 of 2)

15 (i) For projects which that create greater than 5,000 square feet of new impervious surface
16 subject to vehicular use in the Beaver Lake or Pine Lake watersheds, the following conditions
17 shall apply, unless the conditions identified in subsection (6) of this section are documented to
18 the satisfaction of the community development department; or

19 (ii) Projects that create greater than one acre of pollution generating pervious surface in the
20 Beaver Lake or Pine Lake watersheds.

Comment [C109]: Item 3-12 (2 of 2)

21 ~~(ba)~~ The proposed storm water facilities shall be designed to remove 80 percent of all new total
22 phosphorus loading on an annual basis due to new development (and associated storm water
23 discharges) in the Beaver Lake or Pine Lake watersheds where feasible or utilize AKART if infeasible.

24 ~~(cb)~~ Currently, the AKART standard or interim best management practices for phosphorus-sensitive
25 lakes can be fulfilled by achieving the 50% phosphorous removal standard from adopted King
26 County Stormwater Design Manual and City of Sammamish addendum along with standard
27 proposed by the applicant as follows:

Comment [EM110]: Item 3-14 (1 of 2)

28 (i) For all development proposals subject to this section, the applicants shall demonstrate that a
29 reduction of 80% total phosphorous through the use of engineering design computations.
30 Development proposals using on-site infiltration shall demonstrate 80% or better phosphorus
31 treatment can be expected with on-site infiltration than by methods described in subsection
32 (7)(c)(iii) of this section.

Comment [EM111]: Item 3-14 (2 of 2)

33 (ii) As the adopted King County Surface Water Design Manual is updated and additional
34 treatment options and designs for total phosphorus removal become available, new treatment
35 systems may be approved by the city if the AKART standard for phosphorus removal can be

1 demonstrated using the Department of Ecology's Technology Assessment Protocol – Ecology
2 (TAPE) protocol).

Comment [EM112]: Item 3-13

3 (iii) Where soils are suitable, on-site infiltration of storm water runoff can be pursued through
4 the variance process as an AKART alternative using methods described in the manual, as well
5 as providing an organic soil layer consistent with the standards of the adopted King County
6 Surface Water Design Manual and City of Sammamish addendum

7 the following storm water treatment design criteria:

8 (i) A wetpond or combined detention/wetpond with a permanent pool volume equal to four and
9 one half times the volume of runoff from the mean annual storm (VB/VR=4.5).

10 (A) Mandatory roof downspout infiltration, unless shown to be infeasible, and maximization of
11 forest or native vegetation retention.

12 (B) Pond volume can be reduced by maximizing forest retention according to the following schedule:

Forest (%)	VB/VR ratio
25	4.25
30	4.00
40	3.50
50	3.25
60	3.00

13 (C) Forest retention areas shall be in tracts dedicated to the City. Buffers without trails can be
14 counted in the percent forest figure.

15 (D) The VB/VR ratio is the volume of the wetpond basin divided by the volume of the runoff from
16 the mean annual storm. The mean annual storm is equal to 0.46 inches at SeaTac. Runoff can be
17 estimated using a runoff coefficient of 0.9 for impervious area and 0.25 for all other pervious area.
18 Forested areas in tracts dedicated to the City need not be included in the calculation of pond sizing
19 (i.e., zero new runoff volume assumed). If this method is used in other areas, and SeaTac
20 precipitation statistics underestimate the rainfall as judged by the isopluvial distribution of the two-
21 year 24-hour precipitation, the mean annual rainfall should be adjusted upward.

22 (ii) Although current King County SWM designs are not complete for sand filtration, incorporation of
23 sand filters into storm water treatment facility designs (i.e., treatment trains) can be pursued

1 through the variance process to achieve additional total phosphorus removal. The proponent must
2 demonstrate that equivalent or improved total phosphorus treatment can be expected with an
3 alternative treatment system which incorporates sand filtration other than by methods described in
4 subsection (8)(b)(i) of this section.

5 (iii) Where soils are suitable, on-site infiltration of storm water runoff can be pursued through
6 the variance process as an AKART alternative. Soils are considered suitable for infiltration if at
7 least two feet of soil exist where one of the following soil conditions are met:

8 (A) The cation exchange capacity of the soil equals or is greater than five milliequivalents;

9 (B) The organic content of the soil is equal to or greater than five percent;

10 (C) The grain size distribution of site soils is equivalent to not more than 25 percent gravel
11 by weight (75 percent passing the No. 4 sieve) and of that passing the No. 4 sieve, either
12 (1) 50 percent minimum passes the No. 40 sieve and two percent minimum passes the
13 No. 100 sieve, or (2) 25 percent minimum passes the No. 40 sieve and five percent
14 minimum passes the No. 200 sieve; and

15 (D) The infiltration rate is 2.4 inches/hour or less.

16 Additionally, the proponent must demonstrate that equivalent or better phosphorus
17 treatment can be expected with on-site infiltration than by methods described in subsection
18 (8) of this section.

19 (iv) As the King County Surface Water Design Manual is updated and additional treatment
20 options and designs for total phosphorus removal become available, alternative treatment
21 systems may be utilized if the AKART standard for phosphorus removal can be demonstrated.

22 (de) Hydrologic analysis shall be determined using a continuous hydrologic model such as the
23 Hydrologic Simulation Program – Fortran (HSPF) ~~or~~ the King County Runoff Time Series Program
24 (KCRTS), ~~the Santa Barbara Urban Hydrograph, or the VB/VR methodology.~~ These methodologies
25 may be revised or superseded by other methodologies for achieving the same performance goal as
26 stipulated by future revision to the Surface Water Design Manual. (Ord. O2005-193 § 1)

27 **~~21A.50.360 Critical areas mitigation fee — Creation of fund.~~**

28 ~~There is hereby created a critical areas mitigation fund. This fund shall be administered by the City's finance~~
29 ~~director. (Ord. O2005-193 § 1; Ord. O99-29 § 1)~~

30 **~~21A.50.370 Critical areas mitigation fee — Source of funds.~~**

31 ~~All monies received from penalties resulting from the violation of rules and laws regulating development and~~
32 ~~activities within critical areas shall be deposited into the fund. (Ord. O2005-193 § 1; Ord. O99-29 § 1)~~

33 **~~21A.50.380 Critical areas mitigation fee — Use of funds.~~**

...

1 ~~Monies from the fund shall only be used for paying the cost of enforcing and implementing critical area laws~~
2 ~~and rules. (Ord. O2005-193 § 1; Ord. O99-29 § 1)~~

3 **~~21A.50.390 Critical areas mitigation fee—Investment of funds.~~**

4 ~~Monies in the fund not needed for immediate expenditure shall be deposited in a separate investment fund~~
5 ~~pursuant to RCW 36.29.020. The finance director shall be designated as the investment fund director. (Ord.~~
6 ~~O2005-193 § 1; Ord. O99-29 § 1)~~

7 **~~21A.50.400 Sunset provisions.~~**

8 ~~The provisions contained in SMC 21A.50.290, Wetlands—Development standards, 21A.50.310(6)(a), wetland~~
9 ~~mitigation ratios, and 21A.50.330, Streams—Development standards, shall revert to those in effect prior to~~
10 ~~January 3, 2006, 84 months following the January 3, 2006, effective date of the ordinance codified in this~~
11 ~~chapter unless renewed or revised. (Ord. O2011-315 § 1; Ord. O2009-274 § 1 (Att. A); Ord. O2005-193 § 1)~~
12

...

1 ...
2 **Chapter 21A.15**
TECHNICAL TERMS AND LAND USE DEFINITIONS

3 **Please Note:** *The city has selected relevant definitions from the definitions section; for brevity, not all*
4 *definitions are included here. The complete code is available at:*
5 <http://www.codepublishing.com/wa/sammamish/>
6

7 **21A.15.050 AKART.**

8 "AKART" means all known, available, and reasonable methods of prevention, control, and treatment.

Comment [CdS113]: Item 5-18 (2 of 13)

9 **21A.15.056 Alteration.**

10 Any human activity that results or is likely to result in an impact upon the existing condition of a critical area is
11 an "alteration" that is subject to specific limitations as specified for each critical area. Alterations include, but
12 are not limited to, grading, filling, dredging, draining, channelizing, applying herbicides or pesticides or any
13 hazardous substance, discharging pollutants, except storm water, grazing domestic animals, paving,
14 constructing, applying gravel, modifying for surface water management purposes, cutting, pruning, topping,
15 trimming, relocating or removing vegetation or any other human activity that results or is likely to result in an
16 impact to existent vegetation, hydrology, fish or wildlife, or fish or wildlife habitat. Alterations do not include
17 walking, fishing, or any other passive recreation or other similar activities. (Ord. O2005-193 § 2; Ord. O2005-
18 172 § 2; Ord. O99-29 § 1. Formerly 21A.50.200)

19 **21A.15.062 Anadromous fish.**

20 "Anadromous fish" are those that live part or the majority of their lives in saltwater, but return to freshwater to
21 spawn. (Ord. O2005-172 § 2)

22 **21A.15.080 Base flood.**

23 "Base flood" means a flood having a one percent chance of being equaled or exceeded in any given year,
24 often referred to as the "100-year flood." (Ord. O2003-132 § 10)

25 **21A.15.085 Base flood elevation.**

26 "Base flood elevation" means the water surface elevation of the base flood in relation to the National Geodetic
27 Vertical Datum of 1929. (Ord. O2003-132 § 10)

28 **21A.15.098 Best available science.**

29 "Best available science" means the process used and information developed consistent with requirements in
30 RCW 36.70A.172 and WAC 365-195-900 through 365-195-925. (Ord. O2005-172 § 2)

31 **21A.15.110 Biologist.**

32 "Biologist" means a person who has earned at least a Bachelor of Science degree in the biological sciences
33 from an accredited college or university or who has equivalent educational training and experience. (Ord.
34 O2003-132 § 10)

35 **21A.15.122 Buffer.**

...
1 "Buffer" means a designated area contiguous to a steep slope or landslide hazard area intended to protect
2 slope stability, attenuation of surface water flows and landslide hazards, or a designated area contiguous to a
3 habitat conservation area, stream or wetland intended to protect the habitat, stream or wetland and be an
4 integral part of the habitat, stream or wetland ecosystem. (Ord. O2005-193 § 2; Ord. O2003-132 § 10)

5 **21A.15.195 Clearing.**

6 "Clearing" means the limbing, pruning, trimming, topping, cutting or removal of vegetation or other organic
7 plant matter by physical, mechanical, chemical or other means. (Ord. O2003-132 § 10)

8 **21A.15.253 Critical aquifer recharge area.**

9 "Critical aquifer recharge areas" means those areas in the City of Sammamish with a critical recharging effect
10 on aquifers used for potable water as defined by WAC 365-190-030(2). CARAs have prevailing geologic
11 conditions associated with infiltration rates that create a high potential for contamination of groundwater
12 resources or contribute significantly to the replenishment of groundwater. CARAs shall be classified based on
13 the following criteria:

14 (1) Class 1 CARAs include those areas located within the mapped one- or five-year capture zone of a
15 wellhead protection area.

16 (2) Class 2 CARAs include those areas located within the mapped 10-year capture zone of a wellhead
17 protection area.

18 (3) Class 3 CARAs include those areas outside wellhead protection areas that are identified as high aquifer
19 recharge potential areas based on characteristics of surficial geology and soil types. (Ord. O2005-193 § 2)

20 **21A.15.254 Critical areas.**

21 "Critical areas" means those areas in the City that are erosion hazard areas, frequently flooded areas,
22 landslide hazard areas, seismic hazard areas, critical aquifer recharge areas, wetlands, streams, and fish and
23 wildlife habitat conservation areas. (Ord. O2005-193 § 2)

24 **21A.15.255 Critical drainage area.**

25 "Critical drainage area" means an area that has been formally determined by the King County surface water
26 management department to require more restrictive regulation than countywide standards afford in order to
27 mitigate severe flooding, drainage, erosion, or sedimentation problems that result from the cumulative impacts
28 of development and urbanization. (Ord. O2003-132 § 10)

29 **21A.15.XXX Development.** Development means the construction or exterior alteration of structures or
30 buildings; clearing or grading; paving, landscaping, placing of obstructions; any project of a permanent or
31 temporary nature exterior to a building.

32 **21A.15.400 Enhancement.**

33 "Enhancement" means an action that increases the functions and values of a stream, wetland, or other
34 sensitive area or buffer. (Ord. O2003-132 § 10)

35 **21A.15.410 Erosion.**

Comment [reb-114]: This definition is overgeneral. E.g., pruning is a "project of a temporary nature exterior to a building" and thus subject to the requirements elsewhere in this code that "development" be approved via a development proposal submitted to the city. That is unreasonable for common yard maintenance activities like pruning. This definition needs to be reworked to more clearly distinguish development from maintenance. (See also comment on Maintenance below.)

Comment [EM115]: Item 4-15

...

...

1 "Erosion" means the process by which soil particles are mobilized and transported by natural agents such as
2 wind, rainsplash, frost action or surface water flow. (Ord. O2003-132 § 10)

3 **21A.15.415 Erosion hazard areas.**

4 "Erosion hazard areas" means those areas in the City underlain by soils that are subject to severe erosion
5 when disturbed. Such soils include, but are not limited to, those classified as having a severe or very severe
6 erosion hazard according to the USDA Soil Conservation Service, the 1973 King County Soils Survey or any
7 subsequent revisions or addition by or to these sources. These soils include the following when they occur on
8 slopes 15 percent or steeper:

- 9 (1) The Alderwood gravelly sandy loam (AgD);
- 10 (2) The Alderwood and Kitsap soils (AkF);
- 11 (3) The Beausite gravelly sandy loam (BeD and BeF);
- 12 (4) The Everett gravelly sandy loam (EvD);
- 13 (5) The Kitsap silt loam (KpD);
- 14 (6) The Ovall gravelly loam (OvD and OvF);
- 15 (7) The Ragnar fine sandy loam (RaD); and
- 16 (8) The Ragnar-Indianola Association (RdE). (Ord. O2005-193 § 2; Ord. O2003-132 § 10)

17 **21A.15.4XX Erosion Hazard Near Sensitive Water Body Overlay.** The Erosion Hazard Near Sensitive
18 Water Body overlay means an area within the city where sloped areas posing erosion hazards, or
19 contributing to erosion hazards, that drain directly to lakes or streams of high resource value that are
20 particularly sensitive to the impacts of increased erosion and the resulting sediment loads from
21 development. The department of community development shall maintain a map of the boundaries of the
22 erosion hazard near sensitive water bodies overlay district.

Comment [EM116]: Item 4-15

23
24 The Erosion Hazard Near Sensitive Water Body overlay is divided into two areas:

- 25 (a) The no-disturbance area. The no-disturbance area shall be established on the sloped portion of the
26 special district overlay to prevent damage from erosion. The upslope boundary of the no-disturbance
27 area lies at the first obvious break in slope from the upland plateau over onto the valley walls. For
28 the purposes of locating the first obvious break in slope, the first obvious break shall generally be
29 located at the top of the erosion hazard area associated with the slope. The downslope boundary of
30 the no-disturbance area is the extent of those areas designated as erosion or landslide hazard areas.
31 The department shall maintain maps, supported by LIDAR (Light Detection and Ranging) data or
32 other suitable technology, of the approximate location of the no-disturbance areas, which shall be
33 subject to field verification for new development proposals.
- 34 (b) Properties draining to the no-disturbance area. Properties draining to the no-disturbance area are
35 within the Erosion Hazard near Sensitive Water body overlay that drain to the no-disturbance area.

Comment [EM117]: Item 4-3

36 **21A.15.420 Eutrophic.**

...

...

1 "Eutrophic" means a trophic status characterized by moderately high algal productivity, more serious oxygen
2 depletion in the bottom waters, some recreational use impairment, summer chlorophyll a concentration greater
3 than 10 micrograms/liter, a summer Secchi depth of less than two meters, and a winter total phosphorus
4 concentration greater than 20 micrograms/liter.

Comment [CdS118]: Item 5-18 (3 of 13)

5 **21A.15.467 Fish and wildlife habitat corridors.**

6 "Fish and wildlife habitat corridors" means those corridors set aside and protected for preserving connections
7 between habitats on development proposal sites that contain Type F or Np streams and/or wetlands with a
8 high habitat score greater than or equal to 29 on the Washington State Wetland Rating System for Western
9 Washington (Department of Ecology 2004 or as revised) that are located within 200 feet of an on-site or off-
10 site Type F or Np stream and/or wetland with a high habitat score greater than or equal to 29 on the
11 Washington State Wetland Rating System for Western Washington.

Comment [CdS119]: Item 2-13

12
13 **21A.15.468 Fish and wildlife habitat conservation areas.**

14 "Fish and wildlife habitat conservation areas" means those areas that are essential for the preservation of
15 critical habitat and species. All areas within the City of Sammamish meeting one or more of the following
16 criteria are designated wildlife habitat conservation areas:

17 (1) Areas with which state or federally designated endangered, threatened, and sensitive species have a
18 primary association.

19 (a) Federally designated endangered and threatened species are those fish and wildlife species
20 identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in
21 danger of extinction or are threatened to become endangered. The U.S. Fish and Wildlife Service and
22 the National Marine Fisheries Service should be consulted as necessary for current listing status;

23 (b) State-designated endangered, threatened, and sensitive species are those fish and wildlife species
24 native to the coastal region of the Pacific Northwest identified by the State Department of Fish and
25 Wildlife, that are in danger of extinction, threatened to become endangered, vulnerable, or declining and
26 -are likely to become endangered or threatened in a significant portion of their range within the state
27 without cooperative management or removal of threats. State-designated endangered, threatened, and
28 sensitive species are periodically recorded in WAC 232-12-014 (state endangered species), and WAC
29 232-12-011 (state threatened and sensitive species). The State Department of Fish and Wildlife
30 maintains the most current listing and should be consulted as necessary for current listing status;

31 (2) Streams, lakes and naturally occurring ponds;

32 (3) State natural area preserves and natural resource conservation areas. Natural area preserves and natural
33 resource conservation areas are defined, established, and managed by the State Department of Natural
34 Resources; and

35 (4) Fish and Wildlife habitat corridors as defined in 21A.15.467 for preserving connections between habitats
36 along the designated wildlife habitat network. (Ord. O2005-193 § 2)

Comment [EM120]: Item 2-13

37 **21A.15.470 Flood fringe.**

...

...

1 "Flood fringe" means that portion of the floodplain outside of the zero-rise floodway that is covered by
2 floodwaters during the base flood, generally associated with standing water rather than rapidly flowing water.
3 (Ord. O2003-132 § 10)

4 **21A.15.475 Flood hazard areas.**

5 "Flood hazard areas" means those areas in the City of Sammamish subject to inundation by the base flood
6 and those areas subject to risk from channel relocation or stream meander including, but not limited to,
7 streams, lakes, wetlands, and closed depressions. (Ord. O2003-132 § 10)

8 **21A.15.480 Flood insurance rate map.**

9 "Flood insurance rate map" means the official map on which the Federal Insurance Administration has
10 delineated some areas of flood hazard. (Ord. O2003-132 § 10)

11 **21A.15.485 Flood insurance study for King County.**

12 "Flood insurance study for King County" means the official report provided by the Federal Insurance
13 Administration that includes flood profiles and the flood insurance rate map. (Ord. O2003-132 § 10)

14 **21A.15.490 Flood protection elevation.**

15 "Flood protection elevation" means an elevation that is one foot above the base flood elevation. (Ord. O2003-
16 132 § 10)

17 **21A.15.495 Floodplain.**

18 "Floodplain" means the total area subject to inundation by the base flood. (Ord. O2003-132 § 10)

19 **21A.15.500 Floodproofing.**

20 "Floodproofing" means adaptations that will make a structure that is below the flood protection elevation
21 substantially impermeable to the passage of water and resistant to hydrostatic and hydrodynamic loads
22 including the impacts of buoyancy. (Ord. O2003-132 § 10)

23 **21A.15.505 Floodway, zero-rise.**

24 "Floodway, zero-rise" means the channel of a stream and that portion of the adjoining floodplain which is
25 necessary to contain and discharge the base flood flow without any measurable increase in flood height. A
26 measurable increase in base flood height means a calculated upward rise in the base flood elevation, equal to
27 or greater than .01 foot, resulting from a comparison of existing conditions and changed conditions directly
28 attributable to development in the floodplain. This definition is broader than that of the FEMA floodway, but
29 always includes the FEMA floodway. The boundaries of the 100-year floodplain, as shown on the flood
30 insurance study for King County, are considered the boundaries of the zero-rise floodway unless otherwise
31 delineated by a sensitive area special study. (Ord. O2003-132 § 10)

32 **21A.15.532 Frequently flooded areas.**

33 "Frequently flooded areas" means those lands in the City in the floodplain subject to a one percent or greater
34 chance of flooding in any given year and those lands that provide important flood storage, conveyance, and
35 attenuation functions, as determined by the City in accordance with WAC 365-190-080(3). Frequently flooded
36 areas perform important hydrologic functions and may present a risk to persons and property. Frequently

...

...

1 flooded areas include all areas of special flood hazards within the jurisdiction of the City of Sammamish. (Ord.
2 O2005-193 § 2)

3 **21A.15.545 Geologist.**

4 "Geologist" means a professional geologist who holds a current geologist license from the Washington state
5 Geologist Licensing Board, means a person who has earned at least a Bachelor of Science degree in the
6 geological sciences from an accredited college or university or who has equivalent educational training and at
7 least four years of professional experience. (Ord. O2003-132 § 10)

Comment [CdS121]: Item 4-14

Comment [CdS122]: Item 4-13

8 **21A.15.550 Geotechnical engineer.**

9 "Geotechnical engineer" means a practicing geotechnical/civil engineer licensed as a professional civil
10 engineer by the state of Washington who has at least four years of professional employment as a geotechnical
11 engineer. (Ord. O2003-132 § 10)

12 **21A.15.575 Hypereutrophic.**

13 "Hypereutrophic" means a trophic status characterized by high algal productivity, intense algal blooms, fish
14 kills due to oxygen depletion in the bottom waters, frequent recreational use impairment, summer chlorophyll a
15 concentration greater than 10 micrograms/liter, a summer Secchi depth generally less than two meters, and a
16 winter total phosphorus concentration greater than 30 micrograms/liter.

Comment [CdS123]: Item 5-18 (4 of 13)

17 **21A.15.620 Lake Management Plan.**

18 "Lake management plan" means the plan (and supporting documents as appropriate) describing the lake
19 management recommendations and requirements.

Comment [CdS124]: Item 5-18 (5 of 13)

20 **21A.15.670 Landscaping.**

21 "Landscaping" means live vegetative materials required for a development. Said materials provided along the
22 boundaries of a development site are referred to as perimeter landscaping. (Ord. O2003-132 § 10)

23 **21A.15.675 Landslide.**

24 "Landslide" means episodic downslope movement of a mass including, but not limited to, soil, rock or snow.
25 (Ord. O2003-132 § 10)

26 **21A.15.680 Landslide hazard areas.**

27 "Landslide hazard areas" means those areas in the City of Sammamish potentially subject to risk of mass
28 movement due to a combination of geologic, topographic, and hydrologic factors. These areas are typically
29 susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope
30 aspect, geologic structure, groundwater, or other factors. Landslide hazard areas include the following:

31 (1) Areas of historic failures, such as:

32 (a) Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation
33 Service as having a "severe" limitation for building site development;

34 (b) Areas designated as quaternary slumps, earthflows, mudflows, or landslides on maps published by
35 the U.S. Geological Survey or Department of Natural Resources;

...

- ...
- 1 (2) Areas that have shown movement during the Holocene epoch, from 10,000 years ago to the present, or
 2 which are underlain by mass wastage debris from that epoch;
- 3 (3) Any area with all three of the following characteristics:
- 4 (a) Slopes steeper than 15 percent; and
- 5 (b) Hillside intersecting geologic contacts with a relatively permeable sediment overlying a relatively
 6 impermeable sediment or bedrock; and
- 7 (c) Springs or groundwater seepage;
- 8 (4) Areas with a slope of 40 percent or steeper and with a vertical relief of 10 or more feet except areas
 9 composed of consolidated rock. A slope is delineated by establishing its toe and top, as defined in SMC
 10 21A.15.1230, and measured by averaging the inclination over at least 10 feet of vertical relief;
- 11 (5) Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and
 12 fault planes) in subsurface materials;
- 13 (6) Slopes having gradients steeper than 80 percent subject to rock fall during seismic shaking;
- 14 (7) Areas potentially unstable because of rapid stream incision, stream bank erosion or undercutting by wave
 15 action; and
- 16 (8) Landslide hazard areas do not include those areas composed of slopes greater than 40 percent that were
 17 created from a previously non-landslide hazard area through legal grading activity and that are confirmed to be
 18 stable by a qualified professional. (Ord. O2005-193 § 2; Ord. O2003-132 § 10)
- 19 21A.15.XXX Maintenance. "Maintenance" means those usual acts to prevent a decline, lapse or cessation from
 20 a lawfully established condition or use.
- 21 21A.15.720 Mesotrophic.
 22 "Mesotrophic" means a trophic status characterized by moderate algal productivity, oxygen depletion in the
 23 bottom waters, usually no recreational use impairment, summer chlorophyll a concentration averaging four to
 24 10 micrograms/liter, a summer Secchi depth of two to five meters, and a winter total phosphorus concentration
 25 ranging from 10 to 20 micrograms/liter.
- 26 **21A.15.751 Mitigation bank.**
 27 "Mitigation bank" means a property that has been protected in perpetuity, and approved by appropriate City,
 28 state, and federal agencies expressly for the purpose of providing compensatory mitigation in advance of
 29 authorized impacts through restoration, creation, and/or enhancement of wetlands, and in exceptional
 30 circumstances, preservation of adjacent wetlands, wetland buffers, and/or other aquatic resources. (Ord.
 31 O2003-132 § 10)
- 32 **21A.15.752 Mitigation banking.**
- ...

Comment [CdS125]: 4-12 (1 of 2)

Comment [EM126]: Item 2-14

Comment [reb-127]: This definition is so general as to be of little use. E.g., is pruning in a yard an act of maintenance? How about replacing a shrub? Both also fit the current definition of "development" above. Both definitions need to be reworked to clarify the distinction. (Ref. Elaboration of reb-1 below).

Comment [CdS128]: Item 5-18 (6 of 13)

...

1 "Mitigation banking" means a system for providing compensatory mitigation in advance of authorized wetland
2 impacts of development in the City in which credits are generated through restoration, creation, and/or
3 enhancement of wetlands, and in exceptional circumstances, preservation of adjacent wetlands, wetland
4 buffers, and/or other aquatic resources. (Ord. O2003-132 § 10)

5 **21A.15.765 Monitoring.**

6 "Monitoring" means evaluating the impacts of development proposals on biologic, hydrologic, and geologic
7 systems and assessing the performance of required mitigation through the collection and analysis of data for
8 the purpose of understanding and documenting changes in natural ecosystems, functions and features
9 including, but not limited to, gathering baseline data. (Ord. O2003-132 § 10)

10 **21A.15.790 Native vegetation.**

11 "Native vegetation" means vegetation comprised of plant species, other than noxious weeds, which are
12 indigenous to the coastal region of the Pacific Northwest and that reasonably could have been expected to
13 naturally occur on the site. (Ord. O2005-193 § 2; Ord. O2003-132 § 10)

14 ~~21A.15.794 Naturalized species.~~

15 ~~"Naturalized species" means non-native species of vegetation that are adaptable to the climatic conditions of~~
16 ~~the coastal region of the Pacific Northwest. (Ord. O2011-300 § 1 (Att. A); Ord. O2003-132 § 10. Formerly~~
17 ~~21A.15.795)~~

Comment [EM129]: Item 3-20

18 ~~21A.15.795 Naturally occurring ponds.~~

19 ~~See "Ponds, naturally occurring," SMC 21A.15.898. (Ord. O2011-300 § 1 (Att. A); Ord. O2005-193 § 2.~~
20 ~~Formerly 21A.15.796)~~

Comment [CdS130]: Item 5-17 (2 of 2)

21 **21A.15.810 Oligotrophic.**

22 "Oligotrophic" means a trophic status characterized by low algal productivity, algal blooms are rare, water
23 clarity is high, all recreational uses unimpaired, summer chlorophyll a concentration average less than four
24 micrograms/liter, a summer Secchi depth greater than five meters, and a winter total phosphorus
25 concentration ranging from zero to 10 micrograms/liter.

Comment [CdS131]: Item 5-18 (7 of 13)

26 **21A.15.825 Ordinary high water mark.**

27 "Ordinary high water mark" means the mark found by examining the bed and banks of a stream, lake, or tidal
28 water and ascertaining where the presence and action of waters are so common and long maintained in
29 ordinary years as to mark upon the soil a vegetative character distinct from that of the abutting upland. In any
30 area where the ordinary high water mark cannot be found, the line of mean high water shall substitute. In any
31 area where neither can be found, the top of the channel bank shall substitute. In braided channels and alluvial
32 fans, the ordinary high water mark or line of mean high water shall be measured so as to include the entire
33 stream feature. (Ord. O2003-132 § 10)

34 **21A.15.850 Phosphorus.**

35 "Phosphorus" means elemental phosphorus and ~~for the purposes of this section shall be measured as total~~
36 ~~phosphorus.~~

Comment [CdS132]: Item 5-18 (8 of 13)

...

...

1 **21A.15.855 Phosphorus concentration.**

2 "Phosphorus concentration" means the mass of phosphorus per liquid volume.

Comment [CdS133]: Item 5-18 (9 of 13)

3 **21A.15.860 Phosphorus loading.**

4 "Phosphorus loading" means the total mass of phosphorus per time basis.

Comment [CdS134]: Item 5-18 (10 of 13)

5 **21A.15.898 Ponds, naturally occurring.**

6 "~~Ponds, naturally occurring" means those surface water bodies under 20 acres and their submerged aquatic~~
7 ~~beds that provide fish or wildlife habitat, including those manmade ponds intentionally created in order to~~
8 ~~mitigate critical area impacts. Naturally occurring ponds do not include ponds deliberately designed and~~
9 ~~created from dry sites for other reasons such as canals, detention facilities, wastewater treatment facilities,~~
10 ~~farm ponds, temporary construction ponds, and landscape amenities, unless such artificial ponds were~~
11 ~~intentionally created for mitigation. (Ord. O2005-193 § 2)~~

Comment [EM135]: Item 3-20

12 **21A.15.942 Qualified professional.**

13 "Qualified professional" means a person with experience and training in the applicable field or critical area. A
14 qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, engineering,
15 environmental studies, fisheries, geomorphology or a related field, and two years of related work experience.

16 (1) A qualified professional for watercourses, wetlands, and wildlife habitat conservation areas must have a
17 degree in biology or a related field and relevant professional experience.

18 (2) A qualified professional for preparing geotechnical reports and geotechnical design recommendations must
19 be a professional geotechnical engineer or geologist licensed in the state of Washington. Identification of
20 geologic hazards may be performed by geologists or other geology professionals with experience identifying
21 geologic hazards.

22 (3) A qualified professional for preparing critical aquifer recharge reports must be a professional
23 hydrogeologist or geologist licensed in the state of Washington.

24 **21A.15.1000 Restoration.**

25 "Restoration" means returning a stream, wetland, other sensitive area or any associated buffer to a state in
26 which its stability and functions approach its unaltered state as closely as possible. (Ord. O2003-132 § 10)

27 **21A.15.XXXX Riparian.**

Comment [EM136]: Item 3-19c

28 "Riparian" means the area adjacent to flowing or standing freshwater aquatic systems. Riparian habitat
29 encompasses the area beginning at the ordinary high water mark and extends to that portion of the terrestrial
30 landscape that is influenced by, or that directly influences, the aquatic ecosystem. In riparian systems, the
31 vegetation, water tables, soils, microclimate, and wildlife inhabitants of terrestrial ecosystems are often
32 influenced by perennial or intermittent water. Simultaneously, adjacent vegetation, nutrient and sediment
33 loading, terrestrial wildlife, as well as organic and inorganic debris influence the biological and physical
34 properties of the aquatic ecosystem. Riparian habitat includes the entire extent of the floodplain and riparian
35 areas of wetlands that are directly connected to stream courses or other freshwater.

...

...

1 **21A.15.1015 Salmonid.**

2 "Salmonid" means a member of the fish family Salmonidae, including:

3 (1) Chinook, coho, chum, sockeye and pink salmon;

4 (2) Rainbow, steelhead and cutthroat salmon;

5 (3) Brown trout;

6 (4) Brook and dolly varden char;

7 (5) Kokanee; and

8 (6) Whitefish. (Ord. O2003-132 § 10)

9 **21A.15.1045 Seismic hazard areas.**

10 "Seismic hazard areas" means ~~those areas mapped as moderate to high and high liquefaction susceptibility~~
11 ~~and peat deposits on the Liquefaction Susceptibility Map of King County, Washington, Washington Division of~~
12 ~~Geology and Earth Sciences, OFR 2004-20, Palmer et al., September, 2004 as revised, those areas in the City~~
13 ~~subject to severe risk of earthquake damage as a result of soil liquefaction in areas underlain by cohesionless~~
14 ~~soils of low density and usually in association with a shallow groundwater table or of other seismically induced~~
15 ~~settlement. (Ord. O2003-132 § 10)~~

Comment [EM137]: Item 1-4

16 **21A.15.1070 Setback.**

17 "Setback" means the minimum required distance between a structure and a specified line such as a lot,
18 easement or buffer line that is required to remain free of structures. (Ord. O2003-132 § 10)

19 **21A.15.1230 Steep slope hazard areas.**

20 "Steep slope hazard areas" means those landslide hazard areas in the City on slopes 40 percent or steeper
21 within a vertical elevation change of at least 10 feet. A slope is delineated by establishing its toe and top and is
22 measured by averaging the inclination over at least 10 feet of vertical relief. For the purpose of this definition:

23 (1) The toe of a slope is a distinct topographic break in slope that separates slopes inclined at less than 40
24 percent from slopes 40 percent or steeper. Where no distinct break exists, the toe of a steep slope is the
25 lowermost limit of the area where the ground surface drops 10 feet or more vertically within a horizontal
26 distance of 25 feet; and

27 (2) The top of a slope is a distinct, topographic break in slope that separates slopes inclined at less than 40
28 percent from slopes 40 percent or steeper. Where no distinct break exists, the top of a steep slope is the
29 uppermost limit of the area where the ground surface drops 10 feet or more vertically within a horizontal
30 distance of 25 feet. (Ord. O2005-193 § 2; Ord. O2003-132 § 10)

31 (3) A distinct topographic break occurs when the change in gradient is less than 5 feet vertically within a
32 horizontal distance of 25 feet.

Comment [CdS138]: 4-12 (2 of 2)

33 **21A.15.1235 Stream functions.**

...

...

1 “Stream functions” means natural processes performed by streams including functions that are important in
2 facilitating food chain production, providing habitat for nesting, rearing, and resting sites for aquatic, terrestrial,
3 and avian species, maintaining the availability and quality of water, such as purifying water, acting as recharge
4 and discharge areas for groundwater aquifers, moderating surface and storm water flows and maintaining the
5 free flowing conveyance of water, sediments, and other organic matter. (Ord. O2003-132 § 10)

6 **21A.15.1240 Streams.**

7 “Streams” means those areas in the City where surface waters produce a defined channel or bed, not
8 including irrigation ditches, canals, storm or storm water runoff conveyance devices or other entirely artificial
9 watercourses, unless they are used by salmonids or are used to convey streams naturally occurring prior to
10 construction of such watercourses. For the purpose of this definition, a defined channel or bed is an area that
11 demonstrates clear evidence of the passage of water and includes, but is not limited to, bedrock channels,
12 gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-
13 round. For the purpose of defining the following categories of streams, normal rainfall is rainfall that is at or
14 near the mean of the accumulated annual rainfall record, based upon the water year for King County as
15 recorded at the Seattle-Tacoma International Airport.

16 (1) Streams shall be classified according to the following criteria:

17 (a) Type S streams are all streams inventoried as “shorelines of the state” under the City’s shoreline
18 master program. No Type S streams have been identified in the City as of September 1, 2005.

19 (b) Type F streams are those streams that are used by salmonids, have the potential to support
20 salmonid uses, or that have been identified as being of special significance. Streams of special
21 significance are those perennial reaches designated by the City based on historic fish presence and/or
22 the probability of restoration of the following:

23 (i) George Davis Creek;

24 (ii) Ebright Creek;

25 (iii) Pine Lake Creek; and

26 (iv) Laughing Jacobs Creek, below Laughing Jacobs Lake.

27 (c) Type Np streams which are perennial during a year of normal rainfall and do not have the potential to
28 be used by salmonids. Type Np streams include the intermittent dry portions of the perennial channel
29 below the uppermost point of perennial flow. If the uppermost point of perennial flow cannot be identified
30 with simple, nontechnical observations, then the point of perennial flow should be determined using the
31 best professional judgment of a qualified professional.

32 (d) Type Ns streams which are seasonal or ephemeral during a year of normal rainfall and do not have
33 the potential to be used by salmonids.

...

...

(2) For the purposes of this definition, “used by salmonids” and “potential to support salmonid uses” is presumed for:

(a) Streams where naturally reoccurring use by salmonid populations has been documented by a government agency;

(b) Streams that are fish passable by salmonid populations from Lake Sammamish, as determined by a qualified professional based on review of stream flow, gradient and barriers and criteria for fish passability established by the Washington Department of Fish and Wildlife; and

(c) Streams that are planned for restoration in a six-year capital improvement plan adopted by a government agency that will result in a fish passable connection to Lake Sammamish. (Ord. O2005-193 § 2; Ord. O2003-132 § 10)

21A.15.1265 Submerged land.

“Submerged land” means any land at or below the ordinary high water mark. (Ord. O2003-132 § 10)

21A.15.1275 Total phosphorus.

“Total phosphorus” means the phosphorus concentration as determined by a state-certified analytical laboratory using EPA 365.3 or SM 4500-P-B, E or an equivalent method.

Comment [CdS139]: Item 5-18 (11 of 13)

21A.15.1285 Trails.

“Trails” means manmade pathways designed and intended for use by pedestrians, bicyclists, equestrians, and/or recreational users. Trails may be paved or unpaved, and may be intended and constructed for transportation, recreation, and nature contact and enjoyment. Types of trails are described and defined in the park and recreation plan, trails, bikeways and paths plan, or elsewhere in the city comprehensive plan. (Ord. O2005-172 § 2; Ord. O2003-132 § 10)

21A.15.1295 Trophic state index.

“Trophic state index” means a classification system which uses algal biomass as the basis for classification which can be independently measured by chlorophyll a, Secchi depth, and total phosphorus concentration.

Comment [CdS140]: Item 5-18 (12 of 13)

21A.15.1300 Trophic status.

“Trophic status” means a classification which defines lake quality by the degree of biological productivity.

Comment [CdS141]: Item 5-18 (13 of 13)

~~**21A.15.1390 Wet meadows, grazed.**~~

~~“Wet meadows, grazed” means palustrine emergent wetlands typically having up to six inches of standing water during the wet season and dominated under normal conditions by meadow emergents such as reed canary grass, spike rushes, bulrushes, sedges and rushes. During the growing season, the soil is often saturated but not covered with water. These meadows have been frequently used for livestock activities. (Ord. O2003-132 § 10)~~

Comment [EM142]: Item 3-20

21A.15.1395 Wetland edge.

“Wetland edge” means the line delineating the outer edge of a wetland, consistent with the Washington State Wetlands and Delineation Manual (1997, as amended). (Ord. O2005-193 § 2; Ord. O2003-132 § 10)

...

...

1 **21A.15.1400 Wetland, forested.**

Comment [EM143]: Item 3-20

2 "Wetland, forested" means a wetland that is characterized by woody vegetation at least 20 feet tall. (Ord.
3 O2003-132 § 10)

4 **21A.15.1405 Wetland functions.**

5 "Wetland functions" means natural processes performed by wetlands including functions that are important in
6 facilitating food chain production, providing habitat for nesting, rearing, and resting sites for aquatic, terrestrial,
7 and avian species, maintaining the availability and quality of water, acting as recharge and discharge areas for
8 groundwater aquifers and moderating surface and storm water flows, as well as performing other functions
9 including, but not limited to, those set forth in 33 CFR 320.4(b)(2), 1988. (Ord. O2003-132 § 10)

10 **21A.15.1410 Wetland, isolated.**

11 "Wetland, isolated" means a wetland that is hydrologically isolated from other wetlands or streams, does not
12 have permanent open water, and is determined to be of low function. (Ord. O2005-193 § 2; Ord. O2003-132 §
13 10)

14 **21A.15.1415 Wetlands.**

15 "Wetlands" are those areas in the City of Sammamish designated in accordance with the [federal 1987 Wetland](#)
16 [Delineation Manual \(Environmental Laboratory, 1987\)](#) and the [United States Army Corps of Engineers](#)
17 [\(USACE\) Interim Regional Supplement for Western Mountains, Valleys, and Coast Region \(USACE,](#)
18 [2010\), Washington State Wetlands Identification and Delineation Manual \(1997, as amended\)](#). Wetlands are

Comment [EM144]: Item 3-1

19 areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to
20 support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life
21 in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands
22 do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to,
23 irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities,
24 farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally
25 created as a result of the construction of a road, street, or highway. Wetlands may include those artificial
26 wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.

27 Wetlands shall be rated according to the Washington State Wetland Rating System for Western Washington
28 (Department of Ecology, 2004, or as revised). This document contains the definitions, methods and a rating
29 form for determining the categorization of wetlands described below:

30 (1) Category 1. Category 1 wetlands include those that receive a score of greater than or equal to 70 based on
31 functions, or those that are rated Category 1 based on special characteristics as defined in the rating form.

32 (2) Category 2. Category 2 wetlands include those that receive a score of 51 through 69 based on functions, or
33 those that are rated Category 2 based on special characteristics as defined in the rating form.

34 (3) Category 3. Category 3 wetlands include those that receive a score of 30 through 50 based on functions.

35 (4) Category 4. Category 4 wetlands score less than 30 points based on functions. (Ord. O2005-193 § 2; Ord.
36 O2003-132 § 10)

...

1 ...
2
3 **Chapter 21A.70**
NONCONFORMANCE, TEMPORARY USES, AND RE-USE OF FACILITIES

4 **21A.70.020 Nonconformance – Applicability.**

5 (1) All nonconformances except nonconforming uses and improvements related to the provisions of SMC
6 21A.50, shall be subject to the provisions of this chapter.

Comment [EM145]: Item 2-14

7 (2) The provisions of this chapter do not supersede or relieve a property owner from compliance with:

8 (a) The requirements of the Uniform Building and Fire Codes; or

9 (b) The provisions of this code beyond the specific nonconformance addressed by this chapter. (Ord.
10 O99-29 § 1)
11

1 **Elaboration of reb Comments**

2 reb-1

3 This reference to 16.15.050 has the effect of pulling in a section of code that provides exceptions to the
4 requirement to obtain a clearing and grading permit. The portion of 16.15.050 that has bearing on the
5 "maintenance" issue is the following:

6 (8) The following activities are exempt from the clearing requirements of this chapter and no permit
7 shall be required:

8 (a) Normal and routine maintenance of existing lawns and landscaping, including up to 50 cubic
9 yards of top soil, mulch, or bark materials added to existing landscaped areas subject to the
10 limitations in critical areas and their buffers as set out in Chapter [21A.50 SMC](#);

11 The problem is that "normal and routine maintenance" is not defined. (A definition of "Maintenance" is
12 being added to 21A.15, but that definition is too general to address the existing ambiguity.) The
13 following experience illustrates the problem:

14 Earlier this year this reviewer asked the planner on duty what kinds of landscaping activities require a
15 clearing and grading permit, vis a vi "normal and routine maintenance". That Staff person stated that a
16 clearing and grading permit would **not normally** be required for things like replacing a small tree, adding
17 some placed rocks, moving a low garden wall, or adding a drip irrigation system, as long as they do not
18 involve moving more than 50 cubic yards of material. But they stated that work of this nature within a
19 stream buffer **does** require a permit, and a clearing and grading permit is what the city uses for this.
20 Thus in that staff member's understanding of policy, anything beyond mowing, pruning, and applying
21 ground cover require a clearing and grading permit and do not qualify as "exceptions".

22 Note that new section 21A.50.060 (3) (b) speaks to what kinds of landscaping revisions are allowed, but
23 only to a limited degree and not sufficient to define whether the kinds of work just mentioned are or are
24 not considered "normal and routine maintenance". Further, nothing in the revisions to 21A.50 relieve the
25 homeowner from the requirement to obtain a clearing and grading permit for such landscaping revisions.

26 Thus it appears that without further clarification, small-scale landscaping activities within a stream buffer
27 will still be subject to staff's interpretation of what constitutes "normal and routine maintenance", which is
28 not defined. And experience suggests that some staff may insist that anything beyond mowing, pruning,
29 and applying ground cover require a clearing and grading permit. (That implies that replacing a
30 decorative shrub with another requires the permit.) This dependence on staff to set policy ad hoc should
31 be eliminated by providing a thorough definition of what kinds of landscaping actions within a stream
32 buffer constitute "normal and routine maintenance" and do not require a clearing and grading permit,
33 and a development proposal needed to apply for one. I submit that significantly more than just mowing,
34 pruning, and renewing groundcover should be allowed in a stream buffer in a developed neighborhood
35 without the hassle of a permit.

1 ...
2 reb-85

3 This section, 21A.50.330, should only apply to new developments, and that should be made clear in this
4 introductory paragraph. Many of its provisions should not apply to activities homeowners commonly
5 perform to maintain or enhance their homes and yards that have no effect on a nearby watercourse. But
6 due to continued ambiguity as to what constitutes “development” and what requires a “development
7 proposal”, it could be easily construed as applicable by plan review personnel, or used as leverage to
8 pursue an agenda of environmental activism.

9 Take for example a property owner who wants to rework some landscaping beyond merely mowing,
10 pruning, and applying ground cover (ref. 16.15.050 (8)). Perhaps he wants to change some plantings.
11 And perhaps he is separated from the watercourse in question by two other houses. Are the provisions
12 of this section intended to apply to such a case? I submit that they should not. But it appears the city
13 expects that homeowner to submit a development proposal for such minor activities (ref. elaboration of
14 reb-1 above). Therefore a literal interpretation would indicate that these provisions **do** apply to such a
15 case.

16 If this is the intent, I strongly object. That opens the door, via sub-item (5) below, to the city using
17 activities that are minor and commonplace, but that nevertheless require development proposals (itself
18 an issue), as leverage to impose increased buffer widths. It also requires, via sub-item (10), a habitat
19 management plan, critical areas study, and/or alteration plan, for anything that involves removal of any
20 native vegetation or woody debris from the stream buffer no matter how far away from the stream. Both
21 are unreasonable in the context of developed neighborhoods and should not be enabled by the
22 ambiguity now present in the code.

23
24
25 This section should only apply to new development, and that should be made clear.

Assessment of 10/26/12 draft code revision treatment of previously identified stream-related issues

reb 11/4/2012

Note: these problems are those documented in “Overview of restrictions associated with streams” submitted 9/18/12

Problem	Solved?	Code references	Comments
Any alteration within a stream buffer requires a Critical Areas Study. (Literal interpretation says even yard maintenance requires such study.)	No	21A.15.056 21A.50.340 (1) 21A.15.XXX	Definition of “alteration” (21A.15.056) is all-inclusive (e.g., includes pruning) and does not explicitly exclude buffers. New code in 21A.50.060 allows maintaining landscaping and other actions, but does not relieve requirement for a Critical Areas Study. New definition of “maintenance” is inadequate.
No structure can be installed within buffer width plus 15 feet of watercourse regardless of site characteristics. (Homeowner cannot, for example, place a small shed within 165 ft of a Type F stream)	No	21A.50.210	New code in 21A.50.060 only addresses “single detached residences” in this regard. If does not allow for installation of any new above-ground structures.
“a state or federal permit or approval” is required to plant any non-native species within a stream buffer.	Yes But...	21A.50.340 (3)	21A.50.060 is now referenced, and no state or federal permit is mentioned there. However a Critical Areas Study is still required (see above).
A “restoration or enhancement plan” is required to remove invasive vegetation within a stream buffer.	Partial	Old 21A.50.060 (1)(d)	New 21A.50.060 (5) allows removal of non-native invasive noxious weeds without a permit. But taken literally it excludes native noxious weeds (e.g., Himalayan Blackberries).
Footprint of a house cannot be expanded within a buffer if built after Nov. 27, 1990. Cannot be expanded by more than 1000sf if built before that date.	Partial	Old 21A.50.060 (1) (a) & (b)	New 21A.50.060 (2) b) allows expansion regardless of original date of construction, but only for “single detached residences” and still subject to one-time 1000sf limitation. A property owner still cannot, for example, add a detached garage within 165 ft of a Type F watercourse even if there are multiple houses, driveways, etc. in between.

