

1 **Chapter 21.24**

2 **DEVELOPMENT STANDARDS – CRITICAL AREAS**

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41
42
43 **21.24.010 Purpose.**

44 (1) Introduction. The purpose of this chapter is to designate and classify ecologically critical
45 areas, to protect these areas and their functions and values, and to supplement the
46 development regulations contained within the Woodinville Municipal Code through best
47 available science and additional controls as required by the Growth Management Act.
48 Additionally, this chapter is intended to encourage development that meets the goals and
49 policies of the City of Woodinville Comprehensive Plan. These goals include:

50 (a) Goal E-1: To preserve and enhance aquatic and wildlife habitat.

1 (b) Goal E-2: To protect the public from natural hazards resulting from disturbance of the
2 environment.

3 (c) Goal E-3: To protect and improve water quality.

4 (d) Goal E-5: To promote the preservation of Woodinville's Northwest woodland
5 character.

6 (2) Scope. Critical areas include critical aquifer recharge areas, geologically hazardous areas,
7 wetlands, streams, frequent flood areas, and fish and wildlife habitat conservation areas.
8 The City of Woodinville recognizes that critical areas provide a variety of valuable and
9 beneficial biological and environmental functions that benefit the City and its residents, but
10 that some critical areas may pose a threat to public safety and property. The standards
11 established in this chapter are intended to protect critical areas while providing property
12 owners with reasonable use of their property. This chapter seeks to:

13 (a) Protect members of the public and public resources and facilities from injury, loss of
14 life, property damage or financial loss due to flooding, erosion, landslides, seismic
15 events, soil subsidence or steep slope failures;

16 (b) Maintain and protect healthy, functioning ecosystems through the protection of
17 unique, fragile, and valuable elements of the environment, including ground and
18 surface waters, wetlands, and fish and wildlife and their habitats, and conservation of
19 the biodiversity of plant and animal species;

20 (c) Direct activities not dependent on critical areas resources to less ecologically
21 sensitive areas and mitigate unavoidable impacts to critical areas by regulating
22 alterations in and adjacent to critical areas;

23 (d) Prevent cumulative adverse environmental impact to water quality and availability,
24 net loss of wetlands, streams, lakes, and frequently flooded areas, and fish and
25 wildlife habitat conservation areas;

26 (e) Meet the requirements of the National Flood Insurance Program and maintaining the
27 City of Woodinville as an eligible community for federal flood insurance benefits;

28 (f) Alert members of the public including, but not limited to, appraisers, owners, potential
29 buyers, or lessees, to the development limitations of critical areas;

30 (g) Provide for public enjoyment of environmentally protected areas by encouraging
31 when feasible and sensible, multiple use of critical area buffers; and

32 (h) Serve as a basis for exercise of the City's substantive authority under the State
33 Environmental Policy Act (SEPA) and the City's SEPA rules.

34
35 **21.24.020 Applicability.**

36 (1) Compliance with this chapter. The provisions of this chapter shall apply to all land uses and
37 activities in the city limits, and all persons within the city limits shall comply with the
38 requirements of this chapter. No permit or authorization shall be approved or issued to alter
39 the condition of any land, water, or vegetation, or to construct or alter any structure or
40 improvement without first assuring compliance with the requirements of this chapter.

41 (2) Alterations. Any human activity that results or is likely to result in an impact upon the existing
42 condition of a critical area is an alteration that is subject to specific limitations as specified by
43 this chapter. Alterations include, but are not limited to, grading; filling; dredging; draining;
44 channelizing; applying herbicides, pesticides or any hazardous substance; discharging
45 pollutants; grazing domestic animals; paving; constructing; cutting, pruning, topping,
46 trimming, relocating or removing vegetation; or any other human activity which results or is
47 likely to result in an impact to existing vegetation, hydrology, wildlife or wildlife habitat.
48 Alterations do not include walking, fishing, any other passive recreation, or other similar
49 activities.

50 (3) Conflict of provisions. When another provision of the Woodinville Municipal Code conflicts
51 with this chapter or when the provisions of this chapter are in conflict, that provision which

1 provides more environmental protection to critical areas shall apply, unless specifically
2 provided otherwise in this chapter, or unless such provision conflicts with federal or state
3 laws or regulations.

- 4 (4) Forest practices. The provisions of this chapter shall apply to all forest practices over which
5 the City has jurisdiction pursuant to Chapter 76.09 RCW and WAC Title 222.
6

7 **21.24.030 Critical area maps and inventories.**

- 8 (1) Critical Areas Maps. The approximate location and extent of critical areas are shown on the
9 City's adopted critical areas maps. The latest critical areas maps are available from the
10 Development Services Department. The maps do not provide a final critical area
11 determination. Adopted critical areas maps include, but are not limited to the following:

- 12 (a) Federal Emergency Management Administration flood insurance rate maps;
13 (b) US Geological Survey landslide hazard, seismic hazard, and volcano hazard maps;
14 (c) Department of Natural Resources seismic hazard maps for Western Washington;
15 (d) Department of Natural Resources slope stability map;
16 (e) National Wetlands Inventory;
17 (f) Washington Department of Fish and Wildlife Priority Habitat and Species maps;
18 (g) Locally adopted maps, including the Critical Aquifers Recharge Areas map and
19 Geologically Hazardous map.

- 20 (2) Maps showing critical areas are to be used for guidance purposes only and may be
21 continuously updated as new critical areas are identified. If there is a conflict among the
22 maps, inventory and site-specific features, the actual presence or absence of the features
23 defined in this chapter as critical areas shall govern.
24

25 **21.24.040 Complete exemptions.**

- 26 (1) The following activities are exempt from the provisions of this chapter, provided they are
27 otherwise consistent with other local, state, and federal law requirements:

- 28 (a) Emergency actions necessary to prevent an immediate threat to public health, safety
29 and welfare or that pose an imminent risk of damage to public or private property.
30 Alterations undertaken pursuant to this subsection shall be reported to the City
31 immediately. The impacted critical areas and its buffers shall be fully restored in
32 accordance with a critical areas report and mitigation plan;

- 33 (b) Agricultural activities in existence before March 31, 1993, as follows:

- 34 (i) Mowing of hay, grass, or grain crops;
35 (ii) Tilling, dicing, planting, seeding, harvesting and related activities for pasture,
36 food crops, grass seed, or sod if such activities do not take place on steep
37 slopes;
38 (iii) Normal and routine maintenance of existing irrigation and drainage ditches
39 not used by fish species and do not drain directly into salmon-bearing
40 waterbodies; and
41 (iv) Normal and routine maintenance of farm ponds, fish ponds, manure lagoons
42 and livestock watering ponds;

- 43 (c) Local collection and distribution utility lines, mains, equipment, appurtenances,
44 including electric facilities with an associated voltage of 55,000 volts or less, not
45 including substations; public sewer local collection; public water local distribution;
46 natural gas; cable communications; or telephone facilities. Local collection and
47 distribution utilities may be allowed in critical areas or their buffers, as follows:

- 48 (i) Normal and routine maintenance or repair of existing utility structures;
49 (ii) Relocation of local collection and distribution utility lines when required by a
50 local governmental agency; and

1 (iii) Replacement, operation, repair, modification, installation, or construction in
2 an improved public road right-of-way of local collection and distribution utility
3 lines, within an improved public road right-of-way or City-authorized private
4 roadway.

5 (2) Maintenance, operation, repair or replacement of publicly improved roadways or recreation
6 areas, provided any such alteration does not involve the expansion of structures or related
7 improvements into previously unimproved areas;

8 (3) Removal of non-native invasive species. Work shall be limited to hand removal of non-
9 native invasive species, unless permits from affected regulatory agencies have been
10 obtained for approved biological or chemical treatments.

11 (4) Passive recreation, educational and scientific research that do not degrade critical areas or
12 buffers, such as fishing, hiking and bird watching, not including trail building or clearing.
13

14 **21.24.050 Limited exemptions.**

15 (1) The following are exempt from the provisions of this chapter except for disclosures and
16 notice on title, WMC 21.24.090, and frequently flooded provisions, WMC 21.24.350 through
17 21.24.380:
18

19 (a) Single-family detached residences in existence prior to March 31, 1993 or approved
20 under a variance or reasonable use permit may be expanded, repaired, modified, or
21 replaced, provided all of the following are met:

22 (i) Expansion does not increase the existing footprint of the residence lying within
23 the above-described buffer or building setback area by more than 1,000
24 square feet;

25 (ii) No portion of the modification, addition, or replacement is located closer or
26 extends farther to the critical area or its buffer;

27 (iii) The proposal includes on-site mitigation to offset any impacts to critical areas
28 consistent with the provisions of this chapter; and

29 (iv) The proposal will not significantly affect fish and wildlife habitat, stream bank
30 stability, drainage capabilities, flood potential, and landslide hazards on
31 neighboring properties.

32 (b) All other structures, except single detached residences, in existence prior to March
33 31, 1993 may be expanded, repaired, modified, or replaced, provided all of the
34 following are met:

35 (i) Expansion does not increase the existing footprint of the structure lying within
36 the above-described building setback area, critical area or its buffer;

37 (ii) No portion of the modification, addition, or replacement is located closer or
38 extends farther to the critical area or its buffer;

39 (iii) The proposal includes on-site mitigation to offset any impacts to critical areas
40 consistent with the provisions of this chapter; and

41 (iv) The proposal will not significantly affect fish and wildlife habitat, stream bank
42 stability, drainage capabilities, flood potential, and steep slopes and landslide
43 hazards on neighboring properties.

44 (c) Maintenance or repair of structures that do not meet the development standards of
45 this chapter for geological hazard areas, if the maintenance or repair does not
46 increase the footprint of the structure and there is no increased risk to life or property
47 as a result of the proposed maintenance or repair.

1
2 **21.24.060 Public agency and utility critical areas exceptions.**

3 (1) If the application of this chapter would prohibit a development proposal by a public agency or
4 public utility, the agency or utility may apply for a critical area exception pursuant to this
5 subsection:
6

7 (a) The critical area exception shall be reviewed as Type III project permit, pursuant to
8 Chapters 17.07 through 17.17 WMC. The Hearing Examiner shall make a decision
9 based on the following criteria:

- 10 (i) There is no other practical alternative to the proposed development with less
11 impact on the critical area;
12 (ii) The application of this chapter would unreasonably restrict the ability to
13 provide services to the public;
14 (iii) Any impacts permitted to the critical area are mitigated in accordance with
15 WMC 21.24.140 to the greatest extent possible;
16 (iv) The proposed development protects critical areas and/or buffer functions and
17 values consistent with best available science; and
18 (v) The proposed development is consistent with other applicable regulations and
19 requirements.

20 (b) This exception shall not allow the use of the following critical areas for regional
21 retention/detention facilities except where the applicant can clearly demonstrate that
22 the facility will protect public health and safety or repair damaged natural resources:

- 23 (i) Class 1 stream buffers;
24 (ii) Category I wetland buffers with plant associations of infrequent occurrence; or
25 (iii) Category I or II wetland buffers, which provide critical or outstanding habitat
26 for herons, raptors or State or Federal designated endangered or threatened
27 species unless clearly demonstrated by the applicant that there will be no
28 impact on such habitat.
29

30 **21.24.070 Reasonable use exceptions.**

31 (1) If the application of this chapter would deny all reasonable use of the property, the applicant
32 may apply for a reasonable use permit pursuant to this subsection:
33

34 a) The reasonable use permit shall be reviewed as Type III project permit, pursuant to
35 Chapters 17.07 through 17.17 WMC. The Hearing Examiner shall make a decision
36 based on the following criteria:

- 37 (i) The application of this chapter would deny all reasonable use of the property;
38 (ii) The proposed development does not pose an unreasonable threat to the
39 public health, safety or welfare on or off the development proposal site;
40 (iii) Any alterations to the critical area shall be the minimum necessary to allow
41 for reasonable use of the property;
42 (iv) Any impacts permitted to the critical area are mitigated in accordance with
43 WMC 21.24.140 to the greatest extent possible;
44 (v) The proposed development protects critical areas and/or buffer functions and
45 values consistent with best available science; and
46 (vi) The proposed development is consistent with other applicable regulations
47 and requirements.

48 (b) Any authorized alteration of a critical area under this subsection shall be subject to
49 conditions established by the Hearing Examiner to safeguard public health, general
50 welfare and safety.
51

21.24.080 Subdivisions and density calculations within critical areas.

- (1) Intent. The intent of this section is to provide for the preservation of critical areas and their buffers, flexibility in design, and consistent treatment of different types of development proposals.
- (2) Subdivisions in Critical Areas. The subdivision and short subdivision of land located in landslide and erosion hazardous areas, frequently flooded areas, wetlands, streams, and fish and wildlife habitat conservation areas shall be subject to the following:
- (a) Land that is located wholly within a critical area or its buffer may not be subdivided.
 - (b) Land that is located partially within a critical area or its buffer may be divided; provided, that the developable portion of each new lot and its access is located outside of the critical area or its buffer. Each resulting lot shall meet the minimum lot size, and have sufficient buildable area outside of, and will not affect the critical area or its buffer; and
 - (c) Access roads and utilities serving the proposed may be permitted within the critical area and associated buffers only if the City determines that no other feasible alternative exists and when consistent with this chapter.
- (3) On-Site Density Credits. For single-family residential subdivisions and short subdivisions on sites with critical areas or buffers, on-site density credits may be transferred from the critical area to a developable site area. In some cases, the maximum density credits may not be attainable due to other site constraints including, but not limited to, acreage constraints of the developable site area.
- (a) For sites where up to 50 percent of the site is constrained by critical areas, up to 100 percent of the density that could be achieved on the constrained area portion of the site can be transferred to the developable portion of the property.
 - (b) For sites that are over 50 percent constrained by critical areas, up to 50 percent of the density that could be achieved on the constrained area portion of the site can be transferred to the developable portion of the property;
- (4) Density Transfer. On-site density transfer is subject to the following:
- (a) The density credit can only be transferred within the development proposal site. The on-site density transfer provided for in this section shall not be applied to allow density from a constrained site to be transferred to an unconstrained parcel, lot or site when combined with a constrained site by subdivision, binding site plan, lot line adjustment or other means of land assemblage or arrangement for development.
 - (b) No additional density is allowed over the base density of the underlying zone.
 - (c) The minimum lot size and other dimensional requirements of the underlying zoning classification may be reduced to accommodate the transfers in densities per the following table:

Table 21.24.070(4)(c) – Reduced Dimensional Standards

Zone	Minimum Lot Size	Maximum Building Coverage	Maximum Impervious Surface	Lot Width at Street
R-1	31,000 sf	15%	20%	100 ft/ 75 ft on cul-de-sac
R-4	7,200 sf	35%	45%	60 ft
R-6	5,000 sf	50%	70%	50 ft
R-8	4,600 sf	55%	75%	30 ft

- 1 (d) All other applicable dimensional requirements pursuant to WMC 21.12.030 shall be
2 met.
3 (e) The area to which the density is transferred shall not be constrained by another
4 critical area regulation.
5 (f) No portion of the critical area shall be included as part of the minimum lot size.
6 (g) The lot sizes shall not be averaged pursuant to WMC 21.12.180.
7 h) No panhandle lots are permitted. (6) Except as allowed by WMC 21.32.095, in no event shall
8 a lot be less in size than specified by subsection (2) of this section.
9

10 **21.24.090 Disclosure and notice on title.**

- 11 (1) Disclosure. The applicant shall disclose to the City the presence of critical areas on the
12 project area and any mapped or identifiable critical areas within 200 feet of the applicant's
13 property.
14 (2) Notice. The owner of any property containing critical areas or buffers on which a
15 development proposal is submitted, except a public right-of-way or the site of a permanent
16 public facility, shall file for record with the King County Auditor a notice approved in form by
17 the City. The notice shall state the presence of critical areas or buffers on the property, of
18 the application of this chapter to the property, and that limitations on actions in or affecting
19 such critical areas or buffers may exist. The notice shall run with the land and failure to
20 provide such notice to any purchaser prior to transferring interest in the property shall be a
21 violation of this chapter.
22 (3) Submittal of Proof. The applicant shall submit proof to the City that the notice has been filed
23 prior to approval of a development proposal for the property or, in the case of subdivisions,
24 short subdivisions, and binding site plans, at or before recording.
25

26 **21.24.100 Critical area determination.**

- 27 (1) Determination. The City shall perform a critical area determination for any development
28 permit application or other request for permission to proceed with an alteration on a site that
29 includes a critical area or is within an identified critical area buffer. As part of the critical area
30 determination, the City shall:
31 (a) Determine whether any critical area exists on the property and confirm its nature and
32 type;
33 (b) Determine whether a critical area report is required;
34 (c) Evaluate the critical area report;
35 (d) Determine whether the development proposal is consistent with this chapter;
36 (e) Determine whether any proposed alteration to the critical area is necessary; and
37 (f) Determine if the mitigation and monitoring plans and bonding measures proposed by
38 the applicant are sufficient to protect the public health, safety and welfare, and
39 consistent with the goals, purposes, objectives and requirements of this chapter.
40 (2) Appeals. The critical areas determination may be appealed pursuant to WMC 17 Title.
41

42 **21.24.110 Critical areas report requirement.**

- 43 (1) General. An application for a development proposal that includes a critical area or its buffer
44 shall include a critical area report that uses the best available science to evaluate the
45 proposal and all probable impacts.
46 (2) Waiver. The Director may waive the requirement for a report if the applicant demonstrates
47 that:
48 (a) There will be no alteration of the critical area or its buffer;
49 (b) The development proposal will not have an impact on the critical area in a manner
50 contrary to the goals, purposes, objectives and requirements of this chapter; and
51 (c) The minimum standards required by this chapter are met.

- 1 (3) Report Format. The critical areas report shall be in the form of a written document. A critical
2 area report may be combined with any studies required by other laws and regulations. If
3 necessary to ensure compliance with this chapter, additional information from the applicant
4 may be required, separate from the critical areas report.
- 5 (4) Area Limits. If the development proposal will affect only a part of the development proposal
6 site, the Director may limit the scope of the report to include only that part of the site that
7 may be affected by the development.
- 8 (5) Report Contents. A critical areas report shall evaluate the proposed project area and critical
9 areas within 200 feet of the project area or have the potential to be affected by this proposal.
10 A critical areas report shall include the following information:
- 11 (a) Existing conditions of the critical area, including an assessment of habitat and ecological
12 functions and values;
- 13 (b) Assessment of the impacts of any alteration proposed for a critical area or buffer;
- 14 (c) A scale map of the project area. If only a portion of the development site has been
15 mapped pursuant to WMC 21.24.130, the unmapped portion shall be clearly identified
16 and labeled on the site plans. The site plans shall be attached to the notice on title
17 required by WMC 21.24.090.
- 18 (d) Project narrative describing the proposal; anticipated temporary and permanent impacts
19 to critical areas or its buffers; construction activities and sequencing; restoration,
20 enhancement, or mitigation measures; and other relevant information;
- 21 (6) Site and construction plans showing the following:
- 22 (a) Site diagrams, cross-sectional drawings;
- 23 (b) Slope gradients, and existing and final grade elevations at two-foot intervals;
- 24 (c) Type and extent of all critical areas, and buffers on, adjacent to, or within 200 feet of,
25 or that are likely to impact the proposal;
- 26 (c) Location of springs, steeps, surface water runoff features, or other surface
27 expressions of groundwater on or within 200 feet of the project area;
- 28 (d) Proposed development, including the location of existing and proposed structures,
29 fill, storage of materials, drainage facilities, and clearing limits with dimensions
30 indicating distances to the critical area, if available; and
- 31 (e) Other drawings to demonstrate construction techniques and anticipated final outcomes;
- 32 (7) Mitigation. A description of proposed mitigation actions and mitigation site selection criteria.
33 Mitigation shall be design to achieve no net loss of ecological function consistent with WMC
34 21.24.120 and mitigation requirements for each type of affected critical area;
- 35 (8) Evaluation of the proposal for the additional requirements for each critical area. Critical areas
36 reports for two or more types of critical areas must meet the report requirements for each
37 type of affected critical area.
- 38 (9) A permit or approval sought as part of a development proposal for which multiple permits are
39 required may adopt a previously approved critical area report if:
- 40 (a) There is no material change in the development proposal since the prior review;
- 41 (b) There is no new information available that is important to the critical area review of
42 the site or particular critical area;
- 43 (c) The permit or approval under which the prior review was conducted has not expired,
44 or if no expiration date exists, no more than five years have lapsed since the
45 issuance of that permit or approval; and
- 46 (d) The prior permit or approval, including any conditions, has been met.

47
48 **21.24.120 Mitigation requirements.**

- 49 (1) General. Mitigation, maintenance and monitoring measures shall be in place to protect
50 critical areas and buffers from alterations resulting from proposed development.

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- 1 (2) Mitigation Measures. Mitigation shall be in-kind and on-site where feasible, and shall be
2 designed to maintain and enhance ecological functions and values, and to prevent risk from
3 hazards posed by the critical area. Mitigation measures shall evaluate goals and objectives
4 of proposed mitigation relating to impact to functions and values. Review of best available
5 science supporting the proposed mitigation is required.
- 6 (3) Mitigation Sequencing. When an alteration to a critical area is proposed, such alteration shall
7 be avoided, minimized, or compensated for, as outlined by WAC 197-11-768, in the
8 following order of preference:
- 9 (a) Avoiding the impact altogether by not taking a certain action or parts of actions;
 - 10 (b) Minimizing impacts by limiting the degree or magnitude of the action and its
11 implementation;
 - 12 (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected
13 environment;
 - 14 (d) Reducing or eliminating the impact over time by preservation and maintenance
15 operations during the life of the action;
 - 16 (e) Compensating for the impact by replacing or providing substitute resources or
17 environments; and/or
 - 18 (f) Monitoring the impacts and compensation projects and taking appropriate corrective
19 measures.

20
21 **21.24.130 Maintenance, monitoring, and contingency.**

- 22 (1) Maintenance and Monitoring. A program shall be included as part of the mitigation plan, and
23 shall include the following:
- 24 (a) Performance standards for mitigation or restoration sites, which shall include:
 - 25 (i) 100 percent survival of installed vegetation within the first two years of
26 planting;
 - 27 (ii) At least 80 percent survival of installed vegetation for three years or more; and
 - 28 (iii) Less than 10 percent of the mitigation area covered in nonnative invasive
29 species for three years or more.
 - 30 (b) Contingency plan identifying courses of action and corrective measures to be taken if
31 monitoring or evaluation indicates that the performance measures have not been
32 met;
 - 33 (c) A schedule for site monitoring, which includes at minimum one monitoring or
34 inspection every 12 months;
 - 35 (d) Monitoring period necessary to ensure that the performance standards have been
36 met, not to be less than five years; and
 - 37 (e) Information on maintenance bonds or financial guarantees to ensure that the
38 mitigation plan is implemented.
- 39 (2) Performance Guarantee. A performance bond or other security equal to or greater than 150
40 percent of the actual cost of mitigation shall be posted in a form acceptable to the City prior
41 to issuance of construction permits. Actual costs shall include all labor and materials
42 associated with the mitigation activity. The security shall be sufficient to guarantee that all
43 required mitigation measures will be completed in a timely manner in accordance with this
44 chapter.
- 45 (3) Maintenance Guarantee. A maintenance/monitoring bond or other security equal to or
46 greater than 20 percent of the cost of mitigation shall be posted in a form acceptable to the
47 City prior to final inspection, occupancy, or release of the performance bond, whichever is
48 first. The security shall be sufficient to guarantee satisfactory workmanship on, materials in
49 and performance of or related to structures and improvements allowed or required by this
50 chapter for a period of up to five years. The duration of maintenance/monitoring obligations
51 shall be established by the Director, based upon the nature of the proposed mitigation,

1 maintenance or monitoring, and the likelihood and expense of correcting mitigation or
2 maintenance failures.

- 3 (4) Corrective Measures. Where monitoring reveals a significant deviation from predicted
4 impacts or a failure of mitigation or maintenance measures, the applicant shall be
5 responsible for appropriate corrective action which, when approved, shall be subject to
6 further monitoring.
- 7 (5) Restoration. Performance and maintenance/monitoring bonds or other security shall also be
8 required for restoration of a critical area or buffer not performed as part of a mitigation or
9 maintenance plan. The bond or other security shall be in a form and amount deemed
10 acceptable by the Director.
- 11 (6) Time Limit. Performance and maintenance/monitoring bonds or other security authorized by
12 this section shall remain in effect until the City determines, in writing, that the standards
13 bonded for have been met.
- 14 (7) Obligation. Depletion, failure or collection of security funds shall not discharge the obligation
15 of an applicant or violator to complete required mitigation, maintenance, monitoring or
16 restoration.

17
18 **21.24.140 Critical area markers and signs.**

- 19 (1) Survey Stakes. Permanent survey stakes delineating the boundary between the adjoining
20 property and NGPA shall be set, using iron or concrete markers as established by current
21 survey standards.
- 22 (2) When Required. Signage and fencing shall be required for all wetlands and fish and wildlife
23 habitat conservation areas. The City shall determine if fencing and permanent signage is
24 necessary to protect other types of critical areas. Signage and fencing shall be located along
25 the outer boundary of a critical area buffer or tract in order to protect the critical area.
- 26 (3) Permanent Signs. Signs shall be made of an enamel-coated metal face and attached to a
27 metal post or other material of equal durability. Signs must be posted at an interval of 75
28 feet and must be maintained by the property owner in perpetuity. The sign shall follow the
29 City's adopted signage standard, be worded as follows or with alternative language as
30 approved by the City:

31
32 Protected Critical Area
33 Do Not Disturb
34 Help protect and care for this area
35 Contact City of Woodinville 489-2754
36

- 37 (4) Fencing. Required fencing shall be constructed of permanent and durable materials. Fencing
38 shall be designed so as to not interfere with species migration and shall be constructed in a
39 manner that minimizes impacts to the critical areas and associated habitat.

40
41 **21.24.150 Native growth protection areas and designations on site plans.**

- 42 (1) Tracts. A native growth protection area (NGPA) in the form of a tract shall be used to
43 delineate and protect those critical areas and buffers listed below for development proposals
44 including new construction, subdivisions, short subdivisions and binding site plans. NGPA
45 tracts shall be recorded on all documents of title of record for all affected lots.
- 46 (a) All geological hazard areas and buffers which are one acre or greater in size;
47 (b) All fish and wildlife conservation areas;
48 (c) All wetlands and buffers;
49 (d) All streams and buffers.
- 50 (2) Tract interest. Any required NGPA tract shall be held in an undivided interest by each owner
51 of a building lot within the development. This ownership interest shall pass with the

1 ownership of the lot or shall be held by an incorporated homeowner's association or other
2 legal entity, which assures the ownership, maintenance, and protection of the tract.

- 3 (3) Site Plan. Site plans submitted as part of development proposals for building permits and
4 clearing and grading permits shall include and delineate all flood hazard areas (if they have
5 been mapped by FEMA, King County or the City of Woodinville or if a special study is
6 required), geological hazard areas, streams and wetlands, buffers and building setbacks
7 and native growth protection easements. If only a part of the development site has been
8 mapped pursuant to WMC 21.24.130, the part of the site which has not been mapped shall
9 be clearly identified and labeled on the site plans. The site plans shall be attached to the
10 notice on title required by WMC 21.24.170.
- 11 (4) Easements. If a NGPA tract is not required in accordance with subsection (1), a NGPA in the
12 form of an easement may be required over delineated critical areas to protect them in
13 perpetuity.
- 14 (5) Recording. NGPAs shall be recorded on all documents of the title of record and shall be
15 designated on the face of the plat or recorded drawing.
- 16 (6) Native growth protection areas shall be marked with critical area signage and/or fencing to
17 protect wildlife corridors and to discourage human intrusion into the critical area pursuant to
18 WMC 21.24.140.
- 19 (7) Native growth protection areas may be enhanced as part of a mitigation or restoration
20 project. The NGPA shall be designated as protected habitat for fish and wildlife and shall be
21 left in its natural state (with the exception of mitigation to enhance habitat). Any downed
22 trees shall remain in the NGPA to provide habitat for wildlife.

23 24 **21.24.200 Critical aquifer recharge areas – Designation.**

- 25 (1) Definition. Critical aquifer recharge areas (CARAs) are those areas with a critical recharging
26 effect on aquifers used for potable water as defined in WAC 365-190-030(2). Due to soil
27 infiltration conditions of these CARAs, they contribute significantly to the replenishment of
28 groundwater, and often have a high potential for contamination of groundwater resources.
- 29 (2) Designation. Identification of CARAs shall be made in based on the City's adopted Critical
30 Aquifer Recharge Areas map pursuant to WMC 21.24.030. The critical aquifer recharge
31 areas within the city limits have a medium to high susceptibility to groundwater
32 contamination and are not located in a sole source aquifer or wellhead protection area.
- 33 (3) An applicant can request that the City declassify a specific area included in the map
34 adopted under WMC 21.24.030 of this chapter. The request must be supported by a critical
35 areas report that includes a hydrogeologic assessment. The request to declassify an area
36 shall be reviewed by the Director following the procedure in WMC 21.24.110.

37 38 **21.24.210 Critical aquifer recharge areas – Development standards.**

- 39 (1) The following new uses and activities are not allowed in a critical aquifer recharge area:
- 40 (a) Mining of any type below the water table;
 - 41 (b) Processing, storage, and disposal of radioactive substances;
 - 42 (c) Hydrocarbon extraction;
 - 43 (d) Commercial wood treatment facilities on permeable surfaces;
 - 44 (e) Wrecking yards;
 - 45 (f) Landfills for hazardous waste, municipal solid waste, or special waste; and
 - 46 (g) On-site septic systems on lots smaller than one acre without a treatment system that
47 results in effluent nitrate-nitrogen concentrations below 10 milligrams per liter.

48 49 **21.24.230 Critical aquifer recharge areas – Permitted alterations.**

- 50 (1) The following standards apply to any development proposal in a critical aquifer recharge
51 area:

- 1 (a) All storage tanks proposed to be located in a critical aquifer recharge area must
 2 comply with the International Building Code and the International Fire Code
 3 requirements for secondary containment.
 4 (b) Commercial vehicle repair and servicing must be conducted over impermeable pads
 5 and within a covered structure capable of withstanding normally expected weather
 6 conditions. Chemicals used in the process of vehicle repair and servicing must be
 7 stored in a manner that protects them from weather and provides containment
 8 should leaks occur.
 9 (c) No dry wells shall be allowed in critical aquifer recharge areas on sites used for
 10 vehicle repair and servicing. Dry wells existing on the site prior to facility
 11 development must be abandoned using techniques approved by the Washington
 12 Department of Ecology prior to commencement of the proposed activity.
 13 (d) The activities listed below shall be conditioned in accordance with the applicable
 14 state and federal regulations as necessary to protect critical aquifer recharge areas.
 15

Activity	Applicable State and Federal Regulations
Above-ground storage tanks	WAC 173-303-640
Animal feedlots	Chapter 173-216 WAC, Chapter 173-220 WAC
Automobile washers	Chapter 173-216 WAC, Vehicle and Equipment Washwater Discharges/Best Management Practices Manual (DOE 95-056)
Chemical treatment storage and disposal facilities	WAC 173-303-182
Hazardous waste generator (boat repair shops, biological research facility, dry cleaners, furniture stripping, motor vehicle service garages, photographic processing, printing and publishing shops, etc.)	Chapter 173-303 WAC
Injection wells	Federal 40 CFR Parts 144 and 146, Chapter 173-218 WAC
Junk yards and salvage yards	Chapter 173-304 WAC, Vehicle Recyclers: A Guide for Implementing the Industrial Stormwater General National Pollutant Discharge Elimination System (NPDES) Permit Requirements (DOE 94-146)
Oil and gas drilling	WAC 332-12-450, Chapter 173-218 WAC
On-site sewage systems (large scale)	Chapter 173-240 WAC
On-site sewage systems (< 14,500 gallons/day)	Chapter 246-272 WAC, Local Health Ordinances

Activity	Applicable State and Federal Regulations
Pesticide storage and use	Chapter 15.54 RCW, Chapter 17.21 RCW
Sawmills	Chapter 173-303 WAC, Chapter 173-304 WAC, Industrial Stormwater General Permit Implementation Manual for Log Yards (DOE 04-10-031)
Solid waste handling and recycling facilities	Chapter 173-304 WAC
Surface mining	WAC 332-18-015
Underground storage tanks	Chapter 173-360 WAC
Wastewater application to land surface	Chapter 173-216 WAC, Chapter 173-200 WAC

1
2 **21.24.240 Critical aquifer recharge areas – Critical areas report additional requirements.**

3 (1) In addition to the general critical report requirements in WMC 21.24.110, critical areas
4 reports for CARAs shall include the following:

- 5 (a) Prepared by a Qualified Professional. A critical areas report for CARAs shall be
6 prepared by a qualified professional who is a hydrogeologist, geologist, or engineer
7 licensed in the State of Washington. The qualified professional shall have a
8 minimum of five years of experience in the field and with experience in preparing
9 hydrogeologic assessments.
- 10 (b) Hydrogeologic Assessment. For all proposed activities to be located in a critical
11 aquifer recharge area, a critical area report shall contain a Level I hydrogeological
12 assessment. A Level 2 hydrogeologic assessment shall be required for any of the
13 following proposed activities:
- 14 (i) Activities that result in five percent or more impervious site area;
 - 15 (ii) Activities that divert, alter, or reduce the flow of surface or groundwater, or
16 reduce the recharging of the aquifer;
 - 17 (iii) The use of hazardous substances, other than household chemicals used
18 according to the directions specified on the packaging for domestic
19 applications;
 - 20 (iv) The use of injection wells, including on-site septic systems, except those
21 domestic septic systems releasing less than 14,500 gallons of effluent per
22 day and that are limited to a maximum density of one system per one acre; or
 - 23 (v) Any other activity determined by the City to likely to have an adverse impact
24 on ground water quality or quantity, or on the recharge of the aquifer.
- 25 (c) Level 1 Hydrogeologic Assessment. A Level 1 hydrogeologic assessment shall
26 include the following information on the site and development proposal:
- 27 (i) Available information regarding geologic and hydrogeologic characteristics of
28 the site including the surface location of all critical aquifer recharge areas
29 located on site or immediately adjacent to the site, and permeability of the
30 unsaturated zone;
 - 31 (ii) Groundwater depth, flow direction, and gradient based on available
32 information;

- 1 (iii) Currently available data on wells and springs within 1,300 feet of the project
2 area;
- 3 (iv) Location of other critical areas, including surface waters, within 1,300 feet of
4 the project area;
- 5 (v) Available historic water quality data for the area to be affected by the
6 proposed activity; and
- 7 (vi) Best management practices proposed to be utilized.
- 8 (d) Level 2 Hydrogeologic Assessment. A Level 2 hydrogeologic assessment shall
9 include the information required for a Level 1 hydrogeologic assessment and the
10 following information:
- 11 (i) Historic water quality data for the area to be affected by the proposed activity
12 compiled for at least the previous five year period;
- 13 (ii) Groundwater monitoring plan provisions;
- 14 (iii) Discussion of the effects of the proposed project on the ground water quality
15 and quantity, including:
- 16 (A) Predictive evaluation of groundwater withdrawal effects on nearby
17 wells and surface water features; and
- 18 (B) Predictive evaluation of contaminant transport based on potential
19 releases to ground water; and
- 20 (iv) A spill plan that identifies equipment and/or structures that could fail, resulting
21 in an impact. Spill plans shall include provisions for regular inspection, repair,
22 and replacement of structures and equipment that could fail.

23
24 **21.24.250 Geologically hazardous areas – Designation.**

- 25 (1) Definition. Geologically hazardous areas are those areas susceptible to erosion, sliding,
26 earthquake, or other geological events. Geologically hazardous areas pose a risk to health
27 and safety of citizens when incompatible development is located in areas of significant
28 hazard.
- 29 (2) Designation. Areas susceptible to one or more of the following types of hazards shall be
30 designated as a geologically hazardous area and subject to the provisions of this chapter.
- 31 (a) Erosion Hazard. Those areas identified by the U.S. Department of Agriculture's
32 Natural Resources Conservation Service or identified by a critical area report as
33 having a severe to very severe erosion potential.
- 34 (b) Landslide Hazard. Those areas potentially subject to landslides based on a
35 combination of geologic, topographic, and hydrologic factors. These factors include
36 areas susceptible because of any combination of bedrock, soil, slope (gradient),
37 slope aspect, structure, hydrology, or other factors. Examples of these may include,
38 but are not limited to the following:
- 39 (i) Areas of historic failures, such as areas designated as quaternary slumps,
40 earthflows, mudflows, lahars, or landslides on maps published by the U.S.
41 Geological Survey or Department of Natural Resources;
- 42 (ii) Areas with all three of the following characteristics:
- 43 (A) Slopes steeper than 15 percent;
- 44 (B) Hillsides intersecting geologic contacts with a relatively permeable
45 sediment overlying a relatively impermeable sediment or bedrock; and
- 46 (C) Springs or ground water seepage;
- 47 (iii) Areas that have shown movement during the Holocene epoch (from 10,000
48 years ago to the present) or that are underlain or covered by mass wastage
49 debris of that epoch;
- 50 (iv) Areas potentially unstable because of rapid stream incision, stream bank
51 erosion, and undercutting by wave action;

- 1 (v) Areas located in a canyon or on an active alluvial fan, presently or potentially
- 2 subject to inundation by debris flows or catastrophic flooding; and
- 3 (vi) Any area with a slope of 40 percent or steeper and with a vertical relief of 10
- 4 or more feet except areas composed of consolidated rock. A slope is
- 5 delineated by establishing its toe and top and measured by averaging the
- 6 inclination over at least 10 feet of vertical relief.
- 7 (c) Seismic Hazard. Those areas subject to severe risk of damage as a result of
- 8 earthquake-induced ground shaking, slope failure, settlement, surface rupture, or soil
- 9 liquefaction.
- 10 (i) Ground shaking is the primary cause of earthquake damage in Washington.
- 11 The strength of ground shaking is primarily affected by the magnitude of an
- 12 earthquake; the distance from the source of an earthquake; the type and
- 13 thickness of geologic materials at the surface; and the subsurface geologic
- 14 structure.
- 15 (ii) Settlement and soil liquefaction conditions occur in areas underlain by
- 16 cohesionless, loose, or soft-saturated soils of low density, typically in
- 17 association with a shallow ground water table.
- 18 (d) Other Geologic Hazard. Other geological events including mass wasting debris flows,
- 19 rock falls, and differential settlement.
- 20

21 **21.24.260 Geologically hazardous areas – Erosion and landslide hazards.**

- 22 (1) General Development Standards. Alterations of erosion and landslide hazard areas and their
- 23 buffers may only occur for activities that:
- 24 (a) Will not increase the threat of the geological hazard to adjacent properties beyond
- 25 predevelopment conditions;
- 26 (b) Will not adversely impact other critical areas or buffers;
- 27 (c) Are designed so that the hazard to the project is eliminated or mitigated to a level
- 28 where there is no increased adverse impact beyond predevelopment condition to the
- 29 project or its associated land use; and
- 30 (d) Are certified as safe by a qualified engineer or geologist, licensed in the State of
- 31 Washington.
- 32 (2) Buffer Required. A buffer shall be established from all edges of erosion or landslide hazard
- 33 areas. The size of the buffer shall be determined by the City to eliminate or minimize the risk
- 34 of property damage, death, or injury resulting from erosion and landslides caused in whole
- 35 or part by the development, based upon review of and concurrence with a critical area report
- 36 prepared by a qualified professional.
- 37 (a) Standard Buffer. The minimum buffer shall be 50 feet.
- 38 (b) Buffer Reduction. The buffer may be reduced to a minimum of 10 feet when a
- 39 qualified professional demonstrates that the reduction will provide adequate
- 40 protection to the proposed development, adjacent developments and uses, and the
- 41 subject critical area.
- 42 (c) Increased Buffer. The buffer may be increased where the City determines a larger
- 43 buffer is necessary to prevent risk of damage to proposed and existing development.
- 44 (3) Design Standards. Development within an erosion or landslide hazard area and its buffer
- 45 shall be designed to meet the following requirements, unless it can be demonstrated that an
- 46 alternative design provides greater long-term slope stability while meeting all other
- 47 provisions of this title:
- 48 (a) The proposed development shall not decrease the factor of safety for landslide
- 49 occurrences below predevelopment levels based on demonstrated geotechnical
- 50 back analysis by a qualified professional;

- 1 (b) Structures and improvements shall be clustered to avoid geologically hazardous
2 areas and other critical areas to the greatest extent possible;
- 3 (c) Structures and improvements shall minimize alterations to the natural contour of the
4 slope and foundations and shall be tiered where possible to conform to existing
5 topography;
- 6 (d) Structures and improvements shall be located to preserve the most critical portion of
7 the site and its natural landforms and vegetation;
- 8 (e) The proposed development shall not result in greater risk or a need for increased
9 buffers on neighboring properties;
- 10 (f) The use of retaining walls that allow the maintenance of existing natural slope area is
11 preferred over graded artificial slopes; and
- 12 (g) Development shall be designed to minimize impervious lot coverage.
- 13 (4) Alteration Criteria. Alterations shall be subject to the following requirements:
- 14 (a) Alterations of an erosion or landslide hazard area and its buffer may only occur for
15 activities for which a geotechnical analysis is submitted and certifies that:
- 16 (i) The development will not increase surface water discharge or sedimentation to
17 adjacent properties beyond predevelopment conditions;
- 18 (ii) The development will not decrease slope stability on adjacent properties;
- 19 (iii) Such alterations will not adversely impact other critical areas; and
- 20 (iv) Slopes that are determined to be artificially created or man-made slopes
21 through past grading or development activities may be modified under the
22 recommendation of an approved geotechnical report that demonstrates that
23 alteration will stabilize the slope and minimize erosion and landslide risk
24 beyond predevelopment conditions.
- 25 (b) Vegetation Preservation. Unless otherwise provided or as part of an approved
26 alteration, removal of vegetation from an erosion or landslide hazard area or related
27 buffer shall be prohibited.
- 28 (c) Seasonal Restriction. Clearing shall be allowed only from May 1st to October 1st of
29 each year; provided, that the City may extend or shorten the dry season on a case-
30 by-case basis depending on actual weather conditions. Timber harvest, not including
31 brush clearing or stump removal, may be allowed outside of seasonal restrictions
32 pursuant to an approved forest practice permit issued by the Washington
33 Department of Natural Resources.
- 34 (d) Utility Lines and Pipes. Utility lines and pipes shall be permitted in erosion and
35 landslide hazard areas only when the applicant demonstrates that no other practical
36 alternative is available. The line or pipe shall be located above ground and properly
37 anchored, and designed so that it will continue to function in the event of an
38 underlying slide. Stormwater conveyance shall be allowed only through a high-
39 density polyethylene pipe with fuse-welded joints, or similar product approved by the
40 City that is technically equal or superior.
- 41 (e) Point Discharges. Point discharges from surface water facilities and roof drains onto
42 or upstream from an erosion or landslide hazard area shall be prohibited except as
43 follows:
- 44 (i) Conveyed via continuous storm pipe downslope to a point where there are no
45 erosion hazards areas downstream from the discharge;
- 46 (ii) Discharged at flow durations matching predeveloped conditions, with
47 adequate energy dissipation, into existing channels that previously conveyed
48 storm water runoff in the predeveloped state; or
- 49 (iii) Dispersed discharge upslope of the steep slope onto a low-gradient
50 undisturbed buffer demonstrated to be adequate to infiltrate all surface and

- 1 storm water runoff, and where it can be demonstrated that such discharge will
2 not increase the saturation of the slope.
- 3 (f) Subdivisions. The division of land in erosion and landslide hazard areas and
4 associated buffers shall be subject to WMC 21.24.080.
- 5 (g) Septic Systems. On-site sewage disposal systems, including drain fields, shall be
6 prohibited within erosion and landslide hazard areas and related buffers.
- 7 (5) Additional report requirements. In addition to the general critical report requirements of WMC
8 21.24.110, critical areas reports for erosion and landslide hazard areas shall include the
9 following information:
- 10 (a) Prepared by a Qualified Professional. The critical areas report shall be prepared by a
11 qualified professional who is an engineer or geologist licensed in the State of
12 Washington. The qualified professional shall have a minimum of five years of
13 experience in the field and experience in preparing reports for geologic, hydrologic,
14 and groundwater flow systems.
- 15 (b) Hazards Analysis. The hazards analysis shall include the following information on the
16 site and development proposal:
- 17 (i) A description of the extent and type of vegetative cover;
- 18 (ii) A description of subsurface conditions based on data from site-specific
19 explorations;
- 20 (iii) Descriptions of surface and ground water conditions, public and private
21 sewage disposal systems, fills and excavations, and all structural
22 improvements;
- 23 (iv) An estimate of slope stability and the effect construction and placement of
24 structures will have on the slope over the estimated life of the structure;
- 25 (v) An estimate of the bluff retreat rate, taking into account potential catastrophic
26 events such as seismic activity or a one hundred-year storm event;
- 27 (vi) Consideration of the run-out hazard of landslide debris and/or the impacts of
28 landslide run-out on down slope properties;
- 29 (vii) A study of slope stability including an analysis of proposed cuts, fills, and
30 other site grading;
- 31 (viii) Recommendations for building siting limitations; and
- 32 (ix) An analysis of proposed surface and subsurface drainage, and the
33 vulnerability of the site to erosion.
- 34 (x) A detailed overview of the field investigations, published data, and references;
35 data and conclusions from past assessments of the site; and site specific
36 measurements, test, investigations, or studies that support the identification
37 of geologically hazardous areas; and
- 38 (xi) A review of the site history regarding landslides, erosion, and prior grading.
39 A description of the vulnerability of the site to seismic and other geologic
40 events.
- 41 (c) Geotechnical Engineering Report. The technical information for a project within a
42 landslide hazard area shall include a geotechnical engineering report prepared by a
43 licensed engineer that presents engineering recommendations for the following:
- 44 (i) Parameters for design of site improvements including appropriate foundations
45 and retaining structures. These should include allowable load and resistance
46 capacities for bearing and lateral loads, installation considerations, and
47 estimates of settlement performance;
- 48 (ii) Recommendations for drainage and subdrainage improvements;
- 49 (iii) Earthwork recommendations including clearing and site preparation criteria,
50 fill placement and compaction criteria, temporary and permanent slope

- 1 inclinations and protection, and temporary excavation support, if necessary;
2 and
3 (iv) Mitigation of adverse site conditions including slope stabilization measures
4 and seismically unstable soils, if appropriate;
- 5 (d) Analysis of Proposal. The report shall contain a hazards analysis including a detailed
6 description of the project, its relationship to the geologic hazard(s), and its potential
7 impact upon the hazard area, the subject property, and affected adjacent properties.
8 (e) Erosion and Sediment Control Plan. For any development proposal on a site
9 containing an erosion hazard area, an erosion and sediment control plan shall be
10 required. The erosion and sediment control plan shall be prepared in compliance
11 with requirements set forth in the adopted King County Stormwater Design Manual.
12 (f) Drainage Plan. The technical information shall include a drainage plan for the
13 collection, transport, treatment, discharge, and/or recycle of water prepared in
14 accordance with the adopted King County Stormwater Design Manual. The drainage
15 plan should consider on-site septic system disposal volumes where the additional
16 volume will affect the erosion or landslide hazard area.
17 (g) Monitoring Surface Waters. If the City determines that there is a significant risk of
18 damage to downstream receiving waters due to potential erosion from the site,
19 based on the size of the project, the proximity to the receiving waters, or the
20 sensitivity of the receiving waters, the technical information shall include a plan to
21 monitor the surface water discharge from the site. The monitoring plan shall include
22 a recommended schedule for submitting monitoring reports to the City.
23 (h) Minimum Buffer and Building Setback. The report shall make a recommendation for
24 the minimum no-disturbance buffer and minimum building setback from any geologic
25 hazard based upon the geotechnical analysis.
26 (i) Mitigation Assessment. When hazard mitigation is required, the mitigation plan shall
27 specifically address how the activity maintains or reduces the pre development level
28 of risk to the site and adjacent properties on a long-term basis (equal to or exceeding
29 the projected lifespan of the activity or occupation). Mitigation may be required to
30 avoid any increase in risk above the pre-existing conditions following abandonment
31 of the activity.
32

33 **21.24.270 Geologically hazardous areas – Seismic hazard areas and other hazard areas.**

- 34 (1) Development Standards. Alterations of seismic hazard areas or other hazard areas and their
35 buffers may only occur for activities that:
36 (a) Will not increase the threat of the geological hazard to adjacent properties beyond
37 predevelopment conditions;
38 (b) Will not adversely impact other critical areas or buffers;
39 (c) Are designed so that the hazard to the project is eliminated or mitigated to a level
40 where there is no increased adverse impact beyond predevelopment condition to the
41 project or its associated land use; and
42 (d) Are certified as safe by a qualified engineer or geologist, licensed in the State of
43 Washington.
- 44 (2) Additional report requirements. In addition to the general critical report requirements of WMC
45 21.24.110, critical areas reports for seismic and other hazard areas must address the
46 requirements of this section.
47 (a) Prepared by a Qualified Professional. The critical areas report shall be prepared by a
48 qualified professional who is an engineer or geologist licensed in the State of
49 Washington. The qualified professional shall have a minimum of five years of
50 experience in the field and experience in preparing reports for geologic, hydrologic,
51 and groundwater flow systems.

- 1 (b) Hazards Analysis. The hazards analysis shall include a complete discussion of the
2 potential impacts of seismic activity on the site (for example, forces generated and
3 fault displacement).
- 4 (c) Geological Assessment. The report shall include an assessment of the geologic
5 characteristics of the soils, sediments, and/or rock of the project area and potentially
6 affected adjacent properties. Soils analysis shall be accomplished in accordance with
7 accepted classification systems in use in the region. The assessment shall include:
8 (i) A description of the surface and subsurface geology, hydrology, soils, and
9 vegetation found in the project area and in all hazard areas addressed in the
10 report;
11 (ii) A detailed overview of the field investigations, published data, and references;
12 data and conclusions from past assessments of the site; and site specific
13 measurements, test, investigations, or studies that support the identification
14 of geologically hazardous areas; and
15 (iii) A review of the site history regarding landslides, erosion, and prior grading. A
16 description of the vulnerability of the site to seismic and other geologic
17 events.
- 18 (d) Geotechnical Engineering Report. A geotechnical engineering report shall evaluate
19 the physical properties of the subsurface soils, particularly the thickness of
20 unconsolidated deposits and their liquefaction potential. If it is determined that the
21 site is subject to liquefaction, mitigation measures shall be recommended and
22 implemented.
- 23 (e) Analysis of Proposal. The report shall contain a hazards analysis including a detailed
24 description of the project, its relationship to the geologic hazard(s), and its potential
25 impact upon the hazard area, the subject property, and affected adjacent properties.
- 26 (f) Minimum Buffer and Building Setback. The report shall make a recommendation for
27 the minimum no-disturbance buffer and minimum building setback from any geologic
28 hazard based upon the geotechnical analysis.
- 29 (g) Mitigation Assessment. When hazard mitigation is required, the mitigation plan shall
30 specifically address how the activity maintains or reduces the pre development level
31 of risk to the site and adjacent properties on a long-term basis (equal to or exceeding
32 the projected lifespan of the activity or occupation). Mitigation may be required to
33 avoid any increase in risk above the pre-existing conditions following abandonment
34 of the activity.

35
36 **21.24.300 Wetlands – Designation and rating.**

- 37 (1) Definition. Wetlands are those areas that are inundated or saturated by surface or ground
38 water at a frequency and duration to support, and that under normal circumstances do
39 support, a prevalence of vegetation adapted for life in saturated soil conditions.
- 40 (2) Designation. Identification of wetlands and delineation of their boundaries shall be in
41 accordance with the current approved federal wetland delineation manual and applicable
42 regional supplements as set forth in WAC 173-22-035. Areas meeting the wetland
43 designation criteria are critical areas and subject to the provisions of this chapter.
- 44 (3) Wetland Rating and Categories. Wetlands shall be rated according to the current approved
45 version of the Department of Ecology Washington State Wetland Rating System for Western
46 Washington. Definitions and the methodology for determining criteria as provided in this
47 document are hereby adopted by reference.
- 48 (a) Wetlands shall be categorized based on the table below. If the wetland qualifies
49 under more than one category, the greater wetland rating shall apply.

50
51 **Table 21.24.320(3)(a) – Wetland Categories**

Category	Designation Descriptions
Category I	Wetlands that meet one of the following criteria: <ul style="list-style-type: none"> - High level of functions (score of 23 or more); - Represent a unique or rare high-functioning wetland types; - More sensitive to disturbance than most wetlands; or - Relatively undisturbed and contain ecological attributes that are impossible to replace in a human lifetime.
Category II	<ul style="list-style-type: none"> - High level of some functions (score of 20-22). - Difficult, though not impossible, to replace.
Category III	<ul style="list-style-type: none"> - Moderate level of functions (score of 16-19). - Can often be adequately replaced with a well-planned mitigation project. - Experienced some disturbance. - Often less diverse and more isolated from other natural resources than Category II wetlands.
Category IV	<ul style="list-style-type: none"> - Lowest level of functions (score of 15 or less). - Can often be adequately replaced with a well-planned mitigation project. - Often characterized by a high level of disturbance .

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- (b) Date of Wetland Rating. Wetland rating categories shall be applied as the wetland exists on the date of adoption of the rating system, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Wetland rating categories shall not change due to illegal modification.
- (c) Delineation. The wetland's boundaries shall be delineated through a survey and field investigation by a qualified professional applying the most current federal wetland delineation manual and applicable regional supplement. Wetland delineations are valid for five years; after such date, the City shall determine whether a revision or additional assessment is necessary.

21.24.310 Wetlands – Development standards.

- (1) Standard Wetland Buffers. Activities and uses shall be prohibited within wetlands and their buffers except as provided for in this chapter. The width of the wetland buffers shall be determined according to the wetland category and habitat point scoring shown in Table 21.24.310(1).

Table 21.24.310(1) – Wetland Buffer Widths

Wetland Category	Buffer width based on habitat points			
	3-4 habitat points	5 habitat points	6-7 habitat points	8-9 habitat points
Category I	75 feet	105 feet	165 feet	225 feet
Category II	75 feet	105 feet	165 feet	225 feet
Category III	60 feet	105 feet	165 feet	225 feet
Category IV	45 feet			

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- (2) Measurement. The outer edge of the wetland buffer shall be delineated through a survey and field investigation by a qualified professional.
- (3) Increased Buffers. An increased buffer width shall be required in accordance with the recommendations of a qualified professional and best available science when a larger buffer

1 is necessary to protect wetland functions and values. This determination shall be based on
2 one or more of the following critical areas:

- 3 (a) Geologically Hazardous Areas. If the buffer or abutting uplands include a geologically
4 hazardous area, the buffer width shall be the greater of either the required wetland
5 buffer or 25 feet beyond the top of the hazard area.
- 6 (b) Other Critical Areas. If the wetland and its buffer are located adjacent to other critical
7 areas, a larger buffer may be required to protect other critical areas in accordance to
8 the recommendations of a qualified professional and best available science.
- 9 (c) Species Habitat. The wetland contains documented habitat for endangered,
10 threatened, priority species or species of local importance. The buffer shall be
11 established based on a habitat assessment pursuant to WMC 21.24.400 through
12 WMC 21.24.440.
- 13 (5) Roads or Structures in Buffers. Where a legally established roadway transects a wetland
14 buffer, a modification to the minimum required buffer width may be granted to the edge of
15 the roadway, provided that the proposed development is on the other side of the roadway
16 and does not increase the degree of nonconformity.
- 17 (6) Buffer Averaging. The minimum buffer width may be averaged in accordance with an
18 approved critical area report using the best available science. Averaging of buffer widths
19 may only be allowed if all of the following criteria are met:
- 20 (a) It will provide additional protection to wetlands and result in a net improvement of
21 wetland habitat, functions and values;
- 22 (b) The buffer width is not reduced by more than 25 percent of the standard width in any
23 one location;
- 24 (c) The wetland contains variations in sensitivity due to existing physical characteristics
25 or the character of the buffer varies in slope, soils, or vegetation, and the wetland
26 would benefit from a wider buffer in places and would not be adversely impacted by
27 a narrower buffer in other places;
- 28 (d) The total area contained in the buffer area after averaging is no less than that which
29 would be contained within the standard buffer; and
- 30 (e) When wetland standard buffers are reduced, wetland areas shall not to be filled to
31 create wetland buffers.
- 32 (7) Temporary and permanent signs and fencing shall be installed along the outer boundary of
33 the wetland buffer in accordance with WMC 21.24.130.
- 34 (8) Livestock. Property owners shall implement a farm management plan or standards to protect
35 and enhance wetland water quality pursuant to Chapter 21.30 WMC.

36
37 **21.24.320 Wetlands – Permitted activities.**

- 38 (1) Alterations. Alterations to wetlands and their buffers may be allowed in addition to those
39 established in WMC 21.24.040 and WMC 21.24.050, if the City determines that there is no
40 practical alternative location with less adverse impact on the wetland or its buffer, subject to
41 mitigation requirements set forth in this chapter, as follows:
- 42 (a) Conservation and Restoration Activities. Conservation and recreation activities
43 include activities that are aimed at protecting soil, water, vegetation, or wildlife.
- 44 (b) Public and Private Utilities. Utilities may be allowed in wetland buffers if all of the
45 following criteria are met:
- 46 (i) Placement of the utilities is located on the outer may be located in the outer 25
47 percent of the buffer area;
- 48 (ii) The utility corridor and construction area are the minimum size necessary;
- 49 (iii) The utility is not located in a wetland or buffer designated as a fish and
50 wildlife habitat conservation area pursuant to WMC 21.24.400;

- 1 (iv) Mitigation is required that minimizes the impact of the proposal on the
2 wetland buffer;
- 3 (v) The utility corridor meets the provisions of Policies U-1.5 and U-1.8 of the
4 Comprehensive Plan;
- 5 (vi) Construction and maintenance protects the wetland and buffer and is aligned
6 to avoid cutting trees greater than 12 inches in diameter at breast height; and
7 (vii) For public sewer and water distribution only, if the corridor cannot be located
8 in the outer 25 percent of the buffer area due to gravity flow, it may be located
9 in another part of the buffer with the least adverse impact to the wetland.
- 10 (c) Drilling for Utilities or Utility Corridors under a Wetland. Entrance/exit portals shall be
11 located completely outside of the wetland buffer, provided that drilling does not
12 interrupt the ground water connection to the wetland or percolation of surface water
13 down through the soil column. Specific studies by a hydrologist are necessary to
14 determine whether the ground water connection to the wetland or percolation of
15 surface water down through the soil column will be disturbed.
- 16 (d) Utility Joint Use. Joint use of an approved utility corridor by other utilities may be
17 allowed.
- 18 (f) Surface Water Discharge. Surface water discharge to a wetland from a detention
19 facility, presettlement pond or other surface water management activity or facility
20 may be allowed if the discharge does not increase the rate of flow, change the plant
21 composition in a forested wetland, or decrease the water quality of the wetland.
- 22 (e) Detention Facility. Category IV wetlands or buffer which has as its major function the
23 storage of water may be used for a detention facility if:
- 24 (i) A presettlement pond is installed outside of the wetland buffer;
- 25 (ii) All requirements of the King County Surface Water Design Manual are met;
- 26 (iii) The use will not alter the rating or the factors used in rating the wetland; and
27 (iv) There are no significant adverse impacts to the wetland.
- 28 (g) Dispersal Trenches. Grass-lined swales dispersal trenches may be located in the
29 outer 25 percent of the buffer area. Energy dissipaters and associated pipes may be
30 permitted if no practical alternative exists or if the function of the buffer is not
31 adversely affected. Other surface water management facilities are not allowed within
32 the buffer area.
- 33 (h) Trails. Public and private trails, or visual access, may be located in wetland buffers
34 provided:
- 35 (i) The trail surface shall not be made of impervious materials, except that public
36 multi-purpose trails may be made of impervious materials if they meet all
37 other requirements, including water quality and quantity; and
- 38 (ii) Buffers shall be expanded, where possible, equal to the width of the trail
39 corridor including disturbed areas.
- 40 (i) Road Crossing. Wetland and buffer road crossings may be allowed on the outer 25
41 percent of the buffer area if:
- 42 (i) There is no practical alternative access with less environmental adverse
43 impact;
- 44 (ii) Crossings minimize impact to the wetland and provide mitigation for
45 unavoidable impacts through restoration, enhancement, or replacement of
46 disturbed areas;
- 47 (iii) Crossings do not change the overall wetland hydrology;
- 48 (iv) Crossings do not diminish the flood storage capacity of the wetland;
- 49 (v) Crossings are constructed during summer low water periods; and
50 (vi) Crossings are the minimum size or length necessary to provide access.

- 1 (2) There shall be no introduction of any plant or wildlife that is not indigenous to the Puget
2 Sound region into any wetland or buffer unless authorized by a state or federal permit or
3 approval.
4 (3) The use of hazardous substances, pesticides, and fertilizers in the wetland and its buffer
5 shall be prohibited.
6
7

8 **21.24.330 Wetlands – Critical areas report additional requirements.**

- 9 (1) Additional Report Requirements. In addition to the general critical report requirements of
10 WMC 21.24.110, critical areas reports for wetlands shall include the following information:
11 (a) Prepared by a Qualified Professional. The critical areas report shall be prepared by a
12 qualified professional who is a certified wetland scientist. The qualified professional
13 shall have a minimum of five years of experience in the field of wetland science and
14 experience in preparing wetland reports.
15 (b) Wetland Assessment. The wetland assessment shall include the following
16 information on the site:
17 (i) Wetland delineation, category and required buffers;
18 (ii) Existing wetland acreage;
19 (iii) Vegetative, faunal, and hydrologic characteristics;
20 (iv) Soil and substrate conditions;
21 (v) A discussion of the water sources supplying the wetland and documentation
22 of hydrologic regime (locations of inlet and outlet features, water depths
23 throughout the wetland, evidence of recharge or discharge, evidence of water
24 depths throughout the year – drift lines, algal layers, moss lines, and
25 sediment deposits); and
26 (vi) Clearing limits.
27 (c) Habitat and Vegetation Conservation. A habitat and native vegetation conservation
28 strategy that addresses methods to protect and enhance on-site habitat and wetland
29 functions.
30 (d) Wetland Evaluation. Functional evaluation for the wetland and adjacent buffer using
31 a local or state agency staff-recognized method and including the reference of the
32 method and all data sheets.
33 (e) Proposed Mitigation. If required, a mitigation plan consistent with WMC 21.24.120
34 and WMC 21.24.340. The mitigation plan shall include a written assessment and
35 accompanying maps of the mitigation area, including the following information at a
36 minimum:
37 (i) Proposed wetland acreage;
38 (ii) Proposed vegetative, faunal, and hydrologic characteristics;
39 (iii) Surface and subsurface hydrologic conditions including an analysis of
40 existing and future hydrologic regime and proposed hydrologic regime for
41 enhanced, created, or restored mitigation areas;
42 (iv) Proposed soil and substrate conditions;
43 (v) Proposed adjacent site conditions;
44 (vi) Required wetland buffers (including any buffer reduction and mitigation
45 proposed to increase the plant densities, remove weedy vegetation, and
46 replant the buffers);
47 (f) Maintenance. A written plan outlining proposed maintenance and management
48 practices that will provide long term protection of the wetland consistent with WMC
49 21.24.130.
50

1 **21.24.340 Wetlands – Mitigation requirements.**

- 2 (1) General. Mitigation shall be consistent with the requirements in WMC 21.24.120. An
 3 evaluation of mitigation sequencing, including avoidance, minimization, and compensation,
 4 shall be provided pursuant to WMC 21.24.120.
- 5 (2) Mitigation for Lost Functions and Values. Mitigation actions shall address functions affected
 6 by the alteration to achieve functional equivalency or improvement, and shall provide similar
 7 wetland functions as those lost, except when:
- 8 (a) The lost wetland provides minimal functions as determined by a site-specific function
 9 assessment and the proposed mitigation action(s) will provide equal or greater
 10 functions or will provide functions shown to be limiting within a watershed through a
 11 formal watershed assessment plan or protocol; or
- 12 (b) Off-site replacement will best meet formally identified regional goals, such as
 13 replacement of historically diminished wetland types.
- 14 (3) Preference of Mitigation Actions. Mitigation actions that require compensation by replacing,
 15 enhancing, or substitution shall occur in the following order of preference:
- 16 (a) Restoring wetland acreage and functions to an area where those functions formerly
 17 occurred.
- 18 (b) Creating new wetland areas and functions in an area where they did not previously
 19 occur.
- 20 (c) Enhancing at an existing wetland.
- 21 (c) Preserving an existing high-quality wetlands to protect it from future loss or
 22 degradation.
- 23 (4) Type and Location of Mitigation. Mitigation actions shall be in-kind and located on the same
 24 site as the alteration, except when:
- 25 (a) There is no opportunity for on-site or opportunities do not have a high likelihood of
 26 success due to development pressures, adjacent land uses, wildlife impacts, or on-
 27 site buffers or connectivity are inadequate;
- 28 (b) Off-site mitigation has a greater likelihood of providing equal or improved wetland
 29 functions than the impacted wetland;
- 30 (c) Off-site locations shall be in the same sub-basin and the same Water Resource
 31 Inventory Area (WRIA) as the impacted wetland; and
- 32 (d) Off-site wetland mitigation will best meet formally identified watershed goals, such as
 33 replacement of historically diminished wetland types.
- 34 (5) Mitigation Ratios.
- 35 (a) Acreage Replacement Ratios. The following ratios shall apply to creation or
 36 restoration that is in-kind, on-site, the same category, timed prior to or concurrent
 37 with alteration, and has a high probability of success. These ratios do not apply to
 38 remedial actions resulting from unauthorized alterations; greater ratios shall apply in
 39 those cases. These ratios do not apply to the use of credits from a state-certified
 40 wetland mitigation bank. The first number specifies the acreage of replacement
 41 wetlands and the second specifies the acreage of wetlands altered.
- | | |
|--------------|----------|
| Category I | 6 to 1 |
| Category II | 3 to 1 |
| Category III | 2 to 1 |
| Category IV | 1.5 to 1 |
- 42 (b) Increased Replacement Ratio. The ratios shall be increased when one of the
 43 following applies:
- 44 (i) Uncertainty exists as to the probable success of the proposed restoration or
 45 creation;

- 1 (ii) A significant or extended period of time will elapse between impact and
2 replication of wetland functions;
3 (iii) Proposed mitigation will result in a lower category wetland or reduced
4 functions relative to the wetland being impacted; or
5 (iv) The impact is the result of an authorized activity or use.
6 (c) Wetlands Enhancement as Mitigation. Impacts to wetland functions may be mitigated
7 by enhancement of existing significantly degraded wetlands, but must be used in
8 conjunction with restoration and/or creation.
9 (i) At minimum, enhancement acreage shall be at least double the acreage
10 required for creation or restoration under Subsection (a). A higher ratio may
11 be required if the enhancement proposal results in minimal gain in the
12 performance of wetland functions and/or result in the reduction of other
13 wetland functions currently being provided.
14 (ii) Mitigation ratios for enhancement in combination with other forms of mitigation
15 shall range from 6:1 to 3:1 and be limited to Class III and Class IV wetlands.
16 (iii) A critical areas report consistent with WMC 21.24.110 and WMC 21.24.330
17 shall include information demonstrating how enhancement will increase
18 functions of degraded wetlands and how the increase will mitigate for loss of
19 wetland areas and functions at the impact site.
20 (6) Mitigation Timing. Where feasible, mitigation projects shall be completed prior to activities
21 that will disturb wetlands. In all other cases, mitigation shall be completed immediately
22 following disturbance and prior to use or occupancy of the activity or development.
23 Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and
24 flora.
25 (7) Monitoring and Maintenance. Mitigation projects shall be monitored and maintained
26 consistent with WMC 21.24.130.
27 (8) Buffers for Mitigation Sites. Mitigation sites shall have buffers consistent with the
28 requirements of this chapter. The buffer for a wetland that is created, restored, or enhanced
29 as compensation for approved wetland alterations shall be subject to the buffer of the
30 highest wetland category involved.
31 (9) Wetland Mitigation Banks. Credits from a wetland mitigation bank may be approved for use
32 as compensation for unavoidable impacts to wetlands.
33 (a) The following criteria shall be met in order to apply credits from a wetland mitigation
34 bank when:
35 (i) The bank is certified under Chapter 173-700 WAC;
36 (ii) The City determines that the wetland mitigation bank provides appropriate
37 compensation for the authorized impacts; and
38 (iii) The proposed use of credits is consistent with the terms and conditions of the
39 bank's certification.
40 (b) Replacement ratios for projects using bank credits shall be consistent with
41 replacement ratios specified in the bank's certification.
42 (c) Credits from a certified wetland mitigation bank may be used to compensate for
43 impacts located within the service area specified in the bank's certification. In some
44 cases, bank service areas may include portions of more than one adjacent drainage
45 basin for specific wetland functions.
46

47 **21.24.350 Frequently flooded areas - Designation.**

- 48 (1) Definition. Frequently flooded areas are those areas meeting one or more of the following
49 components. These areas shall be designated as frequently flooded areas and shall be
50 subject to the provisions of this chapter:
51 (a) Floodplain;

- 1 (b) Flood fringe;
2 (c) Zero-rise floodway; and
3 (d) FEMA floodway.
- 4 (2) Designation. Frequently flooded areas shall include the following areas:
5 (a) Areas identified on the flood insurance map(s). Those areas of special flood hazard
6 identified by the Federal Insurance and Mitigation Administration (FIMA) in the
7 current approved version of the Flood Insurance Study for King County dated with
8 accompanying flood insurance maps (FIRM). The Flood Insurance Study and
9 accompanying maps are hereby adopted by reference.
10 (b) Areas identified by the City. Those areas of special flood hazard identified by the City
11 based on a review of base flood elevation and floodway data available from federal,
12 state, county or other agency sources when base flood elevation data has not been
13 provided from FIMA, identified as A and V zones of the flood insurance maps.
- 14 (3) For all new structures or substantial improvements in a flood hazard area, the applicant shall
15 provide certification by a professional civil engineer or land surveyor licensed by the State of
16 Washington for the following:
17 (a) The actual as-built elevation of the lowest floor, including basement; and
18 (b) The actual as-built elevation to which the structure is flood-proofed, if applicable.
19 The engineer or surveyor shall indicate if the structure has a basement.
- 20 (4) Supplemental Information. The City may use additional flood information that is more
21 restrictive or detailed than that provided in the Flood Insurance Study to designate
22 frequently flooded areas, including data on channel migration, historical data, high water
23 marks, photographs of past flooding, location of restrictive floodways, maps showing future
24 build-out conditions, maps that show riparian habitat areas, or similar information.
- 25 (5) Flood Elevation Data. When base flood elevation data is not available (A and V zones), the
26 City shall obtain, review, and reasonably utilize any base flood elevation and floodway data
27 available from a federal, state, or other source, in order to administer this Chapter.
- 28 (6) Designation Made by City. The flood insurance maps are to be used as a guide for the City,
29 project applicants, and the public and should be considered a minimum designation of
30 frequently flooded areas. Flood insurance maps are subject to continuous updated as areas
31 are reexamined or new areas are identified. Newer and more restrictive information for flood
32 hazard area identification shall be the basis for regulation.
- 33 (7) The Building Official shall maintain the certifications required by this section for public
34 inspection.
35

36 **21.24.360 Frequently flooded areas – Development standards.**

- 37 (1) Base flood storage volume. Development shall not reduce the effective base flood storage
38 volume of the floodplain. Grading or other activity that would reduce the effective storage
39 volume shall be mitigated by creating compensatory storage on the site or off the site. Legal
40 arrangements shall be made to assure that the effective compensatory storage volume will
41 be preserved in perpetuity.
- 42 (2) In addition to requiring the applicant to meet the requirements of WMC 21.24.360 through
43 21.24.380 and other applicable local, State, and Federal requirements, the City shall:
44 (a) Notify adjacent communities and the Department of Ecology prior to any alteration or
45 relocation of a watercourse designated as a zone beginning with A on a FIRM map,
46 and submit evidence of such notification to the Federal Insurance and Mitigation
47 Administration.
48 (b) Require that maintenance be provided within the altered or relocated portion of said
49 watercourse so that the flood-carrying capacity is not diminished.
50

21.24.370 Frequently flooded areas – Permitted activities.

- (1) Alterations. Alterations to frequently flooded areas may be allowed in addition to those activities and uses established in WMC 21.24.040 and WMC 21.24.050.
- (2) Flood Fringe. The following shall apply to development located within the flood fringe:
- (a) No structure shall be allowed which would be at risk due to stream bank destabilization including, but not limited to, that associated with channel relocation or meandering.
 - (b) Subdivisions, short subdivisions and binding site plans shall meet the following requirements:
 - (i) New building lots shall contain 5,000 square feet or more of buildable land outside the zero-rise floodway, and building setback areas shall be shown on the face of the plat to restrict permanent structures to this buildable area;
 - (ii) All utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed to minimize or eliminate flood damage consistent with subsections (c), (d) and (e) of this section;
 - (iii) Base flood data and flood hazard notes shall be shown on the face of the recorded subdivision, short subdivision or binding site plan including, but not limited to, the base flood elevation, required flood protection elevations and the boundaries of the floodplain and the zero-rise floodway, if determined; and
 - (iv) The following notice shall also be shown on the face of the recorded subdivision, short subdivision, or binding site plan for all affected lots:

NOTICE

Lots and structures located within flood hazard areas may be inaccessible by emergency vehicles during flood events. Residents and property owners should take appropriate advance precautions.

- (v) All such proposals are consistent with the need to minimize flood damage within the flood-prone area;
 - (vi) Adequate drainage is provided to reduce exposure to flood hazards.
- (c) New structures and substantial improvements of existing structures shall meet the following requirements:
- (i) The lowest floor, including basement, shall be elevated one foot above the base flood elevation.
 - (ii) Portions of a structure which are below the lowest floor area shall not be fully enclosed. The areas and rooms below the lowest floor shall be designed to automatically equalize hydrostatic and hydrodynamic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for satisfying this requirement shall meet or exceed the following requirements:
 - (A) A minimum of two openings on opposite walls having a total open area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;
 - (B) The bottom of all openings shall be no higher than one foot above grade; and
 - (C) Openings may be equipped with screens, louvers or other coverings or devices if they permit the unrestricted entry and exit of floodwaters;
 - (iii) Materials and methods that are resistant to and minimize flood damage shall be used;

- 1 (iv) All electrical, heating, ventilation, plumbing, air conditioning equipment and
2 other utility and service facilities shall be flood-proofed to or elevated above
3 the flood protection elevation;
- 4 (v) The structures shall be certified by a professional civil or structural engineer
5 licensed by the State of Washington that the flood-proofing methods are
6 adequate to withstand the flood depths, pressures, velocities, impacts, uplift
7 forces and other factors associated with the base flood. After construction,
8 the engineer shall certify that the permitted work conforms with the approved
9 plans and specifications; and
- 10 (vi) Approved building permits for flood-proofed nonresidential structures shall
11 contain a statement notifying applicants that flood insurance premiums shall
12 be based upon rates for structures that are one foot below the flood-proofed
13 level.
- 14 (vii) All new construction and substantial improvements shall be anchored to
15 prevent flotation, collapse, or lateral movement of the structure.
- 16 (d) Mobile and manufactured homes shall meet the following requirements:
- 17 (i) New mobile and manufactured homes or substantial improvements of existing
18 mobile and manufactured homes shall be elevated on a permanent
19 foundation such that the lowest floor of the manufactured or mobile home is
20 elevated one foot above the base flood elevation.
- 21 (ii) All new or substantially improved manufactured and mobile homes shall be
22 securely anchored to prevent flotation, collapse, or lateral movement, and
23 shall be installed using methods and practices that minimize flood damage.
24 Anchoring methods may include, but are not limited to, use of over-the-top or
25 frame ties to ground anchors consistent with FEMA's "Manufactured Homes
26 Installation in Flood Hazard Areas" guidebook.
- 27 (iii) Compliance with this chapter shall be required for new construction or
28 expansion of a mobile home park, or reconstruction of streets, utilities or pads
29 in an existing mobile home park exceeding 50 percent of the assessed value
30 of such structures.
- 31 (e) Recreational vehicles shall meet one of the following requirements:
- 32 (i) Be on the site for fewer than 180 consecutive days;
- 33 (ii) Be fully licensed and ready for highway use, on its wheels or jacking system,
34 be attached to the site only by quick disconnect-type utilities and security
35 devices, and have no permanently attached additions; or
- 36 (iii) Meet the requirements of subsection (d) of this section and the elevations
37 and anchoring requirements of manufactured and mobile homes.
- 38 (f) Utilities shall meet the following requirements:
- 39 (i) All new and replacement water supply systems shall be designed to minimize
40 or eliminate infiltration of flood waters into the system;
- 41 (ii) New and replacement sanitary sewage systems shall be designed to minimize
42 or eliminate infiltration of flood waters into the systems and discharge from
43 the systems into flood waters;
- 44 (iii) On-site waste disposal systems shall be located to avoid impairment to them
45 or contamination from them during flooding;
- 46 (iv) Sewage and agricultural waste storage facilities shall be flood-proofed to the
47 flood protection elevation;
- 48 (v) Above-ground utility transmission lines, other than electric transmission lines,
49 shall only be allowed for the transport of nonhazardous substances; and
- 50 (vi) Buried utility transmission lines transporting hazardous substances shall be
51 buried at a minimum depth of four feet below the maximum depth of scour for

- 1 the base flood, as predicted by a professional civil engineer licensed by the
2 State of Washington, and shall achieve sufficient negative buoyancy so that
3 any potential for flotation or upward migration is eliminated.
- 4 (g) Essential public facilities may be allowed within the flood fringe of the floodplain, but
5 only when no feasible alternative site is available. Essential public facilities
6 constructed within the flood fringe shall have the lowest floor elevated to three or
7 more feet above the base flood elevation. Flood-proofing and sealing measures shall
8 be taken to ensure that hazardous substances will not be displaced by or released
9 into floodwaters. Access routes elevated to or above the base flood elevation shall
10 be provided to all essential public facilities from the nearest maintained public street
11 or roadway.
- 12 (h) Prior to approving any permit for alterations in the flood fringe, City shall determine
13 that all permits required by state or federal regulations have been obtained.
- 14 (3) Zero-rise floodway and FEMA floodway. The requirements that apply to the flood fringe in
15 subsection (2) shall also apply to the zero-rise floodway and FEMA floodway. The more
16 restrictive requirements shall apply where there is a conflict.
- 17 (a) New residential or nonresidential structures are prohibited within the FEMA floodway.
18 (b) A development proposal including, but not limited to, new or reconstructed structures
19 shall not cause any increase in the base flood elevation unless the following
20 requirements are met:
- 21 (i) Amendments to the Flood Insurance Rate Map are adopted by FEMA, in
22 accordance with 44 CFR 70, to incorporate the increase in the base flood
23 elevation; and
- 24 (ii) Appropriate legal documents are prepared in which all property owners
25 affected by the increased flood elevations consent to the impacts on their
26 property. These documents shall be filed with the title of record for the
27 affected properties.
- 28 (c) The following are presumed to produce no increase in base flood elevation and shall
29 not require a critical area report to establish this fact:
- 30 (i) New residential structures outside the FEMA floodway on lots in existence
31 before March 31, 1993, which contain less than 5,000 square feet of
32 buildable land outside the zero-rise floodway and which have a total building
33 footprint of all proposed structures on the lot of less than 2,000 square feet;
- 34 (ii) Substantial improvements of existing residential structures in the zero-rise
35 floodway, but outside the FEMA floodway, where the footprint is not
36 increased;
- 37 (iii) Substantial improvements of existing residential structures meeting the
38 requirements for new residential structures in WMC 21.24.370(2)(c); or
- 39 (iv) Substantial improvements of existing residential structures in the FEMA
40 floodway, meeting the requirements of WAC 173-158-070, as amended.
- 41 (d) Post or piling construction techniques which permit water flow beneath a structure
42 shall be used.
- 43 (e) All temporary structures or substances hazardous to public health, safety and
44 welfare, except for hazardous household substances or consumer products
45 containing hazardous substances, shall be removed from the zero-rise floodway
46 during the flood season from September 30th to May 1st.
- 47 (f) Utilities may be allowed if the City determines that no feasible alternative site is
48 available, subject to the following requirements:
- 49 (i) Installation of new on-site sewage disposal systems shall be prohibited unless
50 a waiver is granted by the department of public health; and
- 51 (ii) Construction of sewage treatment facilities shall be prohibited.

- 1 (g) Structures and installations that are dependent upon the floodway, may be located in
2 the floodway if the development proposal is approved by all agencies with
3 jurisdiction. Such structures include, but are not limited to:
4 (i) Dams or diversions for water supply, flood control, hydroelectric production,
5 irrigation, or fisheries enhancement;
6 (ii) Flood damage reduction facilities, such as levees and pumping stations;
7 (iii) Stream bank stabilization structures where no feasible alternative exists for
8 protecting public or private property;
9 (iv) Storm water conveyance facilities subject to the development standards for
10 streams and wetlands and the King County Surface Water Design Manual;
11 (v) Boat launches and related recreation structures;
12 (vi) Bridge piers and abutments; and
13 (vii) Other fisheries enhancement or stream restoration projects.
14

15 **21.24.380 Frequently flooded areas – Critical areas report additional requirements.**

- 16 (1) In addition to the general critical report requirements of WMC 21.24.110, critical areas
17 reports for frequently flooded areas shall include a flood hazard assessment and shall
18 include the following information:
19 (a) Prepared by a Qualified Professional. The critical areas report for shall be prepared
20 by a qualified professional who is a hydrologist or engineer licensed in the State of
21 Washington. The qualified professional shall have a minimum of five years of
22 experience in the field and experience in preparing flood hazard assessments.
23 (b) Site Areas. The following areas shall be addressed:
24 (i) The site area of the proposed activity;
25 (ii) All areas of a special flood hazard, or other flood area as indicated in the flood
26 insurance maps within 200 feet of the project area; and
27 (iii) All other flood areas indicated on the flood insurance maps within 200 feet of the
28 project area.
29 (c) Watercourse Alteration. Alteration of natural watercourses shall be avoided, if
30 feasible. If unavoidable, a critical area report shall include:
31 (i) A description of and plan showing the extent to which a watercourse will be
32 altered or relocated as a result of proposal;
33 (ii) A maintenance program that provides maintenance practices for the altered or
34 relocated portion of the watercourse to ensure that the flood carrying capacity
35 is not diminished; and
36 (iii) Information describing and documenting how the proposed watercourse
37 alteration complies with the requirements of WMC 21.24.400 through
38 21.2.440, the adopted Shoreline Master Program, and other applicable state
39 or federal permit requirements.
40 (d) Habitat Impact Assessment. A habitat impact assessment is required for activities
41 that meet one of the following: repair and remodel of existing structures or facilities;
42 additions less than 10 percent of the existing footprint; restoration or enhancement of
43 natural function; or development of recreational facilities. A habitat assessment shall
44 be one of the following:
45 (i) A Biological Evaluation or Biological Assessment developed in accordance
46 with 50 C.F.R. § 402.12;
47 (ii) Documentation that the activity fits within Section 4(d) of the Endangered
48 Species Act;
49 (iii) Documentation that the activity fits within a Habitat Conservation Plan
50 approved pursuant to Section 10 of the Endangered Species Act, where such
51 assessment has been prepared and made available; or

1 (iv) A habitat impact assessment prepared in accordance with the current
 2 adopted FEMA Regional Guidance for Floodplain Habitat Assessment and
 3 Mitigation, FEMA Region X. The assessment shall determine if the project
 4 would adversely affect:

- 5 (A) Species that are federal, state or local listed as threatened or
 6 endangered;
 7 (B) The primary constituent elements for critical habitat, when designated,
 8 including but not limited to water quality, water quantity, flood
 9 volumes, flood velocities, spawning substrate, and/or floodplain
 10 refugia for listed salmonids;
 11 (C) Essential fish habitat designated by the National Marine Fisheries
 12 Service;
 13 (D) Fish and wildlife habitat conservation areas; and
 14 (E) Other protected areas and elements necessary for species
 15 conservation.
 16
 17

18 **21.24.400 Fish and wildlife habitat conservation areas – Designation.**

19 (1) Definition. Fish and wildlife habitat conservation areas are those habitat areas that meet any
 20 of the criteria listed below. Fish and wildlife habitat conservation areas do not include such
 21 artificial features or constructs as irrigation delivery systems, irrigation infrastructure,
 22 irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by
 23 a port district or an irrigation district.

24 (a) Areas with Which State or Federally Designated Endangered, Threatened, and
 25 Sensitive Species Have a Primary Association.

26 (i) Federally designated endangered and threatened species are those fish and
 27 wildlife species identified by the U.S. Fish and Wildlife Service and the
 28 National Marine Fisheries Service that are in danger of extinction or
 29 threatened to become endangered. The U.S. Fish and Wildlife Service and
 30 the National Marine Fisheries Service should be consulted for current listing
 31 status.

32 (ii) State designated endangered, threatened, and sensitive species are those
 33 fish and wildlife species native to the state of Washington identified by the
 34 Washington Department of Fish and Wildlife (WDFW), that are in danger of
 35 extinction, threatened to become endangered, vulnerable, or declining and
 36 are likely to become endangered or threatened in a significant portion of their
 37 range within the state without cooperative management or removal of threats.
 38 The Washington Department of Fish and Wildlife should be consulted for
 39 current listing status.

40 (b) State Priority Habitat and Species. State priority habitats and areas associated with
 41 state priority species are considered priorities for conservation and management.
 42 Priority species require protective measures for their perpetuation due to their
 43 population status, sensitivity to habitat alteration, and/or recreational, commercial, or
 44 tribal importance. Priority habitats are those habitat types or elements with unique or
 45 significant value to a diverse assemblage of species. A priority habitat may consist of
 46 a unique vegetation type or dominant plant species, a described successional stage,
 47 or a specific structural element. Priority habitats and species are identified by the
 48 Washington Department of Fish and Wildlife.

49 (c) Habitat and Species of Local Importance. Habitats and species of local importance
 50 are those identified by the City of Woodinville that due to their population status, or
 51 sensitivity to habitat manipulation, warrant protection.

52 (i) The following species are designated as species of local importance:

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Table 21.24.400(c)(i) Species of Local Importance

Common Name	Scientific Name
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Peregrine Falcon	<i>Falco peregrines</i>
Common loon	<i>gavia immer</i>)
Pileated woodpecker	<i>Dryocopus pileatus</i>
Vaux's swift	<i>Chaetura vauxi</i>
Purple martin	<i>Progne subis</i>
Western grebe	<i>Aechmophorus occidentalis</i>
Great blue heron	<i>Ardea herodias</i>
Green heron	butorides striatus
Osprey	<i>Pandion haliaetus</i>
Western big-eared bat	<i>Plecotus townsendii</i>
Keen's myotis	<i>Myotis keenii</i>
Long-eared myotis	<i>Myotis evotis</i>
Oregon spotted frog	<i>Rana pretiosa</i>
Western pond turtle	<i>Clemmys marmorata</i>
Bull trout	<i>Salvelinus confluentus</i>
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>
Coho Salmon	<i>Oncorhynchus kisutch</i>
Sockeye Salmon	<i>Oncorhynchus nerka</i>
River lamprey	<i>Lampetra ayresi</i>

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(ii) Nominations for habitats or species of local importance shall be processed pursuant to Chapter 17.07 WMC. Nominations for habitats or species of local importance shall demonstrate the following:

- (A) Habitat or species rarity or vulnerability to rarity is evidenced by restricted, small or declining species population and habitats or community loss or degradation;
- (B) The need for protection, maintenance, and/or restoration of the nominated habitat to ensure the long-term survival of a species;
- (C) If applicable, the ability of the site to maintain connectivity between habitat areas or to contribute significantly to regional biodiversity as evidenced by species use, richness, abundance, and/or rarity;
- (D) Why special protection is needed and how existing county, state and federal programs and regulations do not provide adequate protection; and
- (E) Any proposed management strategies for the affected species or habitat supported by best available science.

(d) Streams and Watercourses. Streams shall be classified using the current approved version of the Permanent Water Typing System pursuant to WAC 222-16-030. Streams meeting the designation criteria below and all associated riparian habitat areas, identified as stream buffers in this chapter, are subject to the provisions of this chapter.

Table 21.24.400(1)(d) Stream Classifications

Classification	Brief Description	Full Description
Type S	Shoreline of the State	All waters, within their bank-full width, as inventoried as "shorelines of the state" under chapter 90.58 RCW and the rules promulgated pursuant to chapter 90.58 RCW including periodically inundated areas of their associated wetlands. Within the City of Woodinville, the Sammamish River and Little Bear Creek are designated as Type S streams.
Type F	Fish bearing stream (perennial or seasonal)	<p>Segments of natural waters other than Type S Waters, which are within the bankfull widths of defined channels and periodically inundated areas of their associated wetlands, or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat or are described by one of the following four categories:</p> <ul style="list-style-type: none"> (a) Waters, which are diverted for domestic use by more than 10 residential or camping units or by a public accommodation facility licensed to serve more than 10 persons, where such diversion is determined by the department to be a valid appropriation of water and the only practical water source for such users. Such waters shall be considered to be Type F Water upstream from the point of such diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less; (b) Waters, which are diverted for use by federal, state, tribal or private fish hatcheries. Such waters shall be considered Type F Water upstream from the point of diversion for 1,500 feet, including tributaries if highly significant for protection of downstream water quality. The department may allow additional harvest beyond the requirements of Type F Water designation provided the department determines after a landowner-requested on-site assessment by the department of fish and wildlife, department of ecology, the affected tribes and interested parties that: <ul style="list-style-type: none"> (i) The management practices proposed by the landowner will adequately protect water quality for the fish hatchery; and (ii) Such additional harvest meets the requirements of the water type designation that would apply in the absence of the hatchery. (c) Waters, which are within a federal, state, local, or private campground having more than 10 camping units: provided, that the water shall not be considered to enter a campground until it

Classification	Brief Description	Full Description
		reaches the boundary of the park lands available for public use and comes within 100 feet of a camping unit, trail or other park improvement; (d) Riverine ponds, wall-based channels, and other channel features that are used by fish for off-channel habitat. These areas are critical to the maintenance of optimum survival of fish. This habitat shall be identified based on the following criteria: (i) The site must be connected to a fish habitat stream and accessible during some period of the year; and (ii) The off-channel water must be accessible to fish.
Type Np	Non-fish bearing perennial stream	All segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams. Perennial streams are flowing waters that do not go dry any time of a year of normal rainfall and include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.
Type Ns	Non-fish bearing seasonal stream	All segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np Waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an aboveground channel system to Type S, F, or Np Waters.

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- (e) Naturally Occurring Ponds Under 20 Acres. Naturally occurring ponds are those ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat, including those artificial ponds intentionally created from dry areas in order to mitigate impacts to ponds. Naturally occurring ponds do not include ponds deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farm ponds, temporary construction ponds, and landscape amenities, unless such artificial ponds were intentionally created for mitigation.
 - (f) Waters of the State. Waters of the state include lakes, ponds, streams, inland waters, underground waters, and all other surface waters and watercourses within the jurisdiction of the State of Washington, as classified in WAC 222-16-031.
 - (g) Areas of Rare Plant Species and High Quality Ecosystems. Areas of rare plant species and high quality ecosystems are identified by the Washington State Department of Natural Resources through the Natural Heritage Program.
 - (h) Native growth protection areas (NGPA) and other areas designated by the City.
- (2) Fish and wildlife habitat conservation areas are usually found in conjunction with another critical area listed in this chapter. The critical area report shall address all criteria for each critical area specifically.

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2 **21.24.410 Fish and wildlife habitat conservation areas – Development standards.**

3 (1) Standard Buffers. Activities and uses shall be prohibited within fish and wildlife habitat
4 conservation areas and their buffers, except as provided for in this chapter.

5 (a) Habitat Conservation Area Buffers. The City shall require the establishment of buffer
6 areas for activities adjacent to habitat conservation areas, when needed to protect
7 habitat conservation areas. Buffers shall consist of an undisturbed area of native
8 vegetation or areas identified for restoration established to protect the integrity,
9 functions, and values of the affected habitat. Required buffer widths shall reflect the
10 sensitivity of the habitat and the type and intensity of human activity proposed to be
11 conducted nearby, and shall be consistent with the management recommendations
12 issued by the Washington Department of Fish and Wildlife.

13 (b) Stream Buffers. Stream buffers shall be established for habitats that include aquatic
14 and terrestrial ecosystems that mutually benefit each other and that are buffers
15 located adjacent to rivers, perennial or intermittent streams, seeps, and springs.

16 (i) Stream Buffer Widths. The stream buffers shall be determined according to
17 the stream type shown in Table 21.24.410(1)(b)(i). Widths shall be measured
18 outward in each direction on the horizontal plane from the ordinary high water
19 mark or from the top of the bank if the ordinary high water mark cannot be
20 identified.
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Table 21.24.410(1)(b)(i) – Stream Buffer Widths

Stream Type	Standard Area Width
S	175 feet
F	150 feet
Np	75 feet
Ns	50 feet

23
24 (i) Measurement. The outer edge of the stream buffer shall be delineated through
25 a survey and field investigation by a qualified professional.

26 (ii) Increased Widths. An increased buffer shall be required in accordance with
27 the recommendations of a qualified professional and the best available
28 science in the following circumstances:

29 (A) Where the standard width is insufficient to prevent habitat degradation
30 and to protect the structure and functions of the habitat area;

31 (B) Where the frequently flooded area exceeds the standard stream
32 buffer, the width shall extend to the outer edge of the frequently
33 flooded area;

34 (C) Where the channel migration zone exceeds the standard stream
35 buffer, the width shall extend to the outer edge of the channel
36 migration zone; or

37 (D) The habitat area is in an area of high blowdown potential, the stream
38 buffer shall be expanded an additional 50 feet on the windward side.

39 (iii) Reduced Buffers. Stream buffers may be reduced when width-reduction
40 impacts are mitigated, resulting in equal or greater protection of the
41 ecological riparian functions. A plan for mitigating buffer-reduction impacts
42 must be prepared using selected incentive-based mitigation options from the
43 list below. The following incentive options for reducing standard area widths

shall be considered cumulative up to a maximum reduction of 33 percent of the standard area width.

Table 21.24.400(1)(b)(iii) Standard Area Width Reduction Options

Incentive Option	Reduction Allowed
(a) Removal of impervious surfaces	(i) Up to 5 percent reduction in standard buffer width if impervious surfaces within the to-be-remaining buffer area are reduced by at least 50 percent; or (ii) Up to 10 percent reduction in standard buffer width if the to-be-remaining buffer area is presently more than 50 percent impervious and all of it is to be removed.
(b) Installation of biofiltration/infiltration mechanisms	(i) Up to 10 percent reduction in standard buffer width for the installation of bioswales, created and/or enhanced wetlands, or ponds supplemental to existing storm drainage and water quality requirements.
(c) Removal of invasive, nonnative vegetation	(i) Up to 5 percent reduction in standard buffer width for the removal and extended monitoring and continued-removal maintenance of relatively dense stands of invasive, nonnative vegetation from significant portions of the remaining buffer area.
(d) In-stream habitat enhancement	(i) Up to 5 percent reduction in standard buffer width for placement of large woody debris, bioengineered bank stabilization, or culvert removal; or (ii) Up to 15 percent reduction in standard buffer width for improving fish passage and/or creation of side channel or backwater areas
(e) Use of pervious material for driveway/road construction:	(i) Up to 5 percent reduction in standard buffer width
(f) Restoration of on-site buffer and habitat areas, or restoration of off-site buffer and habitat areas within the same sub-basin of the impacted stream if no on-site restoration is possible	(i) Up to 10 percent reduction in standard buffer width if restoration area is at a 2:1 ratio or greater; or (ii) Up to 20 percent reduction in standard buffer width if restoration area is at a 4:1 ratio or greater.
(g) Removal of significant refuse or sources of toxic material	(i) Up to 5 percent reduction in standard buffer width.
(h) Providing a ten year monitoring and maintenance plan	(i) Up to 5 percent reduction in standard buffer width.

(2) Buffer Averaging. The minimum buffer width may be averaged in accordance with an approved critical areas report using the best available science and any management

1 recommendations issued by the Washington Department of Fish and Wildlife. Averaging of
2 buffer widths may only be allowed if all of the following criteria are met:

- 3 (a) It will provide additional protection to the fish and wildlife habitat conservation area
4 and result in a net improvement of the habitat functions and values;
- 5 (b) It will not adversely affect salmonid habitat;
- 6 (c) The buffer width is not reduced by more than 25 percent of the standard width in any
7 one location;
- 8 (d) It will provide additional natural resource protection, such as buffer enhancement;
- 9 (e) The total area contained in the buffer area after averaging is no less than that which
10 would be contained within the standard buffer;
- 11 (f) The proposal includes revegetation and restoration of the averaged buffer using
12 native plants; and
- 13 (g) Stream buffer reduction in WMC 21.24.410(1)(b)(iii) is not used as a part of the
14 proposal.

15 (3) Protection. Whenever activities are proposed in or adjacent to a habitat conservation area
16 with which state or federally endangered or threatened species have a primary association,
17 such area shall be protected through the application of measures in accordance with a
18 critical area report and approved by the city and guidance provided by the appropriate state
19 and federal agencies.

20 (4) Special Conditions. Stream buffers shall also be subject to modifications under the following
21 site conditions:

- 22 (a) Geologically Hazardous Areas. The buffer or abutting uplands include a geologically
23 hazardous area. The buffer width shall be the greater of either the required wetland
24 buffer or twenty-five feet beyond the top of the hazard area;
- 25 (b) Wetlands. Any stream adjoined by a riparian wetland shall have the buffer required
26 for the stream class involved or the buffer which applies to the wetland, whichever is
27 greater; or
- 28 (c) Other Critical Areas. If the stream and its buffer are located adjacent to other critical
29 areas, a larger buffer shall be required to protect other critical areas in accordance to
30 the recommendations of a qualified professional and best available science.

31 (5) Signage and Fencing. Temporary and permanent signs and fencing shall be installed along
32 the outer boundary of the wetland buffer in accordance with WMC 21.24.130.

33 (6) Livestock. Property owners shall implement a farm management plan or standards to protect
34 and enhance wetland water quality pursuant to Chapter 21.30 WMC. (7) Livestock. Property
35 owners shall implement a farm management plan or standards to protect and enhance
36 wetland water quality pursuant to Chapter 21.30 WMC.

37 (8) Seasonal Restrictions. When a species is more susceptible to adverse impacts during
38 specific periods of the year, as determined by the Washington State Department of Fish and
39 Wildlife, seasonal restrictions may apply. Larger buffers may be required and activities may
40 be further restricted during the specified season.

41
42 **21.24.420 Fish and wildlife habitat conservation areas – Permitted activities.**

43 (1) Approval of Activities. The City shall condition approvals of activities allowed within or
44 adjacent to a habitat conservation area or its buffers, as necessary to minimize or mitigate
45 any potential adverse impacts. Conditions shall be based on the best available science and
46 may include, but are not limited to, the following:

- 47 (a) Establishment of buffer zones;
- 48 (b) Preservation of critically important vegetation and/or habitat features such as snags
49 and downed wood;
- 50 (c) Limitation of access to the habitat area, including fencing to deter unauthorized
51 access;

- 1 (d) Seasonal restriction of construction activities;
2 (e) Establishment of a duration and timetable for periodic review of mitigation activities;
3 and
4 (f) Requirement of a performance bond, when necessary, to ensure completion and
5 success of proposed mitigation.
- 6 (2) Hazardous substances. The use of hazardous substances, pesticides and fertilizers, in the
7 stream and its buffer may be prohibited; and
- 8 (3) Non-native Species. The introduction of any plant, wildlife, or fish species not indigenous to
9 the region shall be prohibited from fish and wildlife habitat conservation areas unless
10 authorized by a state or federal permit or approval.
- 11 (4) Alterations to fish and wildlife habitat conservation areas and their buffers, except for aquatic
12 environments, may be allowed in addition to those established in WMC 21.24.040 and WMC
13 21.24.050. Where applicable, activities and uses shall also be subject to the Woodinville
14 Shoreline Master Program (SMP).
- 15 (a) Utilities. Utilities may be allowed within fish and wildlife habitat conservation areas if:
16 (i) No practical alternative location is available;
17 (ii) The requirements for sewer utility corridors in WMC 21.24.320 shall also
18 apply;
19 (iii) Joint use of an approved utility corridor by more than one utility may be
20 allowed; and
21 (iv) The utility corridor meets the provisions of Policies U-1.5 and U-1.8 of the
22 City of Woodinville Comprehensive Plan.
- 23 (b) Surface Water Management Activities and Facilities. The following may be allowed
24 within fish and wildlife habitat conservation areas as follows:
25 (i) Surface water discharge to a stream from a detention facility, presettlement
26 pond or other surface water management activity or facility may be allowed if
27 the discharge is in compliance with the King County Surface Water Design
28 Manual;
29 (ii) Storm Water Management Facilities. Grass-lined swales and dispersal
30 trenches may be located in the outer 25 percent of the buffer area. All other
31 surface water management facilities are not allowed within the buffer area.
- 32 (c) Trails. Public and private trails, and/or visual access to the habitat conservation area
33 may be allowed if
34 (i) Trail surface shall be made of pervious materials, except that public multi-
35 purpose trails may be made of impervious materials if they meet all other
36 requirements including water quality and quantity; and
37 (ii) Buffers shall be expanded, where possible, equal to the width of the trail
38 corridor including disturbed areas.
- 39 (5) The following shall apply for areas with endangered or threatened species:
40 (a) No development shall be allowed within a habitat conservation area or buffer with
41 which state or federally endangered, threatened, or sensitive species have a primary
42 association, except that which is provided for by a management plan established by
43 the Washington Department of Fish and Wildlife or applicable state or federal
44 agency.
45 (i) Areas shall be protected through the application of protection measures in
46 accordance with a critical area report prepared by a qualified professional
47 and approved by the City.
48 (A) Approval for alteration of land adjacent to the habitat conservation
49 area or its buffer shall not occur prior to consultation with the
50 Washington State Department of Fish and Wildlife for animal species

- 1 and the Washington Department of Natural Resources for plant
2 species and other appropriate federal or state agency.
- 3 (b) Bald Eagle Habitat. Bald eagle habitat shall be protected pursuant to the Washington
4 State Bald Eagle Protection Rules (WAC 232-12-292). Whenever activities are
5 proposed adjacent to a verified nest territory or communal roost, a critical areas
6 report shall be developed by a qualified professional.
- 7 (i) Activities are adjacent to bald eagle sites when they are within 800 feet, or
8 within a quarter-mile (2,640 feet) and in a shoreline foraging area. The City
9 shall verify the location of eagle management areas for each proposed
10 activity.
- 11 (ii) Approval of the activity shall not occur prior to approval of a habitat
12 management plan by the Washington Department of Fish and Wildlife.
- 13 (c) Great Blue Heron Rookeries.
- 14 (i) A buffer equal to the distance of 820 feet radius measured from the outermost
15 nest tree in the rookery will be established around an active rookery. This
16 area will be maintained in native vegetation.
- 17 (ii) Between January 1st and July 31st, no clearing, grading or land disturbing
18 activity shall be allowed within 900 feet of the rookery, unless approved by
19 the City and Washington Department of Fish and Wildlife.
- 20 (iii) Approval of all activities requiring permits shall not occur within 900 feet of a
21 heron rookery prior to the approval of a critical areas report by the City and
22 Washington Department of Fish and Wildlife.
- 23 (d) Anadromous Fish.
- 24 (i) All activities, uses, and alterations proposed to be located in water bodies
25 used by anadromous fish or in areas that affect such water bodies shall give
26 special consideration to the preservation and enhancement of anadromous
27 fish habitat, including, but not limited to the following standards:
- 28 (A) Activities shall be timed to occur only during the allowable work
29 window as designated by the Washington State Department of Fish
30 and Wildlife for the applicable species;
- 31 (B) An alternative alignment or location for the activity is not feasible;
- 32 (C) The activity is designed so that it will not degrade the functions or
33 values of the fish habitat or other critical areas; and
- 34 (D) Shoreline erosion control measures shall be designed to use
35 bioengineering methods or soft armoring techniques, according to an
36 approved critical area report; and
- 37 (E) Any impacts to the functions or values of the habitat conservation
38 area are mitigated in accordance with an approved critical area report.
- 39 (ii) Structures that prevent the migration of salmonids shall not be allowed in the
40 portion of water bodies currently or historically used by anadromous fish. Fish
41 bypass facilities shall be provided that allow the upstream migration of adult
42 fish and shall prevent fry and juveniles migrating downstream from being
43 trapped or harmed.
- 44 (iii) Fills, when authorized pursuant to the City of Woodinville's Shoreline
45 Management Master Program, shall not adversely impact anadromous fish or
46 their habitat or shall mitigate any unavoidable impacts, and shall only be
47 allowed for a water-dependent use.
- 48 (6) Alterations to streams and riparian habitat areas may be allowed in addition to those
49 established in WMC 21.24.420(2), as follows:
- 50 (a) Stream crossings. The use of existing crossings, including but not limited to utility
51 corridors, road and railroad rights-of-way across streams or buffers for public or

1 private trails is preferred to new crossings. New stream crossing may be allowed if
2 within the buffer if:

- 3 (i) All crossings use bridges or other construction techniques in accordance with
4 best management practices, which do not disturb the stream bed or bank,
5 except that bottomless culverts or other appropriate methods demonstrated
6 to provide fisheries protection may be used for Type F or Np streams if the
7 applicant demonstrates that such methods and their implementation will pose
8 no harm to the stream or inhibit migration of fish;
9 (ii) All crossings are constructed during the summer low flow and are timed to
10 avoid stream disturbance during periods when use is critical to resident or
11 anadromous fish including salmonids;
12 (iii) Crossings do not occur over resident or anadromous fish spawning areas
13 unless the city determines that no other possible crossing site exists;
14 (iv) Bridge piers or abutments are not placed within the FEMA floodway or the
15 ordinary high water mark;
16 (v) Crossings do not diminish the flood-carrying capacity of the stream;
17 (vi) Underground utility crossings are laterally drilled and located at a depth of
18 four feet below the maximum depth of scour for the base flood predicted by a
19 civil engineer licensed by the State of Washington; and
20 (vii) The number of crossings is minimized and consolidated to serve multiple
21 purposes and properties whenever possible.

22 (7) Stream Relocations. Relocations may be allowed subject to the following limitations:

- 23 (a) Type F, Np and Ns streams as part of a public road project for which a public agency
24 and utility exception is granted pursuant to WMC 21.24.060;
25 (b) Type F, Np and Ns streams for the purpose of enhancing or restoring resources in
26 the stream if:
27 (i) Appropriate floodplain protection measures are used;
28 (ii) The relocation occurs on the site, except that relocation off the site may be
29 allowed if the applicant demonstrates that any on-site relocation is
30 impracticable, the applicant provides all necessary easements and waivers
31 from affected property owners and the off-site location is in the same
32 drainage sub-basin as the original stream; and
33 (iii) A critical area report shows that the relocation is beneficial to fish and wildlife
34 habitat.
35 (c) Relocations are constructed during the summer low flow and are timed to avoid
36 stream disturbance during periods when use is critical to resident or anadromous fish
37 including salmonids;
38 (d) Streams shall not be relocated solely for development purposes;
39 (e) Stream relocation pursuant to this section, the applicant shall demonstrate, based on
40 information provided by a civil engineer and a qualified biologist, that:
41 (i) Equivalent base flood storage volume and function will be maintained;
42 (ii) No adverse impact to local ground water;
43 (iii) No increase in velocity;
44 (iv) No increase in transfer of water;
45 (v) No increase in the sediment load;
46 (vi) Requirements set out in the mitigation plan are met;
47 (vii) Relocation conforms to other applicable laws; and
48 (viii) All work will be carried out under the direct supervision of a qualified
49 biologist.
50 (f) Stream Channel Stabilization. A stream channel may be stabilized if:

- 1 (i) Movement of the stream channel threatens existing residential or commercial
2 structures, public facilities or improvements, unique natural resources or the
3 only existing access to property;
- 4 (ii) Stabilization is done in compliance with the requirements of WMC 21.24.350
5 through 21.24.380; and
- 6 (iii) Soft-bank stabilization techniques are utilized unless the applicant
7 demonstrates that soft-bank techniques are not a reasonable alternative due
8 to site-specific soil, geologic and/or hydrologic conditions.
- 9 (g) Enhancement. Stream enhancement not associated with any other development
10 proposal may be allowed if accomplished according to a plan for its design,
11 implementation, maintenance, and monitoring prepared by a civil engineer and a
12 qualified biologist and carried out under the direct supervision of a qualified biologist
13 pursuant to provisions contained in administrative rules.
- 14 (h) Stream Restoration. A minor stream restoration project for fish habitat enhancement
15 may be allowed if the restoration is:
- 16 (i) Sponsored or approved by a public agency with a mandate to do such work;
17 (ii) Not associated with mitigation of a specific development proposal;
18 (iii) Limited to placement of rock weirs, log controls, spawning gravel, culvert
19 replacement and other specific habitat improvements for resident and
20 anadromous fish including salmonid;
- 21 (iv) Involves the use of hand labor and light equipment or the use of helicopters
22 and cranes that deliver supplies to the project site; provided, that they have
23 no contact with critical areas or their buffers; and
- 24 (v) Performed under the direct supervision of a qualified biologist.

25
26 **21.24.430 Fish and wildlife habitat conservation area – Critical areas report additional**
27 **requirements.**

- 28 (1) In addition to the general critical area report requirements of WMC 21.24.110, critical area
29 reports for fish and wildlife habitat conservation areas shall include the following information:
- 30 (a) Prepared by a Qualified Professional. The critical areas report shall be prepared by a
31 wildlife, stream or wetland biologist or scientist. The qualified professional shall have
32 a minimum of five years of experience in the field and experience in preparing
33 reports for fish and wildlife habitat conservation areas.
- 34 (b) Areas Addressed in Critical Areas Report. The following areas shall be addressed in
35 a critical areas report for habitat conservation areas:
- 36 (i) The project area of the proposed activity;
- 37 (ii) All habitat conservation areas and recommended buffers within 200 feet of the
38 project area; and
- 39 (iii) All shoreline areas, floodplains, other critical areas, and related buffers within
40 200 feet of the project area.
- 41 (c) Habitat Assessment. The report shall include an assessment of the presence or
42 absence of potential critical fish or wildlife habitat. A habitat assessment shall include
43 the following information:
- 44 (i) Extent of fish and wildlife habitat areas and required buffers;
- 45 (ii) Existing habitat area acreage;
- 46 (iii) Vegetative, faunal, and hydrologic characteristics;
- 47 (iv) Identification of species of local importance, priority species, or endangered,
48 threatened, sensitive, or candidate species that have a primary association
49 with habitat on or adjacent to the project area;
- 50 (v) Assessment of potential project impacts to the use of the site by the species;

- 1 (vi) A discussion of any federal, state, or local special management
2 recommendations, including Washington Department of Fish and Wildlife
3 habitat management recommendations, that have been developed for
4 species or habitats located on or adjacent to the project area; and
5 (vii) A detailed discussion of the direct and indirect potential impacts on habitat
6 by the project, including potential impacts to water quality.
- 7 (d) Proposed Mitigation. If required, a mitigation plan consistent with WMC 21.24.120
8 and WMC 21.24.440. The mitigation plan shall include a written assessment and
9 accompanying maps of the mitigation area, including the following information at a
10 minimum:
- 11 (i) Prohibition or limitation of development activities within the fish and wildlife
12 habitat conservation area;
 - 13 (ii) Establishment of a buffer around the fish and wildlife habitat conservation
14 area;
 - 15 (iii) Retention of certain vegetation or areas of vegetation critically important to
16 the listed species;
 - 17 (iv) Limitation of access to the fish and wildlife habitat conservation area and
18 buffer;
 - 19 (v) Seasonal restrictions on construction activities on the subject property;
 - 20 (vi) Clustering of development on the subject property is appropriate; and
 - 21 (vii) Preservation or creation of a habitat area for the listed species.
- 22 (e) Habitat Management. When appropriate due to the type of habitat or species
23 present or the project area conditions, the City may also require a habitat
24 management plan to include:
- 25 (i) A discussion of ongoing management practices that will protect habitat after
26 the project site has been developed, including proposed monitoring and
27 maintenance programs;
 - 28 (ii) An evaluation by the Washington State Department of Fish and Wildlife, local
29 Native American Indian tribes, or other qualified expert regarding the
30 applicant's analysis and the effectiveness of any proposed mitigating
31 measures or programs, to include any recommendations as appropriate; and
 - 32 (iii) A request for consultation with the Washington Department of Fish and
33 Wildlife, local Native American Indian Tribes or other appropriate agency; and
 - 34 (iv) Detailed surface and subsurface hydrologic features both on and adjacent to
35 the site.
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37 **21.24.440 Fish and wildlife habitat conservation areas – Mitigation.**

- 38 (1) General. Mitigation of alterations to habitat conservation areas shall achieve equivalent or
39 greater biologic functions and shall include mitigation for adverse impacts upstream or
40 downstream of the development proposal site as appropriate. Mitigation shall be supported
41 by best available science and address each function affected by the alteration to achieve
42 functional equivalency or improvement on a per function basis. Mitigation should occur in
43 the same sub-drainage basin as the habitat.
- 44 (2) Sites. Mitigation sites shall be located to achieve contiguous wildlife habitat corridors in
45 accordance with a mitigation plan and habitat management plan to minimize the isolating
46 effects of development on habitat areas. Mitigation of aquatic habitat shall be located within
47 the same aquatic ecosystem as the area disturbed.
- 48 (3) Restoration. Restoration or mitigation shall be required as part of a development proposal
49 whereby impacts, either direct or indirect, to the habitat conservation area occur.
50 Restoration shall also be required when a habitat conservation area or its buffer is altered in
51 violation of law or without any specific permission or approval by the City. A mitigation plan

1 for the restoration or mitigation, included as part of the critical area report, shall demonstrate
2 that the:

- 3 (a) Habitat conservation area has been degraded and will not be further degraded by the
4 restoration or mitigation activity;
 - 5 (b) Restoration or mitigation will reliably and demonstrably improve the water quality and
6 fish and wildlife habitat;
 - 7 (c) Restoration or mitigation will result in no net loss and no significant adverse impact
8 will occur to habitat functions; and
 - 9 (d) On sites where nonnative vegetation was cleared, restoration shall include
10 installation of native vegetation with a density equal to or greater than the pre-altered
11 site conditions; and
 - 12 (e) Restoration or mitigation will assist in stabilizing the stream channel.
- 13 (4) Stream Restoration and Mitigation. All restoration and/or mitigation projects for streams shall
14 meet the following:
- 15 (a) All work shall be carried out under the direct supervision of a qualified biologist;
 - 16 (b) Basin analysis shall be performed to determine hydrologic conditions;
 - 17 (c) Natural channel dimensions shall be replicated including its depth, width, length and
18 gradient at the original location, and the original horizontal alignment (meander
19 lengths) shall be replaced;
 - 20 (d) Identical or similar materials shall be used to restore the stream bottom;
 - 21 (e) Bank and buffer configuration shall be restored to its original condition;
 - 22 (f) Channel, bank and buffer areas shall be replanted with native vegetation which
23 replicates the original vegetation in species, sizes and densities; and
 - 24 (g) Pre-existing biologic functions of the stream shall be recreated.
- 25 (5) Monitoring and Maintenance. Mitigation sites shall be monitored and maintain consistent
26 with WMC 21.24.130.
- 27 (6) Replacement or enhancement for approved stream or buffer alterations shall be
28 accomplished in streams and on the site unless the applicant demonstrates that:
- 29 (a) Enhancement or replacement on the site is not possible or on-site opportunities do
30 not have a high likelihood of success due to development pressures, adjacent land
31 uses, or on-site buffers or connectivity are inadequate;
 - 32 (b) Off-site location is in the same drainage sub-basin as the original stream; and
 - 33 (c) Greater biologic and hydrologic functions will be achieved.
- 34 (7) Surface water management or flood control alterations shall not be considered enhancement
35 unless other functions are simultaneously improved.
- 36 (8) Day-lighting a stream is encouraged when redeveloping. The Director may modify the
37 requirements pertaining to aquatic areas and their buffers, when locating or day-lighting a
38 stream.
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