

ORDINANCE NO. 08-875

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY WASHINGTON, UPDATING THE CITY'S PROTECTION OF SENSITIVE AREAS BY ADOPTING A NEW SENSITIVE AREAS ORDINANCE THAT WILL BE CODIFIED AS A NEW CHAPTER 19.10 TO THE BLACK DIAMOND MUNICIPAL CODE AND RENAMING CHAPTER 19.12 OF THE MUNICIPAL CODE AND MAKING MINOR CHANGES TO 19.12 RELATING TO AGRICULTURAL ACTIVITIES

WHEREAS, the Growth Management Act requires cities and counties planning under it to periodically review, and, if needed, revise their sensitive areas ordinances to ensure compliance with the Growth Management Act; and

WHEREAS, RCW 36.70A.172 requires local governments to include the "best available science" in preparing policies and regulations to protect the functions and values of critical areas, giving special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries; and

WHEREAS, the last major updates to the City's sensitive areas regulations occurred in 1993; and

WHEREAS, the City Council held duly notice public hearings on the proposed sensitive areas ordinance on November 13, 2008 and December 2, 2008; and

WHEREAS, a Determination of Non-Significance was issued pursuant to the State Environmental Policy Act on February 22, 2008 by the City's Responsible Official, and

WHEREAS, on September 22, 2008, the City submitted the proposed sensitive areas ordinance to Washington State Department of Community Trade and Economic Development for review pursuant to RCW 36.70A.106, and received acknowledgment from that agency of having received the submittal; and

WHEREAS, RCW 36.70A.560 prohibits counties and cities, for the period beginning May 1, 2007, and concluding July 1, 2010, from amending or adopt sensitive area ordinances as they specifically apply to agricultural activities, as defined therein; therefore agricultural activities shall be exempt from this sensitive areas ordinance and the provisions of BDMC Chapter 19.12 in effect prior to this amendment shall remain in full force and effect as to agricultural activities only; and

WHEREAS, the proposed sensitive areas ordinance is based on analysis of

ecosystem functions and values in the City, Urban Growth Area and surrounding areas that documents that the “core” complex of wetlands along Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake and Black Diamond Creek is an area of intensive processes that contributes disproportionate positive values to critical area functions and water quality in Lake Sawyer and therefore warrants a high level of protection and conservation, and

WHEREAS, the proposed sensitive areas ordinance provides for protection of sensitive areas in a manner that assures protection of the ecological functions and values of sensitive areas and provides special consideration to the preservation and conservation measures necessary to preserve and enhance anadromous fisheries, while appropriately balancing other goals of the Growth Management Act as provided in RCW 36.70A.020;

NOW THEREFORE,

THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, ORDAINS AS FOLLOWS:

SECTION 1. The City Council adopts the Findings of Fact attached to this ordinance and hereby incorporated by reference as Exhibit A, with each page of the exhibit being initialed and dated by the Mayor.

SECTION 2. The title to Chapter 19.12 of the Black Diamond Municipal Code is hereby amended to read as follows: “Environmentally Sensitive Areas—Agricultural Activities.”

SECTION 3. Section 19.12.040 is hereby amended to read as follows:

19.12.040 Compliance with chapter provisions—Required.

No agricultural activities shall be undertaken by any person or entity which results in a substantial alteration of a sensitive area except in compliance with the requirements and goals, purposes and objectives of this chapter and only with those mitigation measures set forth in Section 19.12.070, below. “Agricultural activities” shall mean uses and practices existing or legally allowed on the effective date of this ordinance on rural land or agricultural land designated under RCW 36.70A.170 including, but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local,

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state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, when the replacement facility is no closer to a sensitive area than the original facility; and maintaining agricultural lands under production or cultivation.

SECTION 4. A new Chapter 19.10, entitled "Sensitive Areas," is hereby added to the Black Diamond Municipal Code and it shall read as shown in the copy attached to this ordinance as Exhibit B and hereby incorporated by reference, with each page of the exhibit being initialed and dated by the Mayor.


SECTION 5. The provisions of the current Black Diamond Shoreline Master Program shall not be amended or affected by the adoption of this ordinance.

SECTION 6. This Ordinance shall be in full force and effect five days after its passage, approval, posting and publication as provided by law. A summary of this Ordinance may be published in lieu of publishing the Ordinance in its entirety.


SECTION 7. If any provision of this Ordinance is determined to be invalid or unenforceable for any reason, the remaining provisions of this Ordinance shall remain in force and effect.

Introduced the 26th day of February, 2009.

Passed by a majority of the City Council at a meeting held on the 26th day of February, 2009.



Mayor Howard Botts

Attest:


Brenda Streepy, City Clerk

APPROVED AS TO FORM:

Loren D. Combs, City Attorney

Published: 3-3-09
Posted: 2-27-09
Effective Date: 3-8-09

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EXHIBIT B TO ORDINANCE NUMBER 08-875

Chapter 19.10

SENSITIVE AREAS

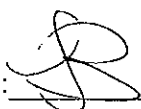
Section:

- 19.10.005 General provisions**
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- 19.10.330 Activities allowed in waterbodies and habitat buffers
- 19.10.335 Other Than Fish and Wildlife Habitat Conservation Areas
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- 19.10.440 Seismic Hazard Areas
- 19.10.445 Seismic Hazard Review and Reporting Requirements

- 19.10.500 Critical Aquifer Recharge Areas

- 19.10.600 Definitions

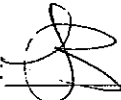
19.10.005 General Provisions

BDMC 19.10.005 to BDMC 19.10.190 are general provisions pertaining to sensitive areas.

19.10.010 Purpose

This chapter has been enacted for the following purposes:

- A. To designate and classify sensitive areas and their ecosystems and to protect these areas and their functions and values using the best available science, giving special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries, while recognizing and allowing for reasonable use of private property;
- B. To limit development and alteration of sensitive areas to achieve the goal of no net loss of sensitive areas or their functions and values;
- C. To protect members of the public and public resources and facilities from public health or safety concerns, including injury, loss of life, or property damage due to events such as landslides and steep slope failures, erosion, seismic events, and mine hazards;

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- D. To provide for compatible land use on or adjacent to sensitive areas and direct activities not compatible with sensitive areas resources to less ecologically sensitive sites and mitigate unavoidable adverse impacts to sensitive areas by regulating alterations in and adjacent to sensitive areas; and
- E. To prevent cumulative adverse environmental impacts to sensitive areas resulting from many individual actions.
- F. To place the highest level of protection on what has been identified the “Core” and “Headwater Areas”.

19.10.020 Applicability and Jurisdiction

- A. This chapter shall apply to all uses, activities, and developments undertaken within or adjacent to one or more sensitive areas and their ecosystems, including buffers as designated herein. Sensitive areas designated and regulated by this chapter include:
 - 1. Wetlands
 - 2. Fish and wildlife conservation areas
 - 3. Geologically hazardous areas.
 - 4. Critical aquifer recharge areas
 - 5. Frequently flooded areas
- B. The jurisdiction of this chapter includes all development that may have adverse impacts on sensitive areas within the city and their buffers.
 - 1. An inventory of designated sensitive areas is maintained by the City and has been mapped on the Black Diamond Sensitive Areas Maps, as amended or supplemented. Those maps are resources for the identification of the probable location, extent and classification of sensitive areas. Such information may be used by the mayor or his/her designee as a basis for applying the provisions of this code, including requiring field investigation and special reports. In the event of a conflict between information contained in the Sensitive Areas Maps and information relating to the criteria by which Sensitive Areas are defined, including information resulting from a field investigation, the latter shall prevail. Preparation and maintenance of such documents and maps shall not create liability on the part of the City of Black Diamond or any officer or employee thereof for any damages that result from reliance on said maps.
 - 2. Any area within the city meeting the definition of one or more sensitive area, regardless of any formal mapping, identification or delineation, are hereby designated as sensitive areas and are

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subject to the provisions of this chapter.

19.10.030 Relationship to other Regulations

- A. These sensitive areas regulations shall apply as an overlay and in addition to zoning and other regulations adopted by the city.
- B. Any sensitive area or buffer subject to another type of sensitive area shall be provided the buffer and meet the requirements that provide the most protection to the sensitive areas involved.
- C. These sensitive areas regulations shall be applied concurrently with review required under other city codes for development and use and the State Environmental Policy Act (SEPA), and any conditions required pursuant to this chapter shall be included in the review of development or use permits, including SEPA review and threshold determination. If no other permits are required, a separate Sensitive Areas Permit is provided for in Section 19.10.120.B.3.

19.10.050 Mitigation

- A. **Project Action.** Any project action taken pursuant to this chapter shall be mitigated and result in equivalent or greater functions and values of the sensitive areas associated with the proposed action.
- B. **Proposed Action.** The design and development of a proposed action under this chapter must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon, and their habitat.
- C. **Mitigation sequencing.** All proposed actions and developments shall be designed to avoid, minimize, and/or restore all identified adverse impacts in the following order of preference:
 - 1. Avoiding the impact altogether by not taking a certain action or parts of an action;
 - 2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
 - 3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
 - 4. Minimizing or eliminating a hazard by restoring or stabilizing the hazard area through engineered or other methods;
 - 5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

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6. Compensating for the impact to by replacing, enhancing, or providing substitute resources or environments; and
7. Monitoring the impact and the required mitigation and taking corrective measures action when necessary.

19.10.060 Allowed activities.

The following activities are allowed under this chapter: The level of review shall be determined by the mayor or his/her designee and shall include (1) existing and compatible activities, (2) emergency actions, (3) activities requiring notification or (4) a full permit review through existing permits or the sensitive area review permit or the exception process. The allowed activities under each review process include:


- A. **Existing and Compatible Activities:** The continuation of existing use and activities does not require prior review or approval. Review of expansion of existing use associated with new facilities shall be reviewed in accordance with non-conforming provisions in 19.10.170. Such activities include, but are not limited to:
 1. **Operation, maintenance, or repair.** Operation, maintenance, or repair of existing legally established structures, infrastructure improvements, utilities, public or private roads, or drainage systems, that do not require construction permits, if the activity does not modify the character, scope, or size of the original structure or facility or increase the impact to, or encroach further within, the sensitive area or buffer and there is no increased risk to life or property as a result of the proposed operation, maintenance, or repair. Operation and maintenance includes vegetation management performed in accordance with best management practices that is part of ongoing maintenance of structures, infrastructure, or utilities, provided that such management actions are part of regular and ongoing maintenance, do not expand further into the sensitive area, are not the result of an expansion of the structure or utility, and do not directly impact an endangered or threatened species;
 2. **Vegetation Management.** The following vegetation removal activities are allowed using hand labor and light equipment,
 - a. The removal of non-native or noxious and invasive weeds; and
 - b. Maintenance of existing, lawfully established landscaping and gardens within a regulated sensitive area or its buffer, including but not limited to, mowing lawns, weeding, removal of noxious and invasive species, harvesting and

replanting of garden crops, pruning and planting of ornamental vegetation or indigenous native species to maintain the condition and appearance of such areas as they existed prior to adoption of this code, provided that native growth protection areas, mitigation sites, or other areas protected via conservation easements or similar restrictive covenants are not covered by this exception.

3. **Outdoor activities.** Recreation, education, and scientific research activities that do not degrade the sensitive area, including such things as fishing, hiking, and bird watching.
4. **Forest Practices.** These practices are governed by a valid Forest Practices Permit granted by the Washington State Department of Natural Resources, except where:
 - a. The lands have been or are proposed to be converted under a conversion option harvest plan to a use other than commercial forest product production as provided in chapter RCW 76.09.050 and RCW 76.09.240, or
 - b. On lands which have been platted after January 1, 1960, as provided in RCW 76.09.050 and RCW 76.09.240.
5. **Agricultural activities.** Agricultural activities shall be subject to the provisions Chapter 19.12 of the Black Diamond Municipal Code. in effect prior to this amendment until July 1, 2010, pursuant to RCW 36.70A.560.
6. **Boundary markers.** Construction or modification of boundary markers.

B. Emergencies. Those activities necessary to prevent an immediate threat to public health, safety, or welfare, or that pose an immediate risk of damage to public or private property and that require remedial or preventative action in a time frame too short to allow for compliance with the requirements of this chapter may be undertaken without prior notification. The mayor or his/her designee shall be provided notification of action taken within two working days after work is initiated, except for city-wide or regional disasters. Mitigation for alteration of sensitive areas may be required and may require subsequent preparation of a sensitive areas report and appropriate permits for restoration. in accordance with the review procedures contained herein. Restoration and/or mitigation activities must be initiated within ninety (90) days of the date of the emergency, and completed in a timely manner;

C. Actions Subject to Notification and Approval. The following actions

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that can be planned and programmed in advance require written notification to the mayor or his/her designee. If the Mayor or his/her designee does not respond within ten (10) days of notification, the activity is deemed approved. The notification must be in a format specified by the administrator to provide specific information describing the activity and the Best Management Practices proposed to minimize impacts on sensitive areas, as well as mitigation proposed. The Mayor or his/her designee may deny or impose conditions on proposed activities, or specify that an alternative review process is required. Such activities include:

1. **Minor site investigative work.** Work necessary for land use submittals, such as surveys, soil logs, percolation tests, and other related activities, where such activities do not require construction of new roads or displacement of more than 10 cubic yards of material. Investigations involving displacement of more than 10 cubic yards of material, including geotechnical soil borings, groundwater monitoring wells, percolation tests, and similar activities shall require submittal of specific plans and restoration plans. In every case, impacts to the sensitive area shall be minimized and disturbed areas shall be immediately restored; and
2. **Minor utility projects.** Utility projects that have minor or short-duration impacts to sensitive areas, as determined by the mayor or his/her designee in accordance with the criteria below, and which do not significantly impact the function or values of the sensitive area(s); provided that such projects are constructed with best management practices and additional restoration measures are implemented. Minor activities shall not result in the transport of sediment or increased stormwater. Such allowed minor utility projects shall meet the following criteria:
 - a. There is no practical alternative to the proposed activity with less impact on sensitive areas;
 - b. The activity involves the placement of a utility pole, street signs, anchor, or vault or other small component of a utility facility; and
 - c. The activity involves disturbance of an area less than 75 square feet.
3. **Activities within the improved right-of-way:** Replacement, modification, installation, or construction of new utility facilities, lines, pipes, mains, equipment, or appurtenances, not including substations, when such facilities are located within the improved portion of the public right-of-way or a city authorized private roadway (road surface, shoulder, sidewalks, and fill slopes not

characterized by re-establishment of trees in excess of 4 inches in diameter); except, those activities that alter a wetland or watercourse, such as culverts or bridges, or result in the transport of sediment or increased stormwater. All activities are subject to the following:

- a. Sensitive area and/or buffer widths shall be increased, where possible, equal to the area of disturbance; and,
 - b. Retention and replanting of native vegetation shall occur wherever possible along the right-of-way improvement and resulting disturbance
4. **Hazardous Tree Removal** The removal of trees from sensitive areas and buffers that are hazardous, posing a threat to public safety, or posing an imminent risk of damage to private property can be conducted in accordance with the BDMC 19.30 provided that:
- a. All vegetation cut (tree stems, branches, etc.) shall be left within the sensitive area or buffer unless removal is warranted due to the potential for disease or pest transmittal to other healthy vegetation or due to the potential for a public safety hazard;
 - b. The landowner shall replace any trees that are removed with new trees in accordance with an approved restoration plan within at a ratio that will lead to re-establishment of ecological functions of water cycle, erosion control, shade and habitat. Replacement plantings generally will consist of replanting of the area within the drip line of the removed tree and include either one gallon containers at a minimum triangular spacing of 5 feet, five gallon containers at a minimum triangular spacing of 8 feet, or at a minimum a ratio of two replacement trees for each tree removed (2:1) of trees a minimum of six 4 to 6 feet in height for deciduous trees and 6 to 12 feet for evergreens as measured from the top of the root ball. Restoration plantings must be installed within the next feasible growing season and in no case more than one (1) year from removal. A performance security may be required to assure implementation. Replacement trees shall be species that are native and indigenous to the site;
 - c. If a tree to be removed provides sensitive habitat, such as an eagle perch, a qualified wildlife biologist shall be consulted to determine timing and methods of removal that will

minimize impacts. Compliance with state and federal requirements may be required, and;

5. Removal of vegetation or woody debris from a wildlife conservation area or wetland due to the potential for disease or pest transmittal to other healthy vegetation or due to the potential for a fire or other public safety hazard, or as a necessary part of an approved alteration;
6. Measures to control a fire or halt the spread of disease or damaging insects consistent with the state Forest Practices Act, Chapter 76.09 RCW, provided that the removed vegetation shall be replaced in-kind or with similar native species within one (1) year in accordance with an approved restoration plan.
7. Activities undertaken to comply with a United States Environmental Protection Agency superfund related order, or a Washington Department of Ecology order pursuant to the Model Toxics Control Act that specifically preempts local regulations in the findings of the order. Provided that an action that requires compliance with the purpose and intent of local regulations may require a submittal of sensitive area reports and may be processed as a sensitive areas permit.
8. Activities and facilities for restoration and enhancement of ecological functions of sensitive areas and related resources upon approval of a restoration and mitigation plan by all other relevant agencies in accordance with a watershed restoration project pursuant to RCW 89.08.460, a Salmonid Recovery Plan, or Salmon Recovery Board Habitat Project List, or identified by the Washington Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement pursuant to RCW 77.55.290.

D. All actions that do not meet the criteria above must be approved in accordance with sensitive areas review integrated with other required permits or by a sensitive areas permit.

19.10.080 Exceptions

- A. **Agricultural activities.** The provisions of this sensitive areas ordinance shall not apply to agricultural activities. "Agricultural activities" shall mean agricultural uses and practices existing or legally allowed on rural land or agricultural land designated under RCW 36.70A.170, as currently enacted or hereafter amended, including but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse

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agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment or facilities, when the facility is no closer to a critical area than the original facility; and maintaining agricultural lands under production or cultivation.

- B. **Essential public facility.** If the application of this chapter would prohibit a development proposal by a public agency or public utility that is essential to providing a public service, or if the application of this chapter would deny all reasonable economic use of the subject property by the property owner, then the agency or utility or property owner may apply for an exception pursuant to this Section.
- C. **Exception request and review process.** An application for a public agency, public utility or reasonable use exception shall be made to the city and shall include a sensitive area identification form; sensitive area report, including mitigation plan, if necessary; and any other related project documents, such as permit applications to other agencies, special studies, and environmental documents. The mayor or his/her designee shall prepare a recommendation to the Hearing Examiner, except for the provisions for a non-conforming single family lot as provided in Subsection E. below, based on review of the submitted information, a site inspection, and the proposal's ability to comply with the applicable public agency and utility exception review criteria in Subsection (D) below.
- D. **Hearing Examiner review.** The Hearing Examiner shall review the application, except for the provisions for a non-conforming single family lot as provided in Subsection E. below, consider the recommendation of the mayor or his/her designee, and consider public testimony at a public hearing. The Hearing Examiner shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the applicable exception criteria in Subsection (D).
- E. **Exception review criteria.** The criteria for review and approval of a requested exception are as follows:
 - 1. Public agencies and public utilities exception:
 - a. There is no other practical alternative to the proposed development with less impact on the sensitive areas;
 - b. The application of this chapter would unreasonably restrict the ability to provide utility services to the public;
 - c. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal

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- site;
- d. The proposal attempts to protect and mitigate adverse impacts to the sensitive area functions and values; and
 - e. The proposal is consistent with other applicable regulations and standards.
2. Private property reasonable use exception:
- a. The application of this chapter would deny all reasonable economic use of the property;
 - b. No other reasonable economic use of the property has less impact on the sensitive area;
 - c. The proposed impact to the sensitive area is the minimum necessary to allow for reasonable economic use of the property;
 - d. The inability of the applicant to derive reasonable economic use of the property is not the result of actions by the applicant after the effective date of this chapter, or its predecessor;
 - e. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;
 - f. The proposal will result in no net loss of sensitive area functions and values; and
 - g. The proposal is consistent with other applicable regulations and standards.
3. Reasonable Use Exception for Non-Conforming Single Family Lots
- a. A reasonable use exception may be approved administratively by the mayor or his/her designee for non-conforming single family residential lots within a subdivision filed within five years previous to the adoption of provisions of this code that render them non-conforming in compliance with RCW 58.17.17, or other lots or parcels under contiguous ownership and less than 20,000 square feet in size that are not subject to landslide hazard areas and associated buffers, shall be subject to the following standards, in conformance with the provisions for a reasonable use exception in subsection (D)(2) (c) through (g) and in accordance with the following criteria:
 - b. Non-conforming lots with an area of 2,500 square feet or more

available for a building area unrestricted by sensitive areas or buffers shall comply with the standards of this chapter. The building area means the entire area that will be disturbed to construct a structure with a 10-foot setback containing an allowed use and normal appurtenances, including parking and landscaping.

- c. Non-conforming lots that do not meet the requirement of subsection b, above, shall provide the maximum setback and buffer dimension feasible while providing for a building envelope, including 10-foot setback, to a maximum of 2,500 square feet on the lot. The building area shall generally be located on the portion of the lot farthest from the required sensitive area or buffer and/or the least-sensitive portion of the lot.
- d. The area between the structure and the sensitive area should be maintained or planted in native trees and understory vegetation.
- e. The mayor or his/her designee shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the applicable exception criteria in Subsection (D)(2)(c) through (g).

19.10.100 Sensitive Area Determination and Reports

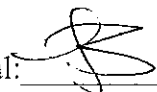
BDMC 19.10.100 through BDMC 19.10.140 pertain to sensitive areas determination and reports.

19.10.110 Sensitive Area Pre-Application Meeting

Any person preparing to submit an application for development or use of land that may be regulated by the provisions of this chapter is encouraged to conduct a consultation meeting with the mayor or his/her designee prior to submitting an application for development or other approval. At this meeting, the Mayor or his/her designee shall discuss the requirements of this chapter; provide sensitive area maps, scientific information, and other source materials maintained by the city; outline the review process; and work with the applicant to identify any potential concerns that might arise during the review process, as well as discussing the need for other permit approvals and their procedures.

19.10.120 Sensitive Area Permit Review

- A. **Integration with Other Permits.** The approval or denial of an activity or modification within a sensitive area shall be integrated with the review required by any other permit. The decision shall be made by the decision-maker prescribed by the underlying permit, provided that the mayor or his/her designee shall prepare a written analysis that may be in checklist

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form, for compliance with sensitive area standards and criteria. The review process will be integrated with the review of the underlying permit. Public notice is required only if required by the underlying permit.

B. **Separate Permit Review.** If no other permit or approval is required, or for approval of allowed uses listed in Section 19.10.060, or for review of sensitive areas jurisdiction as provided in C.1 below, the Mayor or his/her designee may approve a separate sensitive areas permit. Submittal requirements may be modified to address the specific proposal. Fees shall be in accordance with the city fee schedule. Review shall be administrative. If variation in standards for any sensitive area is proposed, public notice shall be provide as provided for a variance in the zoning code. Sensitive area reviews include:

1. **Emergencies.** Notification of emergency actions taken where there is imminent danger to persons of property requiring that action must take place within 48 hours do not require prior approval. Such notification shall describe work performed and sensitive areas and buffers disturbed. The mayor or his/her designee may:
 - a. Administratively approve the emergency action taken with no further action required;
 - b. Administratively approve restoration activities that do not require other permits or approvals. A sensitive areas report and/or mitigation plan may be required.
 - c. Direct the applicant to apply for other required permits or approvals for required restoration activities.
2. **Actions Subject to Notification and Approval.** Actions that can be planned and programmed in advance, including repair or replacement of utility facilities that do not require other permits or approval shall be subject to notification and administrative review. The mayor or his/her designee shall specify requirements for submittal requirements to address information required on the presence of sensitive areas, description of the activity proposed, and description of the BMPs proposed. The Mayor or his/her designee may approve said work and impose conditions upon finding that no substantive impact on sensitive area functions and values will occur. Notification shall be submitted at least ten (10) full business days prior to initiating work. Approvals may be granted for up to one year per activity provided that there is no change in the scope of the project including, but not limited to, the location and/or extent of the activity allowed under the notification process.

3. **Sensitive Area Permit.** Projects that may have substantial impacts on sensitive area functions, but do not require other permits may be reviewed by the mayor or his/her designee as a sensitive area permit subject to all submittal and review criteria and standards of this section. Jurisdiction determinations can be made for projects requiring other permits or approvals; however review of the proposal must take place in conjunction with other review required

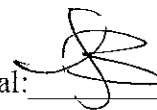
C. **Sensitive Areas Jurisdiction Decision.** At the time of, or prior to the city's consideration of any proposed activity, the applicant shall submit to the department a completed sensitive area determination on a form provided by the city.

1. **Review.** Upon receipt of a project application and a sensitive area determination form, the mayor or his/her designee shall review available sensitive area maps and data and conduct a site inspection to review sensitive area conditions on site if needed. The administrator and/or his designee make a determination as to whether any sensitive areas may be affected by the proposal and if a sensitive areas report will be required based on the following indicators:

- a. Indication of a sensitive area on the city sensitive areas maps that may be impacted by the proposed activity;
- b. Information and scientific opinions from appropriate agencies, including but not limited to the departments of Fish and Wildlife, Natural Resources, and Ecology;
- c. Documentation, from a scientific or other reasonable source, of the possible presence of a sensitive area; or
- d. A finding by a qualified professional or a reasonable belief by the mayor or his/her designee that a sensitive area may exist on or adjacent to the site of the proposed activity.

2. **Determination decisions.**

- a. **No sensitive areas present.** If, after a site visit, the analysis by the mayor or his/her designee indicates that the project area is not within or adjacent to a sensitive area or buffer and that the proposed activity is unlikely to degrade the functions or values of a sensitive area, then the mayor or his designee shall rule that the sensitive area review is complete and note on the determination form the reasons that no further review is required. A summary of this information shall be included in any staff report or decision on the underlying permit.



- b. **Sensitive areas present, but no impact – report waiver.** If the mayor or his/her designee determines that there are sensitive areas within or adjacent to the project area, but that the proposed activity is outside of required buffer areas and is unlikely to degrade the functions or values of the sensitive area, the administrator may waive the requirement for a sensitive area report. A summary of this analysis and the findings shall be included in any staff report or decision on the underlying permit. A waiver may be granted if there is substantial evidence that all of the following requirements will be met:
 - i. The boundaries and classification of the sensitive area and associated buffers can be reliably determined without a technical study, and there will be no alteration of the sensitive area or buffer;
 - ii. The development proposal will not adversely impact the sensitive area in a manner contrary to the purpose, intent, and requirements of this chapter; and
 - iii. The proposal is consistent with other applicable regulations and standards.
- c. **Sensitive areas may be affected by proposal.** If the mayor or his/her designee determines that a sensitive area or areas may be adversely affected by the proposal, then the administrator shall notify the applicant that a sensitive areas report must be submitted prior to further review of the project, and indicate each of the sensitive area types that should be addressed in the report.
- d. Sensitive area jurisdiction decisions shall be final unless, unknown information is brought to the attention of the mayor or his/her designee.

19.10.130 Sensitive Area Reports

- A. **Preparation by qualified professional.** Sensitive area reports shall be prepared by a qualified professional(s) having expertise in the specific sensitive area category(s) that are the subject of the report.
- B. **Use of existing documents.** Unless otherwise provided and as approved by the mayor or his designee, a sensitive area report may be supplemented by or composed, in whole or in part, of any reports or studies required under other laws and regulations or previously prepared for and applicable to the development proposal site.

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C. Modifications to report requirements.

1. **Limitations to study area.** The required geographic area of the sensitive area report may be limited as appropriate if:
 - a. The applicant, with assistance from the city, cannot obtain permission to access properties adjacent to the project area; or
 - b. The proposed activity will affect only a limited part of the subject site.
2. **Modifications to required contents.** The applicant may consult with the mayor or his/her designee prior to or during preparation of the sensitive area report to obtain city approval of modifications to the required contents of the report where, in the judgment of a qualified professional, more or less information is required to adequately address the potential adverse impacts and required mitigation.
3. **Additional information requirements.** The mayor or his/her designee may require additional information to be included in the sensitive area report if necessary for the city to adequately review the proposed activity in accordance with this chapter.

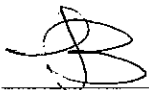
D. Minimum report contents. At a minimum, the report shall contain the following information:

1. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested;
2. A copy of the site plan for the development proposal including:
 - a. A map to scale depicting sensitive areas and buffers, and any areas to be cleared;
 - b. Extent of the project area for the proposed activity;
 - c. Topographic elevations at two (2) foot intervals for the sensitive area and its buffer, and at five (5) foot intervals for the remainder of the project site;
 - d. Location of existing and proposed structures, and areas for storage of materials;
 - e. A description of the proposed stormwater management plan and facilities for the development and consideration of adverse impacts to drainage alterations.
3. The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site;
4. Identification and characterization of all sensitive areas and

- buffers, water bodies, and floodplains within 300 feet of the proposed project area;
5. Detailed description of vegetation in and adjacent to the project area and its associated buffer;
 6. A statement documenting sources of best available science and all assumptions made and relied upon;
 7. A description of reasonable efforts made to apply mitigation in the order of preference as stipulated in Section 19.10.050;
 8. If required, plans for adequate mitigation to offset any adverse impacts, in accordance with 19.10.140, and including, but not limited to:
 - a. The adverse impacts of any proposed development within or adjacent to a sensitive area or buffer on the sensitive area; and
 - b. The adverse impacts of any proposed alteration of a sensitive area or buffer on the development proposal, other properties and the environment.
 9. A discussion of the performance standards applicable to the sensitive area and proposed activity; and
 10. Proposed financial guarantees to ensure compliance.
- E. Additional information requirements for specific sensitive areas. In addition to the report requirements listed above in Section 19.10.130(D), the minimum information specific to each sensitive area category shall also be required.
- F. The City maintains the authority to call for a third party, independent review, paid for by the applicant, if a disagreement exists in the content of the sensitive area report.

19.10.140 Mitigation Plans.

- A. **Requirements.** When mitigation is required, the applicant shall submit for approval by the city, a mitigation plan as part of the sensitive area report. The mitigation plan shall include:
1. A description of the anticipated adverse impacts to the sensitive areas and the mitigating actions proposed and the purposes of the compensation measures (if applicable), including the site selection criteria; identification of compensation goals; identification of resource functions; and dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the functions and values of the impacted sensitive area;

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2. A review of the best available science supporting the proposed mitigation; and
3. Specific information requirements and criteria are provided below for each sensitive area.

B. Plan criteria. The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and whether or not the requirements of this chapter have been met.

C. Plan specifications. The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as (and if applicable):

1. Specific calculations of the area of impact and mitigation area utilized;
2. The proposed construction sequence, timing, and duration;
3. Grading and excavation details;
4. Erosion and sediment control features;
5. A planting plan specifying plant species, quantities, locations, size, spacing, and density; and
6. Measures to protect and maintain plants until established.

These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

D. Monitoring program. The mitigation plan shall include a program for monitoring construction of the proposed mitigation or compensation project and for assessing the completed project. A protocol shall be included outlining the schedule for site monitoring (for example, monitoring shall occur during the construction of the development and also in years 1, 3, and 5 after final acceptance of the project by the City), and how the monitoring data will be evaluated to determine if the performance standards are being met. A monitoring report shall be submitted as needed to document milestones, successes, problems, and contingency actions of the project. After final acceptance of the project by the City, the mitigation efforts shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than three (3) years. Specific more detailed information requirements and criteria are provided below for each sensitive area.

E. Contingencies. The mitigation plan shall include identification of potential courses of action, and any corrective measures to be taken if



monitoring or evaluation indicates project performance standards are not being met.

F. **Financial guarantees.** The mitigation plan shall include proposed financial guarantees, if necessary, to ensure that the mitigation plan is fully implemented. Financial guarantees ensuring fulfillment of the compensation project, monitoring program, and any contingency measures shall be posted with the city at the time of the first grading, clearing, or construction permit in the amount as provided below

1. **Performance Surety.** The applicant shall post a cash performance bond, letter of credit, or other security acceptable to the city in the amount of one hundred and twenty five percent (125%) of the estimated cost of the uncompleted actions or the estimated cost of restoring the functions and values of the sensitive area that are at risk, whichever is greater. The surety shall be based on an itemized cost estimate of the mitigation activity including clearing and grading, plant materials, plant installation, irrigation, weed management, monitoring, and other costs. The conditions of the surety shall be consistent with the purposes of this chapter and the conditions to be fulfilled. In the event of a breach of any condition of any such bond, the city may institute an action in a court of competent jurisdiction upon such bond and prosecute the same to judgment and execution. The city shall release the bond upon determining that:

a. All activities, including any required compensatory mitigation, have been completed in compliance with the terms and conditions of the permit and the requirements of this chapter;

b. Upon the posting by the applicant of a maintenance surety.

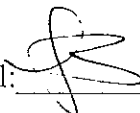
2. **Maintenance and Monitoring Surety.** The city shall require the holder of a development permit issued pursuant to this chapter to post a cash performance bond, letter of credit, or other security acceptable to the city in an amount and with surety and conditions sufficient to guarantee that structures, improvements and mitigation required by the permit and by this Chapter are performed satisfactorily, including performing required maintenance during the monitoring period identified in section 19.10.140.D that follows final acceptance of the development by the city. The city shall release the maintenance bond upon determining that performance standards established for evaluating the effectiveness and success of the structures, improvements and/or compensatory mitigation have been satisfactorily met for

the required period. For compensation projects, the performance standards shall be those contained in the mitigation plan developed and approved during the permit review process. The maintenance bond applicable to a compensation project shall not be released until the city determines that performance standards established for evaluating the effect and success of the project have been met. The mayor or his/her designee may return up to 25% of the surety following the first year of monitoring provided that the year 1 performance standards are met and the risk of subsequent failure is considered low.

3. Depletion, failure, or collection of surety funds shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, or monitoring.
4. Public development proposals may be relieved from having to comply with the surety requirements of this section if public funds have been committed through a budget process with final approval for mitigation, maintenance, or monitoring.

G. Mitigation Banking. The City may approve mitigation banking as a form of compensatory mitigation for wetlands and fish and wildlife habitat conservation area impacts when the provisions of this chapter require mitigation and when it is clearly demonstrated that the use of a mitigation bank will provide equivalent or greater replacement of sensitive area functions and values when compared to conventional on-site mitigation, provided that all of the following criteria are met:

1. Mitigation banks shall only be used when they provide significant ecological benefits including long-term conservation of sensitive areas, important species, habitats and/or habitat linkages, and when they are consistent with the City's Comprehensive Plan and create a viable alternative to the piecemeal mitigation for individual project impacts to achieve ecosystem-based conservation goals.
2. The mitigation bank shall be established in accordance with the Washington State Draft Mitigation Banking Rule WAC 173-700 or as revised, and RCW 90.84 and the federal mitigation banking guidelines as outlined in the Federal Register Volume 60, No 228, November 28, 1995. These guidelines establish the procedural and technical criteria that banks must meet to obtain state and federal certification.
3. Preference shall be given to mitigation banks that implement restoration actions that have been identified in an adopted Shoreline Restoration Plan, watershed planning document prepared and adopted pursuant to RCW 90.82, a Salmonid Recovery Plan or

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project that has been identified on the Salmon Recovery Board Habitat Project List or by the Washington Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement.

4. Mitigation banks shall be used for mitigation of impacts to wetlands and wildlife habitat areas within the Lake Sawyer watershed except in cases where the mayor or his/her designee determine that mitigation is not feasible within the Lake Sawyer watershed.

19.10.150 Notice on Title

A. **Recording of restriction.** The owner of any property containing sensitive areas on which a development proposal is approved shall file with the mayor or his/her designee and provide a copy of the filed notice to the city, unless notice is provided on a plat as provided in B, below. The notice shall:

1. State the presence of the sensitive area and/or buffer area on the property, and identify that there are limitations and restrictions on uses and actions in or affecting the sensitive area and/or buffer imposed by this code and by the provisions of the sensitive areas code and specific conditions of approval. The notice shall indicate that the restrictions run with the land and may be altered only in conjunction with amendment of this chapter or amendment of specific conditions of approval as provided by this chapter.
2. Provide that management of the sensitive area is required to include, but is not limited to, maintenance or replacement of vegetation to assure the long-term viability of a community of native vegetation, control of invasive plant control, and fulfillment of other conditions of approval.
3. Provide for the right of the public, and specifically the City of Black Diamond, to enforce the terms of the restrictions through civil infraction or other legal address.
4. If a site plan has been approved indicating the extent of the sensitive area and buffer and permit conditions, a copy of the site plan together with relevant survey information and permit conditions shall be included in the notice filed.

B. **Plats and Short Plats.** Restrictions on use and development of sensitive areas buffers and setback areas on plats and short plats shall include the information in A, above, shall designate the party responsible for maintenance of the sensitive area, if other than the property owner, and shall place sensitive areas in tracts or easements as provided below:

1. Designation of separate tracts for sensitive areas and buffers shall

be the preferred method of designation and protection of sensitive areas in plats to provide for integrated management of the sensitive area and buffer separately from lots. The tract may be:

- a. Held in an undivided interest by each owner of a building lot within the development, the ownership of which shall pass with the ownership of the lot. Responsibility for meeting all requirements of preservation and management shall be designated to an incorporated homeowner's association or other legal entity that assures the ownership and protection of the sensitive area.
 - b. Dedicated to the City of Black Diamond or other governmental entity qualified to own and manage open space as soon as any mitigation and monitoring requirements have been completed by the applicant.
 - c. Conveyed to a non-profit land trust, provided the land may not be thereafter transferred to a private party, and provided that if the land trust is dissolved or otherwise fails to perform its functions, ownership and responsibility for management shall devolve to an undivided interest by each owner of a building lot within the development, as provided in a., above.
2. The mayor or his/her designee may allow a sensitive area and buffer to be placed within a protective easement on a parcel with the responsibility for meeting all requirements of preservation and management placed on the owner of the parcel over which the easement is placed. This means of designation shall be used in cases where the size and the ecological functions of the sensitive area do not require coordinated management or where formation of an incorporated homeowner's association or other legal entity for management is found to be impractical because of the limited number of lots, or where ownership and management by the City, a qualified special district or a land trust is found to be impractical. This alternative generally will be limited to sensitive areas and buffers of less than 20,000 square feet and developments of fewer than ten (10) parcels, or non-residential or multi-family development.
- C. This notice on title shall not be required for a development proposal by a public agency or public or private utility within a right-of-way or easement for which they do not have fee-simple title.
- D. The applicant shall submit proof that the notice, dedication or easement has been filed for public record before the City shall approve any final plat



or final site plan for such site. The notice shall run with the land and failure to provide such notice to any purchaser prior to transferring any interest in the property shall be a violation of this section.


19.10.160 Building Setbacks

- A. Buildings and other structures shall be set back a sufficient distance to assure that disturbance to sensitive area vegetation and soils is avoided during construction, maintenance and use.
- B. Buildings and other structures shall be set back a distance of ten (10) feet from the edges of all sensitive area buffers or from the edges of all sensitive areas if no buffers are required, provided that the mayor or his/her designee may modify the building setback based on specific development plans that document that construction techniques, maintenance needs and use will not disturb sensitive areas or buffer.
- C. If slopes adjacent to the buffer for wetlands or water bodies exceed 15 percent, including slopes created by grading, a swale installed on the outside edge of the buffer or other engineered solution shall be installed sufficient to intercept surface water movement.
- D. The following facilities and uses are allowed in the building setback:
 - 1. Landscaping, including rockeries not over 42 inches high provided construction does not alter the buffer or sensitive area;
 - 2. Uncovered decks, platforms, porches and similar projections not over 42 inches high;
 - 3. Building eaves, cornices, chimneys and similar projections;
 - 4. Impervious surfaces such as driveways, parking lots, roads, and patios provided that such surfaces conform to applicable water quality standards and that construction equipment does not enter the buffer or sensitive area;
 - 5. Clearing and grading consisting of not over 42 inches of cut or fill.
 - 6. Fences, in accordance with local covenants and other design standards.
 - 7. Small utility projects

19.10.170 Non-conforming development

The following provisions shall apply to lawfully established uses, buildings and/or structures that do not meet the specific standards of this Program.

- A. Nonconforming uses shall be governed in accordance with the provisions of the zoning code or in accordance with the Shoreline Master Program subject to additional provisions in this chapter. Such use may not be altered or expanded except in compliance with standards provided in said

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codes.


- B. Nonconforming structures, facilities and developments damaged by fire or other cause shall be governed in accordance with the provisions of the zoning code or in accordance with the Shoreline Master Program subject to additional provisions in this chapter.
- C. Alteration of existing structures or facilities may require modification to sensitive areas or buffers, in accordance with this section and other provisions of this code.
 - 1. **Minor alteration or renovation** shall be defined as alteration or renovation of any structure, or making other improvements, that result in any of the following:
 - a. Expansion of floor area by up to 500 square feet, or by up to 10 percent, whichever is less; or
 - b. Expansion of impervious surface by up to 1,000 square feet, or by up to 10 percent, whichever is less; or
 - c. Remodeling or renovation that equals less than 50 percent of the value of the existing structures or improvements, excluding plumbing, electrical and mechanical systems.

Minor alteration may require compliance with specific performance standards of this code.

- 2. **Moderate alteration or renovation** shall be defined as the alteration or renovation of any structure, or making other improvements, that result in any of the following:
 - a. Expansion of floor area by 500 square feet or more, or by more than 10 percent but less than 50 percent, whichever is less; or
 - b. Expansion of impervious surface by more than 1,000 square feet, or by more than 10 percent but less than 50 percent, whichever is less; or
 - c. Remodeling or renovation equal to or greater than 50 percent but less than 100 percent of the value of the existing structures or improvements, excluding plumbing, electrical and mechanical systems.

Moderate alteration may require compliance with specific performance standards of this code.

- 3. **Substantial alteration or redevelopment** shall be defined as alteration or renovation of any structure, or making other improvements, that result in any of the following:
 - a. Expansion of floor area by 50 percent or more, or the expansion of impervious surface by 50 percent or more; or



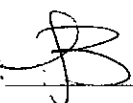
- b. Remodeling or renovation equal to or exceeding 100 percent of the value of the existing structures or improvements, excluding plumbing and mechanical systems.

Such substantial reconstruction shall be considered the same as new construction and shall fully comply with the provisions of this code.

D. Buffer adjustment based on existing lot depth. The mayor or his/her designee may vary buffer dimensions on existing lots under contiguous ownership to take into consideration the existing depth of lots, measured perpendicular from the boundary of the wetland or stream or other sensitive area. Buffers on such lots may be adjusted up to the following, provided that this shall not apply to a geological hazard area unless all applicable design and other standards are met.

1. Lot depth less than 100 feet – buffers may be adjusted to utilize no more than 40% of lot depth, or as necessary to provide a buildable area outside the buffer no less than 40 feet deep, provided that a minimum buffer is not less than 25 feet or 50% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
2. Lot depth 100 feet to 150 feet – buffers may be adjusted to utilize no more than 50% of lot depth or 50% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
3. Lot depth 150 to 200 feet – buffers may be adjusted to utilize no more than 60% of lot depth or 60% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
4. Lot depth 200 feet to 250 feet – buffers may be adjusted to no more than 65% of lot depth or 65% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
4. Lot depth 250 feet to 300 feet – buffers may be adjusted to utilize no more than 70% of lot depth or 70% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
5. All other provisions for design and management of buffer areas and adjacent land shall apply, provided that allowed uses in buffer areas may be restricted to reduce impacts on ecological functions and values.

19.10.180 Administration

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- A. The mayor or his/her designee shall have the authority to adopt administrative rules as deemed necessary consistent with the provisions of this chapter and that are necessary for the implementation of sensitive area regulations.
- B. The mayor or his/her designee shall have a right to enter upon any property at reasonable times and to make such inspections as are necessary to determine compliance with the provisions of this chapter or the conditions imposed pursuant to this chapter. The City shall make a reasonable effort to locate the owner or persons in charge and notify them of the times and purposes of required entry.
- C. The mayor or his/her designee is further authorized to take such actions as may be necessary to enforce the provisions of this chapter including but not limited to the civil infraction, abatement and criminal penalties provided in Black Diamond Municipal Code.
- D. The city's enactment or enforcement of this chapter shall not be construed for the benefit of any individual person or group of persons other than the general public.

19.10.190 Appeals

- A. An aggrieved party may appeal a decision of the city granting or denying a permit that is subject to the appeal process provided for the underlying permit.
- B. For a sensitive areas permit where no other permit is provided, an appeal may be filed pursuant to the provisions for administrative appeal in the zoning code.

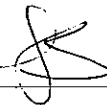
19.10.200 Wetlands

BDMC 19.10.205 to BDMC 19.10.240 pertain to wetlands.

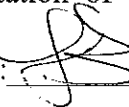
19.10.210 Designation, rating, and mapping wetlands

Wetlands in Black Diamond are designated and classified in accordance with the following provisions:

- A. **Designating wetlands.** Wetlands are those areas designated in accordance with the requirements of RCW 36.70A.175 and 90.58.380 and the *Washington State Wetland Identification and Delineation Manual (1997)*. All areas meeting the criteria in manual regardless of mapping or other identification are designated sensitive areas and are subject to the provisions of this chapter.
- B. Wetlands shall be rated based on categories that reflect the functions and values of each wetland.



1. **Core Wetland and Stream Complex.** The wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated within the Best Available Science Document, Technical Appendix B, provided that the dimensions of the area shall be defined by the field verified wetland boundaries and the buffers defined in Section 19.10.230.
2. **Headwaters Wetlands.** The wetland complex associated with the headwaters of Ginder Creek, Lawson Creek and Ravensdale Creek are defined as headwaters wetlands. The general boundaries of the area affected are designated within the Best Available Science Document, Technical Appendix B, provided that the dimensions of the area shall be defined by the field verified wetland boundaries and the buffers defined in Section 19.10.230.
3. **Other Wetlands.** All other wetlands are rated according the following categories based on the criteria provided in the Washington State Wetland Rating System for Western Washington, revised August 2004 (Ecology Publication #04-06-025). These categories are generally defined as follows.
 - a. **Category I Wetlands.** Category I wetlands are those wetlands of exceptional value in terms of protecting water quality, storing flood and storm water, and/or providing habitat for wildlife as indicated by a rating system score of 70 points or more. These are wetland communities of infrequent occurrence that often provide documented habitat for sensitive, threatened or endangered species, and/or have other attributes that are very difficult or impossible to replace if altered.
 - b. **Category II Wetlands.** Category II wetlands have significant value based on their function as indicated by a rating system score of between 51 and 69 points. They do not meet the criteria for Category I rating but occur infrequently and have qualities that are difficult to replace if altered.
 - c. **Category III Wetlands.** Category III wetlands have important resource value as indicated by a rating system score of between 30 and 50 points.
 - d. **Category IV Wetlands.** Category IV wetlands are wetlands of limited resource value as indicated by a rating system score of less than 30 points. They typically have vegetation of



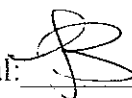
similar age and class, lack special habitat features, and/or are isolated or disconnected from other aquatic systems or high quality upland habitats.

- C. **Illegal modifications.** Wetland rating categories shall not change due to illegal modifications.
- D. **Mapping.** The approximate location and extent of identified wetlands are shown on the Black Diamond Sensitive Areas Map(s). These maps are to be used as a guide for the city, project applicants, and/or property owners, and may be continuously updated as mapped wetlands become more specifically delineated and new wetlands (if any) are identified. They are a reference and do not provide a final sensitive area designation.

19.10.220 Uses and activities allowed in wetlands and adjacent lands.

The activities listed below are allowed in wetlands in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, and 19.10.120 Sensitive area permit review

- A. Activities and facilities that do not require prior review or approval, provided, that were the mayor or his/her designee determines such activities may result in a loss of functions and values of a wetland or its buffer the provisions of (B) or (C) shall apply. These activities include:
 - 1. Outdoor recreational or educational activities directly related to the cultural, recreational, scientific and educational aspects of the wetland and buffer and that do not remove vegetation or otherwise affect the function of the wetland or buffer (including wildlife management, viewpoints, outdoor scientific or interpretive facilities, and sports fishing) that have a minimal adverse impact may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland.
 - 2. Conservation or preservation of soil, water, vegetation, fish, shellfish, and other wildlife that does not entail changing the structure or functions of the existing wetland.
 - 3. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland.

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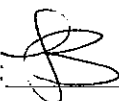
4. Enhancement of a wetland through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that remain after weed removal shall be re-vegetated with native shrubs, and trees at natural densities. Some hand seeding may also be done over the bare areas with native grasses.
- B. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.
1. Drilling for utilities under a Category II, III, or IV wetland and buffer provided that the drilling does not interrupt the groundwater connection to the wetland or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed. Staging areas shall be located outside the wetland buffer.
 2. Overhead utility lines may cross a Category II, III, or IV wetland provided that the line spans the wetland with no poles or other supports within the wetland. Poles may be placed in Category II, III, or IV wetland buffers.
 3. Trails may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland if the following criteria are met:
 - a. Trails are limited to buffer areas except for limited area of pile supported trail sections or viewing areas may be placed within Category II, III and IV wetlands for interpretive purposes.
 - b. Trails shall not exceed 4 feet in width and shall be surfaced with wood chips, gravel or other pervious material, including boardwalks.
 - c. The trail or facility is located in the outer fifty percent (50%) of the Category II, III and IV buffer and the outer 25% of the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland, except for limited placement closer to the wetland edge or within a Category II, III and IV wetland for interpretive purposes as provided above.
 - d. The trail or facility is constructed and maintained in manner

that minimizes disturbance of the wetland or buffer. Trails or facilities within wetlands should be placed on an elevated structure as an alternative to fill.

- e. Any adverse impacts on wetland functions and values are mitigated in accordance with Section 19.10.240.

C. Uses and activities that shall be reviewed by a full permit process include:


1. Drilling for utilities under a wetland or buffer in the Core Complex, within a Headwaters Wetland or buffer or a Category I wetland or buffer, may be permitted if the following criteria are met:
 - a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within wetlands.
 - b. The drilling does not interrupt the groundwater connection to the wetland or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed.
 - c. Staging areas are located outside the wetland buffer.
 - d. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.
2. Overhead utility lines that cross a wetland or buffer in the Core Complex, within a Headwaters Wetland or buffer or a Category I, II, III, or IV wetland or buffer, with no poles or other supports within the wetland
 - a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.
 - b. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, and the area is restored following utility installation.
 - c. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

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3. Linear utilities and facilities such as water and sewer lines providing local delivery service, but not including non-linear facilities such as electrical substations, water and sewage pumping stations, water storage tanks, and not including petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in Category II, III, and IV wetlands and their buffers and the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland if the following criteria are met:
 - a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.
 - b. The utility line is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation.
 - c. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, which may include boring, and the area is restored following utility installation.
 - d. Buried utility lines shall be constructed in a manner that prevents adverse impacts to subsurface drainage. This may include the use of trench plugs or other devices as needed to maintain hydrology.
 - e. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.
4. Public and private roadways and railroad facilities, including bridge construction and culvert installation, and access to private property may be permitted in wetlands or their buffers, if the following criteria are met:
 - a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of alternative routes including through the provisions of RCW 8.24. Location within a wetland buffer shall be preferred over a location within a wetland. Location in a Category II, III, and IV wetlands or their buffers shall be preferred over location in a Category I wetland or its buffer, a wetland in the Core Complex or its buffer, a wetland in the Core Complex or its buffer, or a Headwaters Wetland or its buffer.
 - b. Facilities in the buffer parallel to the wetland edge shall be

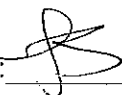
- located as far from the wetland edge as possible.
- c. Clearing, grading, and excavation activities are limited to the minimum necessary, which may include placement on elevated structures as an alternative to fill, where feasible.
 - d. Disturbance of soils and vegetation shall be minimized;
 - e. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.
5. Storm water detention/retention ponds are not permitted in a wetland buffer. However, storm water conveyance or discharge facilities such as dispersion trenches, level spreaders, and outfalls may be permitted within a wetland buffer, but only if the following criteria are met:
- a. Due to topographic or other physical constraints, there are no feasible locations for these facilities to discharge to surface water through existing systems or outside the buffer.
 - b. Locations and designs that infiltrate water shall be preferred for Category I, II, III, or IV wetland buffer over a design that provides for pipelines or surface discharge across the buffer or into the wetland. Only infiltration facilities are allowed within the buffer of a wetland in the Core Complex, or the buffer of a Headwaters Wetland and only when no trees of greater than 4 inches in diameter are disturbed.
 - c. A hydroperiod analysis is conducted and no impact is demonstrated by the study.
 - d. The discharge into a Category I, II, III, or IV wetland is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation and avoids long-term rill or channel erosion. Surface water discharge into a wetland in the Core Complex or a Headwaters Wetland is prohibited unless analysis demonstrates that infiltration is not feasible because of inherent features such as soil type.
6. On-site sewage disposal system conventional drainfields are not permitted within wetland buffers.
- D. Development of adjacent land shall minimize adverse effects on the wetland, and shall include the following standards:
1. Fencing and appropriate sensitive area signage as dictated by the most recent version of the City of Black Diamond's design

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standards shall be provided at the perimeter of any development or land use activity.

2. Activities that generate noise shall be located as far from the wetland and buffer as feasible. Roads, driveways, and parking lots for other than park and recreation facilities, as well as loading areas, mechanical or ventilating equipment shall be located on sides of buildings away from the wetland.
3. Light penetration into buffer areas and wetlands shall be limited. All exterior lighting shall be designed, placed, shielded and/or directed so that no light directly shines or intrudes into the wetland, stream or any sensitive.
4. Management of surface runoff from adjacent land shall minimize adverse effects on wetland ecological functions and shall include:
 - a. Control of surface water peak flow and duration of flow should be maintained at rates typical of native forest cover;
 - b. Low impact development measures shall be incorporated to the maximum extent feasible, including but not limited to:
 - (i) Site design to maximize preservation of existing patterns of overland water flow and of groundwater interflow;
 - (ii) Vehicle and pedestrian circulation systems that minimize alteration of topography and natural hydrologic features and processes through following the natural contours, of the land.
 - (iii) Road location and circulation patterns shall reduce or eliminate stream crossings and encroachment on sensitive areas and their buffers;
 - (iv) Utilities consolidated within roadway and driveway corridors to avoid additional clearing for multiple corridors.
 - (v) Layout of lots and or structures to minimize alteration of existing topography, disturbance to soils and native vegetation,
 - (vi) Runoff should be routed to infiltration systems, to the maximum extent feasible, to provide groundwater interflow recharge to wetlands and/or water bodies and to limit overland flow and erosion.
 - (1) Use of permeable pavement
 - (2) Dispersion of runoff into areas that permit infiltration

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- (3) Engineered facilities designed for bioretention and infiltration ranging from swales to ponds to tree wells to engineered wetlands.
- c. Surface or piped stormwater should be routed to existing conveyances or to other areas, wherever hydraulic gradients allow. Where stormwater is routed to wetlands, system design shall assure that erosion and sedimentation will be avoided to the maximum extent feasible.
- d. To prevent channelized flow from lawns and other landscaped areas from entering the buffer, and to prevent washing of fertilizers, herbicides and pesticides into the buffer, if slopes adjacent to the buffer exceed 15%, a 10 foot wide swale to intercept runoff shall be provided at the edge of the buffer or other effective surface water interception design approved by the mayor or his/her designee.
- e. Adopt and implement an integrated pest management system including limiting use of fertilizers, herbicides and pesticides within 25 feet of the buffer of Category III, or IV wetland, within 50 feet of the buffer of a Category I, II, or Headwaters wetland, and within 100 feet of the buffer of a wetland in the Core Complex.

19.10.230 Wetland Buffers

- A. **Wetland buffers.** Buffer requirements contained in this section shall apply to all wetlands designated in this chapter and all proposed mitigation sites. Except as otherwise provided for in this chapter, all wetland buffers shall be maintained in an undisturbed or enhanced condition.
- B. **Core Wetland Complex buffers** shall be a minimum of 225 feet for all wetlands within the core area, except for the north side of the Rock Creek complex between Roberts Drive and State Route 169 where the buffer shall be a minimum of 185 feet, provided that
 - 1. The buffer may be extended further:
 - a. If land within and adjacent to the buffer has a slope in excess of thirty percent (30%) the buffer shall extend at least 25 feet beyond the top of the 30% slope, and
 - b. If land within and adjacent to the buffer is designated a landslide hazard, the buffer shall extend at least to the extent of the buffer designated in Section 19.10.410.B.
 - 2. If a Category III or IV wetland is located within the outer 50% of the buffer of a wetland designated as part of the Core Wetland

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Complex, and does not have a surface hydrologic connection to the core complex, the buffers for that wetland shall be the standard wetland buffer in Subsection D, below.

C. **Headwaters Wetland buffers** shall be a minimum of 225 feet for all wetlands.

D. **Other Wetlands—Standard buffer widths.** The standard buffer widths presume the existence of a relatively intact mature native vegetation community (relative density of 20 or greater) in the buffer zone adequate to protect the wetland functions and values at the time of the proposed activity. If the vegetation is inadequate, then the buffer width shall be increased or the buffer shall be planted to maintain the standard width. **The minimum buffer requirements assume that adjacent land use meets the conditions outlined in section 19.10.220.D**, in accordance with the Department of Ecology’s Guidance on Wetlands in Washington State (2005), Volume 2 – Protecting and Managing wetlands, Appendix 8C (moderate intensity land use). Required standard wetland buffers based on wetland category are as follows:

Buffer Dimensions for other wetlands (Moderate intensity)

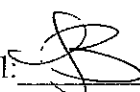
Wetland Category	Wetland Characteristics	Minimum Buffer Width
Category IV	All	40 feet
Category III	Moderate level of function for habitat (score for habitat 20 – 28 points)	110 feet
	Not meeting above characteristic	60 feet
Category II	High level of function for habitat (score for habitat 29 – 36 points)	225 feet
	Moderate level of function for habitat (score for habitat 20 – 28 points)	110 feet

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	High level of function for water quality improvement and low for habitat (score for water quality 24-32 points; habitat less than 20)	75 feet
	All others	75 feet
Category I	National Heritage Wetlands	190 feet
	Bogs	190 feet
	Forested	Based on score for habitat or water quality
	High level of function for habitat (score for habitat 29 – 36 points)	225 feet
	Moderate level of function for habitat 20 – 28 points)	110 feet
	High level of function for water quality improvement (24 – 32 points) and low for habitat (less than 20 points)	75 feet
	All others	75 feet

E. **Measurement of wetland buffers.** All buffers shall be measured from the wetland boundary as surveyed in the field. The width of the wetland buffer shall be determined according to the wetland category. The required buffer should be extended to include any adjacent regulated wildlife habitat area, landslide hazard areas and/or erosion hazard areas and required buffers. Buffers shall not be extended across existing human features that functionally and effectively separate the potential buffer from ecological functions of the resource, and shall include hardened surfaces including improved roads or other lawfully established structures or surfaces, or the developed portions of lots, under separate ownership, lying between the habitat area and the subject property, unless restoration

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of buffer functions on such property is or may reasonably be expected to be the subject of a permit condition or an adopted public plan. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland. Only fully vegetated buffers will be considered. Lawns, walkways, driveways and other mowed or paved areas will not be considered buffers.

F. **Vegetation Management.** In order to maintain effective buffer conditions and functions, a vegetation management plan shall be required for all buffer areas, to include:

1. Maintaining adequate cover of native vegetation including trees and understory; if existing tree cover is less than a relative density of 20, planting shall be required consisting of a density of 300 seedlings per acre or the equivalent;
2. Provide a dense screen of native evergreen trees at the perimeter of the buffer. Clearing of existing second growth forest generally results in trees with little canopy at or near the ground level.
 - a. Core Wetland and Stream Complex buffers generally will require interplanting among existing trees within an area of thirty to fifty feet to provide for regeneration of native species and prevent the establishment of invasive species.
 - b. Other wetland buffers will require plantings if existing vegetation is not sufficient to prevent viewing adjacent development from within the buffer or penetration of light and glare into the buffer or to prevent establishment of invasive species.
 - c. Planting specifications generally shall consist of as many rows of the following units as required to accomplish the management objectives:
 - i) Two rows of 3' high stock of native evergreens at a triangular spacing of 15 feet, or
 - ii) Three rows of gallon containers at a triangular spacing of 8 feet.
3. Fencing may be required in order to separate sensitive areas from developed areas.
4. Provide a plan for control of invasive weeds, and remove existing invasive species;
5. Provide for a monitoring and maintenance plan for a period of at least five (5) years, except this provision may be waived for single

family residential lots.

6. Vegetation management plans for all wetlands may provide for preservation of view corridors from existing single family residences by the placement of new vegetation in a manner that frames views, provided that the same density is maintained and key functions such as shading for temperature attenuation and habitat functions are maintained.

G. Increased wetland buffer widths. The mayor or his/her designee shall require increased buffer widths in accordance with the recommendations of an experienced, qualified professional wetland scientist, and the best available science on a case-by-case basis when a larger buffer is necessary to protect wetland functions and values based on site-specific characteristics. This determination shall be based on one or more of the following criteria:

1. A larger buffer is needed to protect other sensitive areas;
2. The buffer or adjacent uplands has a slope greater than fifteen percent (15%) or is susceptible to erosion and standard or proposed erosion-control measures will not prevent adverse impacts to the wetland.

H. Wetland buffer width averaging. The mayor or his/her designee may allow modification of the standard wetland buffer width in accordance with an approved sensitive area report and the best available science on a case-by-case basis by averaging buffer widths. Averaging of buffer widths may only be allowed where a qualified professional wetland scientist demonstrates that:

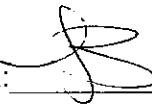
1. Averaging to improve wetland protection may be permitted when all of the following conditions are met:
 - a. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
 - b. Buffer averaging will not reduce wetland functions or functional performance;
 - c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and all increases in buffer dimension for averaging are generally parallel to the wetland edge;
 - d. The buffer width at its narrowest point is not reduced to less than 50 percent (50%) of the standard width and in no case

less than thirty-five (35) feet.

2. Averaging to allow reasonable use of a parcel may be permitted when all of the following criteria are met:
 - a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;
 - b. The buffer averaging does not reduce the functions or values wetland, or the buffer averaging, in conjunction with vegetation enhancement or other measures increases the wetland function;
 - c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension for averaging are generally parallel to the wetland edge;
 - d. The buffer at its narrowest point is never less than 1/2 of the required width except where the mayor or his/her designee finds that there is an existing feature such as a roadway that limits buffer dimension, or an essential element of a proposed development such as access that must be accommodated for reasonable use and requires a smaller buffer.
3. The width reduction may not be located within another sensitive area or associated buffer unless criteria for averaging said buffer are also addressed and approved.
4. Buffer averaging may not be approved when buffer transfer is approved in accordance with subsection H, above.

I. Buffer enhancement for changes to existing uses. As provided in section 19.10.170, buffer vegetation shall be enhanced at the time of redevelopment or improvements on non-conforming lots as provided below; for substantial redevelopment, buffer width may be reduced as indicated:


1. Minor alteration or renovation of existing development:
 - a. Buffer vegetation enhancement shall be either 50% of buffer standard or 50% of existing structure setback from wetland, whichever is less.
 - b. Buffer area shall be fenced and signs posted.
2. Moderate alteration or renovation of existing development:
 - a. Buffer vegetation enhancement shall be either 70% of buffer standard or 60% of existing structure setback from wetland, whichever is less.



- b. Buffer area shall be fenced and signs posted.
- 3. Substantial alteration or redevelopment:
 - a. Buffer dimension shall be 100% of standard, *provided*, if the standard buffer dimension exceeds the existing setback as measured from the edge of the primary building, the buffer may be reduced to ninety percent (90%) of the existing setback from the primary building to the edge of the sensitive area.
 - b. Buffer vegetation enhancement shall be 100% of standard.
 - c. Buffer area shall be fenced and signs posted.

19.10.235 Provisions for Small Isolated Wetlands

- A. All wetlands shall be regulated regardless of size, provided that the mayor or his/her designee shall assure that preservation of isolated wetlands and associated buffers of less than ten thousand (10,000) square feet of combined wetland and buffer shall maintain effective wetland functions, or be mitigated as provided below.
- B. Wetlands and associated buffers of less than one thousand (1,000) square feet may be displaced when the wetland meets all of the following criteria, as documented in a wetland sensitive area study:
 - 1. The wetland is not associated with a riparian corridor; and
 - 2. The wetland is not part of a wetland mosaic; and
 - 3. The wetland does not contain habitat identified as essential for local populations of priority species identified by Washington Department of Fish and Wildlife.
 - 4. Impacts of displaced wetlands shall be mitigated pursuant to Section 19.10.240.
- C. Category 3 and 4 wetlands between 1,000 and 4,000 square feet may be displaced without meeting the provisions of Section 19.10.240 regarding avoidance, minimization, rectification, and reducing and eliminating the impact over time, provided that the criteria in subsection B, above, are met and the wetland does not score 20 points or greater for habitat in the 2004 Western Washington Rating System.
- D. Preservation of isolated wetlands with a total area of the combined wetland and buffer of 10,000 square feet or less shall meet the following provisions, or if the said provisions cannot be demonstrated, the mayor or his/her designee may permit such a wetland to be displaced and mitigated as specified in Section 19.10.240.
 - 1. Depressional wetlands recharged only by precipitation, interflow

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or groundwater shall be assured a source of recharge through stormwater infiltration, or other means, to maintain the wetland's hydrologic character.

2. Wetlands that have a potential to reduce flooding or erosion, or have the potential and opportunity to maintain or improve water quality as evidenced by a score of at least 10 points on the applicable criteria of the Wetland Rating Form for Western Washington, shall maintain a hydraulic connection to surface water that maintains effective wetland function for flood or erosion reduction or water quality and does not substantially alter the existing hydroperiod of the wetland.
3. Wetlands that achieve a score of at least 20 points on the Habitat Functions criteria of the Wetland Rating Form for Western Washington shall maintain a connection to a linear corridor maintained as a stream buffer, a buffer associated with a geological hazard or other designated open space buffer sufficient to allow movement of terrestrial wildlife to and from the wetland and buffer complex without interruption by roads, paved areas or buildings within fifty (50) feet.


19.10.240 Mitigation Requirements

- A. **Mitigation plan.** A mitigation plan that achieves equivalent or greater biologic functions will be required for all proposed wetland alterations or to mitigate unavoidable adverse impacts to the wetland functions and values resulting from a proposed action. Mitigation plans shall be prepared consistent with the minimum requirements of Section 19.10.140 and Subsection.
- B. **Compensatory mitigation.** As a condition of any permit allowing alteration of a wetland and/or wetland buffer, or as part of an enforcement action, an applicant may be required to provide restoration, creation or enhancement of wetlands and their buffers to offset unavoidable adverse impacts resulting from the applicant's or violator's actions.
 1. Compensation areas shall be determined according to the function, acreage, type, location, time factors, ability to be self sustaining and probability of project success.
 2. Restored or created wetlands should have a higher function and value than the altered wetland.
 3. Compensatory projects shall be completed immediately after the activities that will disturb wetlands and prior to use or occupancy, unless otherwise agreed to within the permit application.

Construction of compensatory projects shall be timed to reduce adverse impacts to existing wildlife and flora.

C. Type and location of mitigation.

1. Unless it is demonstrated that a higher level of ecological functioning would result from an alternate approach, compensatory mitigation for ecological functions shall be either in-kind and on-site, or in-kind and within the same stream reach, or sub-basin. Mitigation actions shall be conducted within the same sub-drainage basin and on the same site as the alteration except when the all of the following apply:
 - a. There are no reasonable on-site or in subdrainage basin opportunities or on-site and in-subdrainage basin opportunities do not have a high likelihood of success, after a determination of the natural capacity of the site to mitigate for the impacts. Consideration should include: anticipated wetland mitigation replacement ratios, buffer conditions and proposed widths, hydrogeomorphic classes of on-site wetlands when restored, proposed flood storage capacity, potential to mitigate riparian fish and wildlife.
 - b. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and
 - c. Off-site locations shall be in the same sub-drainage basin unless established watershed goals for water quality, flood or conveyance, habitat, or other wetland functions have been established and strongly justify location of mitigation at another site.
2. In kind compensation shall be provided where feasible. The applicant may provide out-of-kind compensation provided:
 - a. Out -of-kind replacement will result in a wetland with greater functional value; or
 - b. Scientific problems such as exotic vegetation and changes in watershed hydrology make in-kind compensation impractical.
3. Mitigation actions that require compensation by replacing, enhancing, or substitution shall occur in the following order of preference:
 - a. Restoring wetlands on upland sites that were formerly wetlands (also called re-establishment).

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- b. Creating wetlands where none previously existed on upland sites. The preferred sites are those that have been disturbed such that vegetative cover consists primarily of non-native introduced species. Creation of wetlands in areas of mature native vegetation should be avoided when the habitat and other values of the site would be lost. Creation on upland sites should only be attempted when there is a consistent source of hydrology and it can be shown that the surface and subsurface hydrologic regime is conducive for the wetland community that is being designed.
- c. Restoration of wetland functions in an existing wetland area that is significantly degraded (also called rehabilitation). This may be done in combination with restoration or creation. Such enhancement should be part of a mitigation package that includes replacing the impacted area meeting appropriate ratio requirements.
- d. Enhancement of some wetland functions in an existing wetland that may reduce other functions

D. **Mitigation ratios.** The following ratios apply to the different categories of compensation:

Wetland Category	Wetland Mitigation Type and Replacement Ratio*			
	Reestablishment	Creation	Re-habilitation	Enhancement Only
Category IV	1.5:1	1.5:1	2:1	3:1
Category III	2:1	2:1	3:1	4:1
Category II	3:1	3:1	4:1	6:1
Category I	6:1	6:1	8:1	Not allowed
Headwaters Wetlands	6:1	6:1	8:1	Not allowed
Core Wetland Complex	6:1	8:1	10:1	Not allowed

*Ratio is the replacement area: impact area.

1. Buffers shall be provided for wetland compensation sites as provided in Section 19.10.230, provided that the mayor or his/her designee shall have the same authority to modify and average widths.
2. The mayor or his/her designee may increase the replacement ratios to account for uncertainties as to the success of the restoration or creation or the time required for replacement wetlands to be effective. Such an increase will be based on the review of a

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sensitive area report prepared by a qualified professional.

3. In the case of off-site compensation the mayor or his/her designee may decrease the replacement ratios based on the review of a sensitive area report prepared by a qualified professional and upon findings reviewed by agencies with expertise that no net loss of wetland function or value is attained under a reduced compensation ratio; which in no case shall be less 75% of the values in the table above for the Core Wetland Complex and 50% of the values in the table above for other wetlands and in no case lower than 1.5:1.

E. Compensation for wetland buffer impacts shall occur at a minimum 1:1 ratio. Compensatory mitigation for buffer impacts shall include enhancement of buffers by planting native species, removing structures and impervious surfaces within buffers, and other measures in accordance with Subsection 19.10.140.F.

F. Wetlands enhancement as mitigation: Any applicant proposing to alter a wetland may propose enhancement of existing significantly degraded wetlands. Applicants proposing to enhance wetlands must produce a sensitive area report that identifies how enhancement will increase the functions of the degraded wetland and how this increase will adequately mitigate for the loss of wetland area and function at the impact site.

19.10.250 Wetland Mitigation Plan

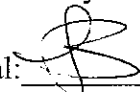
In addition to meeting the requirements of Section 19.10.140, a compensatory mitigation plan for wetland and wetland buffer impacts shall meet the following requirements:

- A. The plan shall be based on applicable portions of the Washington State Department of Ecology's Guidelines for Developing Freshwater Wetland Mitigation Plans and Proposals, 2004 or other appropriate guidance document that is consistent with best available science.
- B. The plan shall contain sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include:
 1. The rationale for site selection;
 2. General description and scaled drawings of the activities proposed including, but not limited to, clearing, grading/excavation, drainage alterations, planting, invasive plant management, installation of habitat structures, irrigation, and other site treatments associated with the development activities and proposed mitigation action(s);

3. A description of the ecological functions and values that the proposed alteration will affect and the specific ecological functions and values the proposed mitigation area(s) shall provide, together with a description of required or recommended mitigation ratios and an assessment of factors that may affect the success of the mitigation program;
 4. Overall goals of the plan, including wetland function, value, and acreage;
 5. Description of baseline (existing) site conditions including topography, vegetation, soils, hydrology, habitat features (i.e., snags), surrounding land use, and other pertinent information;
 6. Field data confirming the presence of adequate hydrology (surface and/or groundwater) to support existing and compensatory wetland area(s);
 7. Nature of mitigation activities, including area of restored, created, enhanced and preserved wetland, by wetland type;
 8. Detailed grading and planting plans showing proposed post-construction topography; general hydrologic patterns; spacing and distribution of plant species, size and type of proposed planting stock, watering or irrigation plans, and other pertinent information;
 9. A description of site treatment measures including invasive species removal, use of mulch and fertilizer, placement of erosion and sediment control devices, and best management practices that will be used to protect existing wetlands and desirable vegetation.
 10. A demonstration that the site will have adequate buffers sufficient to protect the wetland functions into perpetuity.
- C. Specific measurable performance standards that the proposed mitigation action(s) shall achieve together with a description of how the mitigation action(s) will be evaluated and monitored to determine if the performance standards are being met and identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates that project performance standards are not being met. The performance standards shall be tied to and directly related to the mitigation goals and objectives.
- D. Cost estimates for the installation of the mitigation program, monitoring, and potential corrective actions if project performance standards are not being met.

19.10.260 Wetland Mitigation Monitoring

- A. All wetland mitigation projects shall be monitored for a period necessary to establish that performance standards have been met, but generally not

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for a period less than five (5) years after final acceptance by the city. Reports shall be submitted annually for the first three (3) years following construction and at the completion of years 5, 7, and 10 if applicable to document milestones, successes, problems, and contingency actions of the compensatory mitigation. The mayor or his/her designee shall have the authority to modify or extend the monitoring period and require additional monitoring reports for up to ten (10) years when any of the following conditions apply:

1. The project does not meet the performance standards identified in the mitigation plan.
2. The project does not provide adequate replacement for the functions and values of the impacted sensitive area.
3. The project involves establishment of forested plant communities, which require longer time for establishment.

B. Mitigation monitoring reports shall include information sufficient to document and assess the degree of mitigation success or failure as defined by the performance standards contained in the approved mitigation plan. Information to be provided in annual monitoring reports shall include the following:

1. Number and location of vegetation sample plots used to document compliance with performance standards;
2. Measurements of the percent survival of planted material, plant cover, stem density, presence of invasive species, or other attributes;
3. For sites that involve wetland creation, re-establishment or rehabilitation, hydrologic observations of soil saturation/inundation as needed to demonstrate that a site meets the wetland hydrology criterion;
4. Representative photographs of the site;
5. A written summary of overall site conditions and recommendations for maintenance actions if needed;
6. Other information that the mayor or his/her designee deems necessary to ensure the success of the site.

19.10.300 Fish and Wildlife Conservation Areas

BDMC 19.10.300 through BDMC 19.10.340 pertain to fish and wildlife conservation areas.

19.10.310 Designation and Mapping

Fish and wildlife conservation areas in Black Diamond are designated and classified in accordance with the following provisions:

Ordinance No. 08-875

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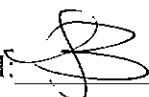
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- A. **Core Stream and Wetland Complex.** The streams, lakes, ponds and wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated on Attachment A, provided that the dimensions of the area shall be defined by the field verified stream boundaries and the buffers defined in Section 19.10.325.
- B. **Other fish and wildlife conservation areas.** Areas outside of the Core Stream and Wetland Complex include areas within the City which state or federally designated endangered, threatened, and sensitive species have a known primary association, including;
1. The Washington State Department of Fish and Wildlife Priority Habitats and Species Recommendations for Species and Habitats, for:
 - a. Endangered species listed at WAC 232-12-014
 - b. Threatened species listed at WAC 232-12-001
 - c. Sensitive species listed at WAC 232-12-011;
 2. Bald Eagle habitat pursuant to WAC 232-12-292
 3. Endangered or threatened species listed in accordance with the federal Endangered Species Act together with the areas with which they have a primary association.
 4. State natural area preserves and natural resource conservation areas including
 - a. Department of Natural Resources (DNR) designated Natural Areas Preserves (NAP) and Natural Resource Conservation Areas (NECA);
 - b. Washington Department of Fish and Wildlife (WDFW) designated Wildlife Recreation Areas (WRA);
 5. Waters of the state as defined in RCW 77.55.011, and RCW 90.56.010 including shorelines of the state as defined in RCW 90.58.010;
 6. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;
 7. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- C. Habitats and species of local importance as may be determined by the city.
1. In order to nominate an area or a species to the category of Locally

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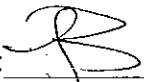
Important an individual or organization must:

- a. Demonstrate a need for special consideration based on:
 - i. Declining population;
 - ii. High sensitivity to habitat manipulation; or
 - iii. Demonstrated commercial, recreational, cultural, or other special value;
 - b. Propose relevant management strategies considered effective and within the scope of this Chapter; and
 - c. Provide a map showing the species or habitat location(s).
2. Submitted proposals shall be reviewed by the City and may be forwarded to the State departments of Fish and Wildlife, Natural Resources, and/or other local, State, Federal, and/or Tribal agencies or experts for comments and recommendations regarding accuracy of data and effectiveness of proposed management strategies.
 3. If the proposal is found to be complete, accurate, and consistent with the purposes and intent of this chapter, the City Planning Commission will hold a public hearing to solicit comment. Approved nominations will become designated locally important habitats or species and will be subject to the provisions of this chapter.

D. Mapping. The approximate location and extent of known wildlife conservation areas are shown on the sensitive area maps. These maps are a reference and do not provide a final sensitive area designation.

19.10.320 Classification of fish and wildlife habitat conservation areas – Water bodies

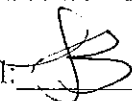
- A. **Core Stream and Wetland Complex.** The streams, lakes, ponds and wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated on Attachment A, provided that the dimensions of the area shall be defined by the field verified stream boundaries and the buffers defined in Section 19.10.325.
- B. **Other fish and wildlife conservation areas.** Streams outside of the Core Stream and Wetland Complex shall be designated in accordance with the Washington State Department of Natural Resources (DNR) stream type as provided in WAC 222-16-030 with the following revisions:

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1. Type S Water - all waters, 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.
 2. Type F Water - segments of natural waters other than Type S Waters, which are within 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.
 3. Type Np Water - all segments of natural waters within defined channels that are perennial non-fish habitat streams. Perennial streams are waters that do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.
 4. Type Ns Water - all segments of natural waters within defined channels that are not Type S, F, or Np Waters. These are seasonal, non-fish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters.
- C. Non-fish habitat streams are those streams that have no known or potential use by anadromous or resident fish based on the stream character, hydrology and gradient, provided that human-made barriers shall not be considered a limit on fish use except when the mayor or his/her designee makes the following findings:
1. The human-made barrier is located beneath public infrastructure that is unlikely to be replaced and it is not feasible to remove the barrier without removing the public infrastructure, provided that the infrastructure is not identified for future modification in the capital facility or other plans of the public agency responsible for the infrastructure, and the facility will not exceed its design-life within the foreseeable future;
 2. The human-made barrier is located beneath one or more occupied structures and it is not feasible to remove the barrier without removing the structure, and the structure is of a size and condition that removal or substantial remodel is not likely;
 3. The human-made barrier is not identified for removal by a public agency or in an adopted watershed plan.

19.10.325 Fish and wildlife habitat conservation areas – Water bodies – Buffers


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The mayor or his/her designee shall have the authority to require buffers from the edges of all streams in accordance with the following:

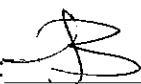
- A. **Buffers required.** Buffers shall be established for activities adjacent to habitat areas as necessary to protect the integrity, functions and values of the resource. Buffer widths shall reflect the sensitivity of the species or habitat and the type and intensity of the adjacent human use or activity.
- B. **Buffer purposes.** The buffer widths required by this section are based on scientific studies of the conditions necessary to sustain ecological functions and values to support anadromous and resident fish and presume the existence of a dense native vegetation community in the buffer zone adequate to protect the stream functions and values at the time of the proposed activity. Buffers of undisturbed native vegetation shall be required along all streams as provided below. The buffer shall extend landward from the top of the bank.
- C. **Core Stream and Wetland Complex** buffers shall be a minimum of 225 feet for all streams within the core area, except for the north side of the Rock Creek complex between Roberts Drive and State Route 169 where the buffer shall be a minimum of 185 feet, provided that the buffer may be extended further if:
 - 1. Land within and adjacent to the buffer has a slope in excess of thirty percent (30%) the buffer shall extend at least 25 feet beyond the top of the 30% slope, and
 - 2. Land within and adjacent to the buffer is designated a landslide hazard, the buffer shall extend at least to the extent of the buffer
- D. **Other streams, standard buffer.** All other streams shall be provided the following buffers based on the Department of Natural Resources (DNR) water typing classification system as defined in Section 19.10.320.B.

Type	Buffer Width
Type S- all waters, as inventoried as "shorelines of the state" under the jurisdiction of the Shoreline Management Act, except associated wetlands, which shall be regulated in accordance with this chapter	25 feet
Type F - segments of natural waters other than Type S Waters	150 feet
Type Np - segments of natural waters that are perennial non-fish habitat streams.	100 feet
Type Ns - segments of natural waters within defined	50 feet

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- E. **Buffer measurement.** The buffer shall be measured landward horizontally on both sides of the water body from the ordinary high water mark as identified in the field perpendicular to the alignment of the stream or lake/pond bank. The required buffer shall be extended to include any adjacent regulated wetland(s), landslide hazard areas and/or erosion hazard areas and required buffers. Buffers shall not be extended across existing human features that functionally and effectively separate the potential buffer from ecological functions of the resource, and shall include hardened surfaces, including improved roads or other lawfully established structures or surfaces, or the developed portions of lots, under separate ownership, lying between the habitat area and the subject property, unless restoration of buffer functions on such property is or may reasonably be expected to be the subject of a permit condition or an adopted public plan.
- F. **Buffers in conjunction with other sensitive areas.** Where other sensitive areas defined in this chapter fall within the water body buffer, the buffer area shall be the most expansive of the buffers applicable to any applicable sensitive area.
- G. **Vegetation management.** In order to maintain effective buffer conditions and functions, a vegetation management plan shall be required for all buffer areas, to include the standards found in Subsection 19.10.230.F.
- H. **Buffer increase.** The mayor or his/her designee shall have the authority to increase the width of a stream buffer on a case-by-case basis when such increase is necessary to achieve any of the following:
1. Protect fish and wildlife habitat, maintain water quality, ensure adequate flow conveyance; provide adequate recruitment for large woody debris, maintain adequate stream temperatures, or maintain in-stream conditions.
 2. Compensate for degraded vegetation communities or steep slopes adjacent to the stream.
 3. Maintain areas for channel migration.
 4. Protect adjacent or downstream areas from erosion, landslides, or other hazards.
- I. **Water body buffer width transfer.**
1. The mayor or his/her designee may allow decreased widths with transfer of an equal area of buffer from water bodies not within the Core Stream and Wetland Complex to the buffers of the Core Stream and Wetland Complex in accordance with the table below provided the specific measures in (2) below are incorporated into the buffers and adjacent development,

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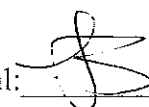
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Type	Buffer Width (feet) after Transfer
Type S	25 feet
Type F	100 feet
Type Np	50 feet
Type Ns	30 feet

2. The specific mitigation measures in Subsection 19.10.230.F.2 shall be incorporated into adjacent development in order to utilize the buffer dimensions specified in (1) above.

J. **Habitat buffer averaging.** The mayor or his/her designee may allow the recommended habitat area buffer width to be reduced in accordance when the applicant demonstrates to the satisfaction of the administrator that all the following criteria are met.:

1. Averaging to improve water body habitat protection may be permitted when all of the following conditions are met:
 - a. The water body or buffer area has significant differences in characteristics that affect its habitat functions;
 - b. Buffer averaging will not reduce stream or adjacent upland habitat functions or adversely affect salmonid habitat;
 - c. Buffer averaging is combined with other provisions to provide additional habitat protection, such as buffer vegetation enhancement;
 - d. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and the buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the water body and decreased adjacent to the lower-functioning or less sensitive portion and all increases in buffer dimension for averaging are generally parallel to the stream OHWM;
 - e. The buffer area width is not reduced by more than twenty-five percent (25%) in any location.
2. Averaging to allow reasonable use of a parcel may be permitted when all of the following criteria are met:
 - a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;
 - b. The buffer averaging does not reduce the functions or values

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of the stream or riparian habitat, or the buffer averaging, in conjunction with vegetation enhancement, increases the habitat function;

- c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension for averaging are generally parallel to the wetland edge;
 - d. The buffer at its narrowest point is never less than 75% of the required width except where the mayor or his/her designee finds that there is an existing feature such as a roadway that limits buffer dimension, or an essential element of a proposed development such as access that must be accommodated for reasonable use and requires a smaller buffer.
- 3. The buffer width reduction may not be located within another sensitive area or associated buffer unless criteria for averaging said buffer are also addressed and approved.
 - 4. Buffer averaging may not be approved when buffer transfer is approved in accordance with subsection I, above.
- K. Development of adjacent land shall minimize adverse effects on the habitat area, and shall include the standards in Subsection 19.10.220.D.
- L. **Buffer enhancement for changes to existing non-conforming lots.** As provided in section 19.10.170, buffer vegetation shall be enhanced at the time of redevelopment or improvements on non-conforming lots as provided below; for substantial redevelopment, buffer width may be reduced as indicated:
- 1. Minor Alteration of Existing Development:
 - a. Buffer vegetation enhancement shall be either 50% of buffer standard or 50% of existing shoreline structure setback.
 - b. Buffer area shall be fenced and signs posted.
 - 2. Moderate Alteration of Existing Development:
 - a. Buffer vegetation enhancement shall be either 70% of buffer standard or 60% of existing shoreline structure setback.
 - b. Buffer area shall be fenced and signs posted.
 - 3. Substantial Alteration or Redevelopment:
 - a. Buffer dimension shall be 100% of standard, *provided*, if the standard buffer dimension exceeds the existing setback as measured from the edge of the primary building, the buffer may be reduced to ninety percent (90%) of the existing

setback from the primary building to the edge of the sensitive area.

- b. Buffer vegetation enhancement shall be 100% of standard.
- c. Buffer area shall be fenced and signs posted.
- d. Existing bulkheads and docks shall be replaced with conforming structures.

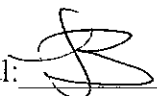
19.10.328 Water bodies – Culvert Replacement

- A. Culverts on public or private roads that are a barrier to fish movement shall be replaced at the time of major reconstruction, or if additional subdivision increases the number of lots served by the roadway by 20 percent or more. Replacement structures shall meet the standards of 19.10.330.C.10. This provision does not limit potential requirements for replacement under other statutes or treaty rights.
- B. Stream sections not within public or private roads that are culverted or enclosed shall be replaced by an open channel at any time of moderate or substantial reconstruction of uses on the parcel lots is served.

19.10.330 Activities allowed in water bodies and habitat buffers.

The activities listed below are allowed in water bodies and habitat buffers in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, in accordance with the review provisions below.

- A. Activities and facilities that do not require prior review or approval and do not require submission of a sensitive area report, provided, that where the mayor or his/her designee determines such activities may result in a loss to the functions and values of a habitat area or its buffer the provisions of (B) or (C) shall apply. These activities include:
 - 1. Outdoor recreational or educational activities directly related to the cultural, recreational, scientific and educational aspects of the habitat and that do not remove vegetation or otherwise affect the function of the wetland or regulated buffer (including wildlife management, viewpoints, outdoor scientific or interpretive facilities, hunting blinds, and sports fishing) and that have a minimal adverse impact on the buffer and wildlife area.
 - 2. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

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3. Enhancement of a water body or buffer through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that remain after weed removal shall be re-vegetated with native shrubs, and trees at natural densities. Some hand seeding may also be done over the bare areas with native herbs.
- B. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.
1. Drilling for a single linear utility under a type F, Np and Ns water body. Drilling under buffers is preferred. Cut and cover installation may be approved only when impacts to buffer vegetation is minimized and mitigated. Expansion of buffer area may be required to compensate for replacement of mature vegetation with replanting.
 2. Installation of single overhead utility lines that span the water body with no poles or other supports within the water body. Poles may be placed in buffers provided that impacts to vegetation is minimized and mitigated. Expansion of buffer area may be required to compensate for replacement of mature vegetation with replanting.
 3. Trails may be permitted within buffers if the following criteria are met:
 - a. Trails are limited to buffer areas except for limited area of pile supported trail sections or viewing areas may be placed within water bodies outside the Core Complex for interpretive purposes.
 - b. Trails shall not be permitted in buffer areas reduced through transfer of other adjustment.
 - c. Trails shall not exceed 4 feet in width and shall be surfaced with wood chips, gravel or pervious material, including boardwalks;
 - c. The trail or facility is located in the outer twenty five of a buffer, except for limited placement closer to the waters edge or within the water body for interpretive purposes for water bodies other than in the Core Complex, as provided above;
 - c. The trail or facility is constructed and maintained in manner that minimizes disturbance of the water body or buffer. Trails or facilities within water bodies shall be placed on an elevated structure as an alternative to fill.

- d. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.
- C. Uses and activities that shall be reviewed by a full permit process include:
1. Drilling for utilities under a water body in the Core Complex may be permitted if the following criteria are met:
 - a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location under a buffer shall be preferred over a location under a water body.
 - b. The drilling does not interrupt groundwater flow or recharge to the water body or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed.
 - c. Staging areas are located outside the buffer.
 - d. Impacts on habitat functions are mitigated.
 2. Overhead utility lines that cross a water body or buffer in the Core Complex with no poles or other supports within the water body. Poles may be placed in buffers.
 - a. There is no reasonable location or route outside the water body or buffer based on analysis of system needs, available technology and alternative routes. Location within a buffer shall be preferred over a crossing of a water body.
 - b. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, and the area is restored following utility installation.
 - c. Impacts on habitat functions are mitigated.
 3. Linear utilities and facilities such as water and sewer lines providing local delivery service, but not including non-linear facilities such as electrical substations, water and sewage pumping stations, water storage tanks, and not including petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in the buffer of a Type F, NP and Ns stream. if the following criteria are met:
 - a. There is no reasonable location or route that does not cross the water body or outside the buffer based on analysis of system needs, available technology and alternative routes.



Location within a buffer shall be preferred over a location within a water body. Crossings shall be contained within the footprint of an existing road or utility crossing where possible.

- b. Impacts to fish and wildlife habitat shall be avoided to the maximum extent possible and mitigated when avoidance is not feasible in accordance with Section 19.10.340.
 - c. Utilities that cross water bodies shall be as close to perpendicular to the channel as possible to minimize disturbance. Boring under the water body may be required.
 - d. If not a crossing, the utility line shall be located as far from the water body as possible.
 - e. The utility installation shall maintain the existing stream gradient and substrate.
 - f. Clearing, grading, and excavation activities shall be limited to the minimum necessary to install the utility line, and the area is restored following utility installation.
4. Road, railroad and similar rights-of-way, including trails not meeting the criteria in B.3, above, provided they meet the following criteria:
- a. There is no other feasible alternative route with less impact on the sensitive area or buffer.
 - b. The crossing minimizes interruption of natural processes such as the downstream movement of wood and gravel and the movement of all fish and wildlife. Bridges are preferred for all stream crossings and are required for crossings of the Core Complex. Bridges should be designed to maintain the existing stream gradient and substrate provide adequate horizontal clearance on each side of the ordinary high water mark and adequate vertical clearance above ordinary high water mark for animal passage. If a bridge crossing is not feasible, culverts shall be designed according to applicable state and federal guidance criteria for fish passage as identified in Fish Passage Design at Road Culverts, WDFW March 1999, and/or the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, (and subsequent revisions) and in accordance with a state Hydraulic Project Approval. The applicant or property owner shall maintain fish passage through bridge or culvert.



- c. The city may require that existing culverts be removed, repaired, or modified as a condition of approval if the culvert is detrimental to fish habitat or water quality, and a feasible alternative exists.
 - d. Crossings shall be limited to the minimum width necessary. Common crossings are the preferred approach where multiple properties can be accessed by one crossing.
 - e. Access to private development sites may be permitted to cross streams, if there are no feasible alternative alignments. Alternative access shall be pursued to the maximum extent feasible, including through the provisions of RCW 8.24. Exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified, including placement on elevated structures as an alternative to fill, if feasible.
 - f. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.
5. Storm water detention/retention ponds are not permitted in a fish and wildlife habitat conservation buffer. However, storm water conveyance, discharge facilities such as infiltration systems dispersion trenches, level spreaders, and outfalls may be permitted in a fish and wildlife habitat conservation area buffer on a case-by-case basis when all of the following are met:
- a. Due to topographic or other physical constraints there are no feasible locations for these facilities outside the buffer;
 - b. The discharge is located as far from the ordinary high water mark as possible and in a manner that minimizes disturbance of soils and vegetation.
 - c. The discharge outlet is in an appropriate location and is designed to prevent erosion and promote infiltration.
 - d. The discharge meets stormwater flow and water quality standard as provided in the 2005 Ecology Stormwater Manual for Western Washington, or the equivalent.
 - e. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.
6. Stream bank stabilization, shoreline protection, and public or private launching ramps may be permitted subject to all of the following standards:

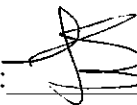
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- a. Natural shoreline processes will be maintained to the maximum extent practicable. The activity will not result in increased erosion and will not alter the size or distribution of shoreline or stream substrate, or eliminate or reduce sediment supply from feeder bluffs;
 - b. Adverse impact to fish or wildlife habitat conservation areas, specifically juvenile and adult fish migration corridors, or associated wetlands will be mitigated,
 - c. Nonstructural measures, such as placing or relocating the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient;
 - d. Stabilization is achieved through bioengineering or soft armoring techniques in accordance with an applicable Hydraulic Project Approval is issued by the Washington Department of Fish and Wildlife;
 - e. Hard bank armoring may occur only when the property contains an existing permanent structure(s) that is in danger from shoreline erosion caused by riverine processes and not erosion caused by upland conditions, such as the alteration of natural vegetation or drainage, and the armoring shall not increase erosion on adjacent properties and shall not eliminate or reduce sediment supply;
7. New public flood protection measures and expansion of existing measures may be permitted, provided that bioengineering or soft armoring techniques shall be used where feasible. Hard bank armoring may occur only in situations where soft approaches do not provide adequate protection, and shall be subject to requirement of the Shoreline Master Program, where applicable, Hydraulic Project Approval and other permits
 8. New docks shall be permitted only for public access, as an accessory to water-dependent uses or associated with a single-family residence provided that it is designed and used only as a facility for access to watercraft.
 - a. To limit the effects on ecological functions, the number of docks should be limited and new subdivisions should employ shared moorage whenever feasible. Docks on shorelines of the state must comply with policies and regulations of the City of Black Diamond Shoreline Master Program.
 - b. Docks shall be located and designed to minimize adverse

effects on ecological processes through location where they will interfere with fluvial and limnal processes including gradient and substrate; recruitment of woody debris; and fish habitat, including that related to anadromous fish.

- c. Docks shall minimize reduction in ambient light level by limiting width to the minimum necessary and shall not exceed four (4) feet in width, except where specific information on use patterns justifies a greater width. Materials that will allow light to pass through the deck may be required including grating on walkways or gangplanks in nearshore areas.
 - d. Approaches shall utilize piers or other structures to span the entire upper foreshore to the point of intersection with stable upland soils and shall be design to avoid interfering with stream processes.
 - e. Pile spacing shall be the maximum feasible to minimize shading and avoid a wall effect that would block or baffle currents, sediment movement or movement of aquatic life forms, or result in structure damage from driftwood impact or entrapment.
 - f. Docks should be constructed of materials that will not adversely affect water quality or aquatic plants and animals in the long term.
 - g. Space for recreation activities other than those strictly water dependent (such as water sports) are prohibited over water.
9. Launch ramps may be permitted for access to the water for the public or for residents of a development for water dependent use subject to the following criteria:
- a. Launch ramps shall be located and designed to minimize adverse effects on fluvial and limnal processes including stream gradient, and substrate; recruitment of woody debris; and fish habitat, including that related to anadromous fish.
 - b. Ramps shall be placed and maintained near flush with the bank slope. Preferred ramp designs, in order of priority, are:
 - i. Open grid designs with minimum coverage of beach substrate;
 - A. Seasonal ramps that can be removed and stored upland;
 - B. Structures with segmented pads and flexible



connections that leave space for natural beach substrate and can adapt to changes in beach profile.


10. Instream structures, such as, but not limited to, high flow bypasses, dams, and weirs, other than those regulated exclusively by the Federal Energy Regulatory Commission (FERC) shall be permitted only when the multiple public benefits are provided and ecological impacts are fully mitigated. Dams on shorelines of the state shall be regulated in accordance with the Shoreline Master Program.
 - a. Instream facilities locations shall avoid areas of high habitat value for aquatic organisms, specifically anadromous fish.
 - b. Instream facilities shall be designed to produce the least feasible effect on fluvial processes and shall minimize change in gradient.
 - c. Instream facilities shall provide mitigation of all impacts on aquatic species and habitat.
 - d. Instream facilities shall provide fish passage, in accordance with RCW 77.57.
 - e. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.
 - f. A construction bond for 125% of the cost of the structure and all mitigation measures shall be filed prior to construction and a maintenance agreement shall specify responsibility for maintenance, shall incorporate the maintenance schedule specified by the design engineer, shall require annual inspections by a Civil Engineer licensed in the State of Washington and shall stipulate abandonment procedures which shall include, where appropriate, provisions for site restoration.
11. Facilities permitted as shoreline dependent or shoreline oriented uses in accordance with the City Shoreline Master Program, may be located in water bodies and buffers, provided that only those facilities that are water dependent or water oriented and facilities for necessary access may be located in water bodies and buffers and provided that the facility is located, designed, constructed and operated to minimize and, where possible, avoid sensitive area disturbance to the maximum extent feasible.
12. Clearing and grading, when allowed as part of an authorized use or activity or as otherwise allowed in these standards, may be permitted provided that the following shall apply:

- a. Grading is allowed only during the designated dry season, which is typically regarded as May 1 to October 1 of each year, provided that the City may extend or shorten the designated dry season on a case-by-case basis, based on actual weather conditions.
- b. Appropriate erosion and sediment control measures shall be used at all times. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, disturbed topsoil shall be redistributed to other areas of the site.
- c. The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.

19.10.335 Habitat other than fish habitat

A. Definition and Buffers. Protection standards for fish and wildlife habitat conservation areas other than streams and lakes are as provided in the table below.

Fish and Wildlife Habitat Conservation Area	Buffer Requirement
<p>Areas with which federally listed threatened or endangered species have a primary association.</p> <p>State Priority Habitats and areas with which Priority Species have a Primary Association</p> <p>A primary association means a sensitive component(s) of the habitats of a species, which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.</p>	<p>Buffers shall be based on recommendations provided by the Washington Department of Fish and Wildlife PHS Program; provided that where no such recommendations are available, the buffer width shall be determined based on published literature concerning the species/habitat(s) in question and/or the opinions and recommendations of qualified professional with appropriate expertise.</p>
<p>Natural Area Preserves and Natural Resource Conservation Areas</p>	<p>Buffers shall be based on recommendations provided by site managers provided that the management strategies are considered effective and within the scope of this chapter.</p>
<p>Locally Important Habitat Areas</p>	<p>The need for and dimensions of buffers for locally important species or habitats shall</p>

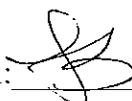
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Fish and Wildlife Habitat Conservation Area	Buffer Requirement
	<p>be determined on a case by case basis, according to the needs of specific species or habitat area of concern. The mayor or his/her designee shall coordinate with the Washington Department of Fish and Wildlife and other State, Federal or Tribal exerts in these instances, and shall use WDFW PHS management recommendations when available.</p>

- B. Alterations that occur within a locally important habitat area or that may affect a locally important species as defined herein shall be subject to review on a case-by-case basis. The mayor or his/her designee shall have the authority to require an assessment of the effects of the alteration on species or habitats and may require mitigation to ensure that adverse effects do not occur. This standard is intended to allow for flexibility and responsiveness with regard to locally important species and habitats.
- C. Wildlife Corridors. Corridors providing for migration to and from areas outside the Urban Growth Area are provided in the Core Stream and Wetland Complex. Specific standards include:

Stream, Wetland or other Corridor Feature	Corridor Requirements and Management Measures
Rock Creek/Lake Sawyer/Ravensdale Creek to the north and northeast	<ul style="list-style-type: none"> o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing Rock Creek/Abrams Road Bridge shall be replaced at the time of development of lands served by the bridge to meet the same standards. o Existing Rock Creek/Roberts Road bridge should be replaced to meet the same bridge standards when programmed as part of capital improvement program
Jones Lake/Jones Creek to the east	<ul style="list-style-type: none"> o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing Jones Creek/SR 169 Bridge should be replaced to meet the same bridge standards when substantial improvements are made to the road, or when programmed as part of other improvements or as part of fish passage programs.
Black Diamond Lake/Black Diamond Creek to the southeast	<ul style="list-style-type: none"> o Minimum corridor width of 450' shall extend to the southwest boundary of the UGA along the general alignment of Black Diamond Creek following designated wetlands o All new bridges shall provide for animal passage including height

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Stream, Wetland or other Corridor Feature	Corridor Requirements and Management Measures
	<p>sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side</p> <ul style="list-style-type: none"> ○ Existing bridge on Chub Lake Road creek shall be replaced at the time of development of lands served by the bridge to meet the same standards.

19.10.337 Fish and wildlife habitat conservation areas - Review and reporting requirements

The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

- A. When City sensitive area maps or Washington Department of Fish and Wildlife Priority Species and Habitat information, or other sources of credible information indicate that a site proposed for development or alteration is more likely than not to contain fish and wildlife habitat conservation areas or is within the buffer of a fish and wildlife habitat conservation area, the mayor or his/her designee shall require a site evaluation (field investigation) by a qualified professional or other measures to determine whether or not the species or habitat is present and if so, its relative location in relation to the proposed project area or site.
 - 1. If no fish and wildlife habitat conservation areas are present, then review will be considered complete.
 - 2. If the site evaluation determines that the species or habitat is present, the mayor or his/her designee may require a sensitive areas assessment report.
- B. The mayor or his/her designee may waive the report requirement for a single-family development that involves less than two thousand five hundred (2,500) square feet of clearing and/or vegetation removal and will not directly disturb the designated stream or pond buffer area, designated species, or specific areas or habitat features that comprise the fish and wildlife habitat conservation area (nest trees, breeding sites, etc.) as indicated by a site plan or scaled drawing of the proposed development, except in the case of Bald Eagle Habitat.
- C. The sensitive areas report shall describe the characteristics of the subject property and adjacent areas. The assessment shall include the following:
 - 1. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc;
 - 2. Determination of the resource category and standard buffers.
 - 3. Identification of sensitive areas and buffers within three hundred

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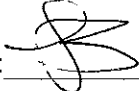
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(300) feet of the site and an estimate of the existing approximate acreage for each. The assessment of off-site resources shall be based on available information and shall not require accessing off-site properties if permission of the property owner cannot be obtained.

4. Proposed development activity.
5. A detailed description of the effects of the proposed development on ecological functions and buffer function and value, including the area of direct disturbance; area of buffer reduction or averaging including documentation that functions and values will not be adversely affected by the reduction or averaging; effects of storm water management; proposed hydrologic alteration including changes to natural drainage or infiltration patterns; effects on fish and wildlife species and their habitats; clearing and grading impacts; temporary construction impacts; and effects of increased noise, light or human intrusion.
6. Provisions to reduce or eliminate adverse impacts of the proposed development activities including, but not limited to:
 - a. Clustering and buffering of development,
 - b. Retention of native vegetation,
 - c. Access limitations, including fencing.
 - d. Seasonal restrictions on construction activities in accordance with the guidelines developed by the Washington Department of Fish and Wildlife, the US Army Corps of Engineers, the Salmonid Recovery Plan and/or other agency or tribe with expertise and jurisdiction over the subject species/ habitat, and
 - e. Methods to reduce proximity impacts
 - f. Other appropriate and proven low impact development techniques.

19.10.340 Mitigation Requirements

- A. **Impacts and Mitigation.** Activities that adversely affect fish and wildlife habitat conservation areas and/or their buffers should generally be avoided through site design, including clustering. Unavoidable impacts to designated species or habitats shall be compensated for through habitat creation, restoration and/or enhancement to achieve no net loss of habitat functions and values in accordance with the purpose and goals of this Chapter.

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- B. **Alterations.** A fish and wildlife habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat. All new structures and land alterations shall be prohibited from fish and wildlife conservation areas, except in accordance with this chapter.
- C. **Mitigation plan.** A mitigation plan will be required for all proposed fish and wildlife conservation area alterations or to mitigate unavoidable adverse impacts to the habitat functions and values resulting from a proposed action. Mitigation plans shall be prepared in accordance with the requirements of Section 19.10.140. The mitigation plan for habitat areas provides sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include, but not be limited to:
1. General description and scaled drawings of the activities proposed including, but not limited to, clearing, grading/excavation, drainage alterations, planting, invasive plant management, installation of habitat structures, irrigation, and other site treatments associated with the development activities and proposed mitigation action(s);
 2. A description of the functions and values that the proposed mitigation area(s) shall provide, together with a description of required and an assessment of factors that may affect the success of the mitigation program; and
 3. A description of known management objectives for the species or habitat.
- D. **Non-indigenous species.** Any plant, wildlife, or fish species not indigenous to the region shall not be introduced into a fish and wildlife conservation area unless authorized by a state or federal permit or approval.
- E. **Mitigation standard.** Mitigation of alterations to fish and wildlife conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.
- F. **Timing.** Required mitigation shall be completed as soon as possible following activities that will disturb fish and wildlife habitat conservation areas and during the appropriate season. Mitigation shall be completed prior to use or occupancy of the activity or development. Construction of

mitigation projects shall be timed to reduce impacts to existing wildlife and flora.

- G. **Monitoring.** The mayor or his/her designee shall have authority to require monitoring of mitigation activities and submittal of annual monitoring reports to ensure and document that the goals and objectives of the mitigation are met. The frequency and duration of the monitoring shall be based on the specific needs of the project as determined by the city.
- H. **Mitigation and contiguous corridors.** Mitigation sites shall be located to preserve or achieve contiguous fish and wildlife habitat corridors in accordance with a mitigation plan that is part of an approved sensitive area report to minimize the isolating effects of development on fish and wildlife conservation areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed.

19.10.400 Geologically Hazardous Areas

BDMC 19.10.400 through BDMC 19.10.440 pertain to geologically hazardous areas.

19.10.405 Designation and Mapping.

- A. **Designations.** Geologically hazardous areas include the following:
 - 1. **Erosion hazard areas.** Erosion hazard areas are those areas with soils identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard.
 - 2. **Landslide hazard areas.** Landslide hazard areas are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible due to any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. These may include the following:
 - a. Areas of historic failures, such as areas that have shown evidence of historic failure or instability, including but not limited to back-rotated benches on slopes; areas with structures that exhibit structural damage such as settling and racking of building foundations; and areas that have toppling, leaning, or bowed trees caused by ground surface movement;;
 - b. Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;

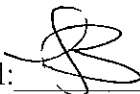
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- c. Those areas mapped by the Washington State Department of Natural Resources (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5);
 - d. Areas with all three of the following characteristics:
 - i. Slopes steeper than fifteen percent (15%); and
 - ii. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
 - iii. Springs or ground water seepage;
 - e. Areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting;
 - f. Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten (10) feet of vertical relief.
 - g. Areas that are at risk of mass wasting due to seismic forces.
3. **Mine hazard areas.** Mine hazard areas are those areas underlain by or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings. These are further described below in terms of degree of hazard.
4. **Seismic Hazard Areas.** Areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, soil liquefaction or surface faulting including:
- a. Areas subject to surface faulting during a seismic event;
 - b. Areas with underlying deposits indicative of a risk of liquefaction during a seismic event;
 - c. Areas subject to slope failure during a seismic event;

Seismic hazards shall be as identified in Washington State Department of Natural Resources seismic hazard maps for Western Washington and other geologic resources.

- B. **Mapping.** The approximate location and extent of known geologically hazardous areas are shown on the Black Diamond Sensitive Areas Map(s). Those maps are resources for the identification of the probable location, extent and classification of sensitive areas. The criteria by which geological hazards are defined and the


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results of field investigation shall prevail over information on the maps.

19.10.410 Development Standards – Landslide Hazard Areas:

- A. Activities allowed in landslide hazard areas. The activities listed below are allowed in landslide hazard areas in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, in accordance with the review provisions below.
1. Activities and facilities that do not require prior review or approval, provided, that where the mayor or his/her designee determines such activities may result in a loss of functions and values of a wetland or its buffer the provisions of (B) or (C) shall apply. These activities include.
 - a. Outdoor recreational or educational activities that do not remove vegetation or displace soils or install facilities, other than temporary or small scale structures that will be abandoned in the case of earth movement.
 - b. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.
 2. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.
 - a. Overhead utility lines that span the landslide hazard areas or that involve poles installed without soil movement for access roads.
 - b. Trails may be permitted within a landslide area if the trails does not exceed 4 feet in width, shall not exceed 18 inches of cut or fill and shall be surfaced with gravel or pervious material, including boardwalks;
 3. Uses and activities that shall be reviewed by a full permit process include:
 - a. Utility lines and pipes shall be permitted in landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The preferred design is for a line or pipe to be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene

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pipe with fuse-welded joints, or similar product that is technically equal or superior;

- b. Roads, driveways and other vehicular access, trails and walkways, may be permitted to serve existing lots and existing development, only if the applicant demonstrates that
 - i. No other feasible alternative exists, including through the provisions of RCW 8.24, and
 - ii. If analysis by a qualified professional establishes compliance with the standards in subsection C, below.
- c. Alteration of a landslide hazard area and buffer in order to accommodate structures or land alteration may be authorized only in cases where the mayor or his/her designee find that
 - i. Reasonable development cannot be accommodated on portions of the site not subject to landslide hazards and buffers, and
 - ii. If analysis by a qualified professional establishes compliance with the standards in subsection C, below.
- d. Point discharges from surface water facilities and roof drains onto or upgradient from an erosion or landslide hazard area shall be prohibited.
- e. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in landslide hazard areas if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A facility may be allowed only subject to the standards in subsection (C), below.

B. Buffer requirement. A buffer shall be established from all edges of landslide hazard areas. The size of the buffer shall be determined by the mayor or his/her designee to eliminate or minimize the risk of property damage, death, or injury resulting from landslides, based upon review of and concurrence with a sensitive area report prepared by a qualified professional.

- 1. **Minimum buffer from the top of a slope.** The minimum buffer from the top of a slope shall be designed to protect persons and property from damage due to catastrophic slope failure and slope retreat over the lifetime of the use and provide an area of vegetation to promote shallow stability, control erosion and



promote multiple benefits to wildlife and other resources. The minimum dimension of the buffer shall be equal to the greater of:

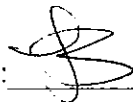
- a. Shall be equal to the height of the slope (the vertical distance from the toe of slope to the top of slope, for a 40% or greater slope, this shall be from the top of the portion of the slope which is a 40% slope, provided that another 40% slope is not located within the buffer area, in that case, the buffer shall be located from the top of the highest 40% slope).
 - b. The distance from the top of slope equal to the distance from the toe of slope upslope at a slope of 2:1 (horizontal to vertical) to a point that intersects with the site's ground elevation., or
 - c. Fifty (50) feet from the top of the slope.
2. **Minimum buffer from the bottom of a slope.** The minimum buffer from the bottom of a slope shall provide for safety of persons and property from the run-out resulting from slope failure and shall be the greater of:
- a. The height of the slope, or
 - b. 50 feet from the toe of the slope.
3. **Minimum buffer from the side of a slope.** The minimum buffer from the bottom of a slope shall provide for safety of persons and property from the run-out resulting from slope failure and shall be the greater of:
- a. 25 feet from the toe of the slope, or.
 - b. A triangular area that extends from the edge of the top of the slope outward at a 1:3 angle (one horizontal foot to three vertical feet)
4. **Buffer reduction.** The buffer may be reduced to a minimum of ten (10) feet when a qualified professional demonstrates to the satisfaction of the mayor or his/her designee that the reduction will adequately protect the proposed development, adjacent developments, proposed uses and the subject sensitive area and meet the development standards in subsection C.
5. **Increased buffer.** The buffer may be increased where the mayor or his/her designee determines through best available science documented in a sensitive area report prepared by a qualified professional that a larger buffer is necessary to prevent risk of damage to proposed and existing development or to meet the

development standards in subsection C.

C. Criteria and Design Standards for Landslide Hazard Areas.

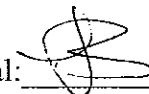
All uses and activities in landslide hazard areas shall conform to the following standards:

1. No use or alteration of a landslide hazard area and buffer may be authorized except where the mayor or his/her designee finds that
 - a. reasonable development cannot be accommodated on portions of the site not subject to landslide hazards and buffers, and
 - b. if analysis by a qualified professional establishes compliance with the following standards based on specific development plans:
 - i. The proposed development will not result in a risk of landslide that may affect development on the subject property or other properties in the vicinity, and will not result in a greater risk or a need for increased buffers on neighboring properties; For unconsolidated deposits, development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.
 - ii. Measures to maintain slope stability, such as drainage systems, must be of a design that will assure operation without facilities requiring regular maintenance that would jeopardize stability if the facility fails.
 - iii. The development will not increase erosion or sedimentation risk on the site;
 - iv. The development will not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions;
 - v. Such alterations will not adversely impact other sensitive areas;
 - vi. Structures shall be located on the least sensitive portion of the site and clustered where possible to reduce disturbance and removal of vegetation.
 - vii. Structures will meet the following design standards:

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- (A) Grading shall minimize alterations to the natural contour of the slope,
 - (B) Foundations should conform to the natural contours of the slope and foundations should be stepped/tiered where possible to conform to existing topography of the site;
 - (C) Retaining walls shall be preferred over cut and fill and shall be incorporated into structures wherever feasible.
- viii. Landslide hazard areas on unconsolidated deposits with a gradient of 40 percent where the toe of slope is within the buffer area of a wetland, stream, pond or lake are not eligible for alteration of landslide hazard areas or but may be subject to alteration of buffers, subject to compliance with the standards of this chapter.
2. Division of land within or adjacent to landslide hazard areas and associated buffers shall be clustered to avoid landslide hazard areas and associated buffers. Land that is located partially within a landslide hazard area or its buffer may be divided provided that each resulting lot has sufficient buildable area outside of the landslide area and buffer with provision for access, drainage, erosion control and related features that will not adversely affect the stability of the landslide area.
 3. Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The preferred design is for a line or pipe to be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;
 4. Roads, driveways and other vehicular access, trails and walkways, may be permitted only if the applicant demonstrates that no other feasible alternative exists, including through the provisions of RCW 8.24 and subject to the standards in 1., above. If access through a hazard area is granted, exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified. Access roads and trails shall be engineered and built to standards that avoid the need for major repair or reconstruction beyond that which would be required in non-hazard areas and shall be:


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- a. Located in the least sensitive area of the site.
 - b. Designed to minimize topographic modification with low gradients and/or parallel to the natural contours of the site.
 - c. Retaining walls shall be preferred over cut and fill slopes to minimize topographic modification.
 - d. Clearing and grading shall minimize ground disturbance to the maximum extent feasible to accommodate allowed development and generally shall not extend more than 10 feet beyond the approved development;
5. A qualified professional, licensed in the state of Washington, shall review project plans in landslide hazardous areas to ensure that they are properly designed and shall certify that they have inspected the construction of facilities and the facilities are constructed to incorporate all required facilities to meet the standards above, and no unanticipated features were identified during construction that change the design required to meet said standards. If any unanticipated features related to bedrock, soil, slope (gradient), slope aspect, structure, geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; hydrology including springs or ground water seepage or stream geomorphology relating to stream bank erosion or undercutting are identified during construction that were not anticipated in the initial review, the qualified professional shall be responsible for the cessation of work if the conclusions of the initial review are no longer valid and report to the mayor or his/her designee.

19.10.415 Landslide Hazard Review and Reporting Requirements

- A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a landslide hazard area the mayor or his/her designee shall have the authority to require the submittal of a landslide hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:
- B. The landslide hazard assessment shall describe and evaluate the geologic characteristics of the subject property and adjacent areas. The landslide hazard assessment shall include field investigation and may include the analysis of historical aerial photographs, review of public records and documentation, and interviews with adjacent property owners. The report shall include the following, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

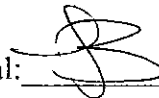
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1. A description of which areas on the site, surrounding areas that influence or could be influenced by the site, or areas within three hundred (300) feet of the site meet the criteria for a landslide hazard.
2. A scaled site plan showing:
 - a. The type and extent of landslide hazard areas, and any other sensitive areas, and buffers on, adjacent to or that are likely to impact or influence the proposal, including properties upslope of the subject site;
 - b. The location of existing and proposed structures, fill, access roads, storage of materials, and drainage facilities, with dimensions;
 - c. The existing site topography preferably accurate to within two-foot contours; and
 - d. Clearing limits.
3. A description of the site features, including surface and subsurface geology, hydrology, soils, and vegetation found in the project area and in all hazard areas addressed in the report. This may include surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or site investigations that may be useful in making conclusions or recommendations about the site under investigation;
4. A description of the processes affecting the property or affected by development of the property including geologic processes, soil or water erosion, deposition, or accretion;
5. A description of the vulnerability of the site to seismic and other geologic processes and a description of any potential hazards that could be created or exacerbated as a result of site development.

C. Analysis of potential risks shall include:

1. A description and analysis of the level of risk associated with no development on the landslide hazard area and buffers;
2. A description and analysis of the level of risk associated with alternative proposals for development within or with less setback from the area of landslide hazard including risk to future occupants of the subject property, adjacent property, other sensitive areas and the general public safety;
3. A description and analysis of the level of risk associated with the measures proposed to mitigate the hazards, ensure public safety, and protect property and other sensitive areas, including the risk of



failure if structures, drainage systems or other facilities are not monitored, maintained, or cease to function as designed for any reasons;

4. A description and analysis of the level of risk associated with increased erosion or sedimentation risk on the site and potential effects on adjacent properties, water bodies and wetlands.
5. Assessments and conclusions regarding slope stability for both the existing and developed conditions including the potential types of landslide failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site. The stability evaluation shall also consider dynamic earthquake loading, and shall use a minimum horizontal acceleration as established by the current version of the International Building Code;
6. Description of the potential run-out hazard of landslide debris related to the proposed development that starts upslope (whether part of the subject property or on a neighboring property) and/or the impacts of landslide run-out on down slope properties and sensitive areas;
7. For proposed development on unconsolidated deposits, analysis of whether the development results in a factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.
8. The analysis shall include evaluation of stability under seismic conditions for both unconsolidated deposits and bedrock.

19.10.420 Development Standards – Erosion Hazard Areas:

- A. **Activities allowed in erosion hazard areas.** Erosion hazard areas have soil and slope conditions such that development must incorporate adequate control in order to avoid soil movement and potential impacts on downgradient resources, including water quality and aquatic habitat. Activities in erosion control areas shall be subject to the following standards.
- B. **Landslide hazard areas.** Except as otherwise provided for in this chapter, only those activities approved and permitted consistent with an approved sensitive area report in accordance with this chapter shall be allowed in erosion or landslide hazard areas.
- C. **Development standards**
 1. Structures shall be located on the least sensitive portion of the site and clustered where possible to reduce disturbance and removal of vegetation.

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2. Grading shall minimize alterations to the natural contour of the slope. Building foundations shall conform to the natural contours of the slope and be stepped/tiered to conform to existing topography of the site;
3. Retaining walls shall be preferred over cut and fill for roads, parking lots and structures. Structures on slopes in excess of 25% shall incorporate earth retaining structures in buildings rather than employing free-standing earth retention structures. d. Clearing and grading shall minimize ground disturbance to the maximum extent feasible and generally shall not extend more than 10 feet beyond the approved development;
4. All structures or impervious surface improvements shall be required to have on-site drainage systems to meet the specifications of the public works department to control conveyance of stormwater to avoid erosion hazard areas. Point discharges or overland dispersion systems from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited from discharging onto slopes in excess of 5%. Conveyance should be provided to the foot of slopes.
5. Roads, driveways and other vehicular access, trails and walkways, shall be
 - a. Located in the least sensitive area of the site.
 - b. Designed to minimize topographic modification with low gradients and/or parallel to the natural contours of the site.
 - c. Retaining walls shall be preferred over cut and fill slopes to minimize topographic modification.

19.10.425 Erosion hazard area review and reporting requirements

- A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a erosion hazard area the mayor or his/her designee shall have the authority to require the submittal of a erosion hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:
- B. The erosion hazard assessment shall describe and evaluate the soil characteristics of the subject property and adjacent areas. The erosion hazard assessment shall include field investigation. The report shall include the following, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

1. A description of areas on the site and the surrounding areas that influence or could be influenced by the site, or areas within three hundred (300) feet of the site meet the criteria for an erosion hazard.
2. A scaled site plan showing:
 - a. The type and extent of soils subject to erosion hazard, and any other sensitive areas, and buffers on, adjacent to or that are likely to impact or be impacted by the proposal, including surface water, wetlands and other downgradient features;;
 - b. The location of existing and proposed areas of clearing, structures, fill, access roads, storage of materials, and drainage facilities, with dimensions;
 - c. The existing site topography preferably accurate to within two-foot contours; and
 - d. Proposed erosion control and drainage control features and facilities.

C. Analysis of potential erosion and best management practices to control erosion:

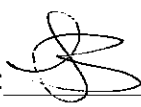
1. A description and analysis of the level of erosion associated with no development within the erosion hazard area;
2. A description and analysis of the level of erosion associated with the proposal and alternatives;
3. A description and analysis of design features that could reduce erosion, including development standards within this section and other BMPs;
4. A description and analysis of the level of risk of sedimentation, degradation of water quality, impacts on aquatic species or other effects of the proposal and alternative design and BMPs.

19.10.430 Mine hazard areas

A. **Declassification of mine hazard areas.** Areas underlain by mine workings may be declassified as a mine hazard area by the mayor or his/her designee based on a detailed mine hazard study, field work, and completion of required mitigation to eliminate hazards of open workings, sinkholes, gas, fire and waste dumps and reducing the potential for settlement to 1:350 for ground tilt and 0.003 in/in strain such that hazards of mine workings are equivalent to lands not underlain by mines.

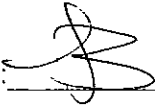
B. Mine areas of low hazard.

1. Mine areas of low hazard are defined as locations where:

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- a. All workings are at a depth of more than three hundred feet or where a previous mine hazard assessment report has determined that all workings have collapsed or that potential subsidence is limited to no more than 1:350 for ground tilt and 0.003 in/in strain, and
 - b. No unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings or other areas of past mining activity creating a significant probability for catastrophic ground surface collapse are within 100 feet of the location.
2. The mayor or his/her designee may allow the following activities or installations in low hazard mine areas without a detailed mine hazard assessment:
- a. Overhead utility lines;
 - b. Trails and passive recreation uses;
 - c. Mobile homes not on a rigid foundation
 - d. Construction of new buildings with less than 2,500 square feet of floor area or roof area, whichever is greater, and which are not residential structures or used as places of employment or public assembly;
 - e. Additions to existing residences that are 250 square feet or less; and
 - f. Installation of fences.
3. All other uses may be allowed in low hazard mine areas only if analysis by a qualified professional establishes compliance with the following standards, based on a specific risk assessment and remediation plans:
- a. The risk of sinkhole development is reduced to a level no greater than other properties not affected by mine workings; and
 - b. The risk of other public safety hazards related to underground workings and or waste dumps is reduced to a level no greater than other properties not affected by mine workings; and
 - c. If the site could be subject to trough subsidence due to collapse of mine workings, remediation plans shall include site-specific design specifications that can accommodate calculated potential subsidence effects as

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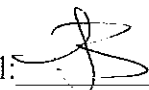
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required by the performance standards in Subsection E, below.

4. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in mine areas of low hazard if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A facility may be allowed only subject to the performance standards in Subsection E, below.

C. Mine areas of moderate hazard.

1. Areas of moderate mine hazard are defined as locations that pose significant risks of property damage that may be mitigated by implementing special engineering or architectural recommendations. These are locations that typically include, but are not limited to:
 - a. Mine workings that are at a depth of 150 feet to 300 feet below the surface of the land, or
 - b. No unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings and other areas of past or significant probability for catastrophic ground surface collapse are within 100 feet of the location.
2. The mayor or his/her designee may allow the following activities or installations in a moderate mine hazard area without a detailed hazard assessment:
 - a. Overhead utility lines.
3. All other uses may be allowed only if analysis by a qualified professional establishes compliance with the following standards, based on a specific risk assessment and remediation plans:
 - a. All entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse are mitigated in compliance with the performance standards in Subsection E; and
 - b. The risk of sinkhole development is reduced to a level no greater than other properties not affected by mine workings; and


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- c. The risk of other public safety hazards related to underground workings and or tailings is reduced to a level no greater than other properties not affected by mine workings; and
 - d. If the site could be subject to trough subsidence due to collapse of mine workings, remediation plans include site-specific design specifications that can accommodate calculated potential subsidence effects as required in the performance standards in Subsection E, below.
4. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in a moderate mine hazard areas if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A vulnerable facility may only be allowed in a moderate mine hazard area according to the performance standards in Subsection E, below.

D. Mine areas of severe hazard.

- 1. Mine areas of severe hazard are defined as locations that pose a significant risk of catastrophic ground surface collapse. These are locations that typically include, but are not limited to:
 - a. Coal mine workings from a depth of less than one hundred fifty feet from the surface of the land; or
 - b. Unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts; or
 - c. Sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse.
- 2. All uses and activities within a severe mine hazard area require analysis by a qualified professional and compliance with specific risk assessment and remediation plans, including:
 - a. Remediation of hazards related to entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, mine tailings and other areas of past or significant probability for catastrophic ground surface collapse are mitigated in compliance with development standards in Subsection (E) to a standard that reduces risk of personal injury and risk of damage to structures and public facilities to

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- a level similar to lands not underlain by mine workings.
- b. The preferred uses for areas of severe mine hazard are:
 - i. Open space and passive recreation facilities with no public assembly,
 - ii. Public facilities that must traverse the area, such as roads and utilities, but only if mitigated in accordance with section 19.10.430 and section 19.10.435.
- 3. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials are prohibited in severe mine hazard areas.

E. Performance standards

Development on or near a mine hazard area requires applicant to first demonstrate that hazards to health or safety, persons, or property at the proposed site as a result of the development is equivalent to land not underlain by mine workings. If a proposal is located on or near a mine hazard area, a study by a qualified professional geotechnical specialist may be required.

- 1. Development within mine hazard areas shall be accompanied by technical studies by qualified professionals that assess the potential risk from entries shafts and ventilation facilities, of potential future trough subsidence or sinkhole development due to collapse of abandoned coal mines and identifies specific measures to mitigate the risk in accordance with the criteria below:
 - a. Mine entries and shafts shall be permanently sealed using controlled backfill and/or grouting, or an approved, engineered seal and shall include permanently diversion of surface drainage away from the shaft or mine entry.
 - b. Existing sinkholes and shallow prospect excavations shall be backfilled to surface using controlled placement of suitable backfill and shall include permanently diversion of surface drainage away from existing sinkholes and prospect excavations.
 - c. Potential sinkhole hazards shall be assessed by a qualified professional utilizing direct subsurface investigation that demonstrate coal mine workings either do not exist, or that the workings have collapsed so that there is no remaining potential for sinkhole development; or show that the hazards associated with any voids that are identified are fully mitigated by backfilling, grouting, or other approved means


such that the potential for sinkhole development is eliminated.

- d. Any mine tailings or other fill materials shall be:
 - i. Demonstrated to be stable through analysis by a qualified professional, or if such material does not meet stability criteria it shall be regarded or otherwise mitigated to meet stability criteria.
 - ii. If springs or seeps discharge from such areas, materials shall be removed or regraded to expose the source of the spring or seep.
 - iii. Mine tailings or fill materials shall be covered with a minimum two feet of clean soil and be revegetated with native vegetation to control erosion, unless an alternative specific use has been approved.
 - iv. Development shall not be permitted within 100 feet of tailings or fill materials that shows evidence of current or past combustion, unless combustible materials are removed.
 - v. Development may be permitted over mine tailings or fill material only if an investigation and analysis by a qualified professional identifies feasible construction criteria for foundation stability and performance.
 - e. Mine Gas hazards shall be mitigated by backfilling all mine entries, shafts, and sinkholes in and providing appropriate venting.
 - f. Mine fire potential shall be assessed through analysis by a qualified professional. Development shall not be permitted within 100 feet of workings where investigations indicate the possible presence of combustion in the underlying seam or seams.
2. Every development shall include appropriate construction standards established by a qualified professional in accordance with the criteria below:
- a. Foundations shall be designed by a Washington State licensed structural engineer, with consideration of the subsidence effects documented for the site and the requirements of the International Building Code as provided by the criteria below:

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- i. Foundations and slabs on grade shall be designed to resist the ultimate forces for tension and/or compression as determined from the hazards report. The forces generated by subsidence effects of tilt and strain shall be treated as live loads with the appropriate load factors and/or factors of safety in design. Simultaneous friction drag force and lateral earth pressure loads shall be treated as earth pressure in load combinations.
 - ii. Ultimate passive soil pressure and distribution shall be assessed for all vertical surfaces in contact with foundation soil due to horizontal strain occurring from a subsidence and included in design specifications.
 - iii. Utility lines shall not be rigidly connected to the foundation wall. A flexible joint shall be provided at the point of transition from soil support to building support for all utilities.
 - iv. Positive drainage shall be designed for positive gravity flow under the most sensitive predicted subsidence conditions.
- b. Roads and utilities shall be designed to accommodate the magnitudes of strains and tilts documented by technical studies through adequate strength to resist the forces of maximum predicted subsidence-related tilts and strains, or by adequate flexibility to accommodate the resulting deformations.
- i. Roadways shall be constructed of flexible material and shall be designed to maintain positive drainage with the maximum predicted subsidence.
 - ii. Bridges shall be designed to a factor of safety of 2 to accommodate maximum strains and tilts predicted.
 - iii. Water utilities shall be designed to provide for two times the maximum predicted tilts and strains, including service lines, structures, and related appurtenances.
 - iv. Sewer and storm drainage utility design shall provide for 1.5 times the maximum predicted tilts and strains, including service lines, structures, and related appurtenances. Design grades shall provide positive gradient after allowing for the maximum predicted subsidence.

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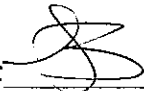
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- vi. Storm drainage detention and retention facilities shall be designed to remain functional following the occurrence two times the maximum predicted tilts and strains. Such facilities may be located in mine hazard areas only if all risk of sinkhole development has been eliminated.
- vii. Electric and gas cables and pipelines shall be designed to accommodate the maximum predicted tilts and strains with suitable safety factors applied to these magnitudes such that failure of the utility line will not present a risk to public safety. The applicant shall present certification from the respective private utility that utilities have been designed in accordance with the above.

19.10.435 Mine hazard review and reporting requirements

A mine hazard study shall be prepared by a qualified professional that addresses the information and criteria below, provided that the mayor or his/her designee may accept and review a preliminary report with limited content to outline the potential hazard level and propose a suggested analysis methodology. The administrator may retain, at the applicant's expense, an independent qualified professional to perform a peer review of the mine hazard report.

- A. A mine hazard report shall contain all available documentary information about mine workings and the results of a surface reconnaissance that shall identify any public safety mine hazards, mine waste dumps, or evidence of mine subsidence or sinkholes and shall include:
 - 1. Historical mining data, including available copies of original mine records for mine workings.
 - 2. A map showing property boundaries, mine hazard boundaries, and any potential hazards identified on or within 300 feet of the property.
- B. Shallow hazards such as entry portals, shaft collars, ventilation shafts, prospects and mine waste dumps may be investigated by test pits or trenching, providing the method enables investigation to an adequate depth for the hazard being investigated.
- C. Site-Specific Evaluation of Potential Trough Subsidence
 - 1. Review of Available Records of original mine workings that could potentially influence the site by trough subsidence.
 - a. locations, depths, and thicknesses of such seams and workings

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- b. workings that could potentially influence the site shall be determined by projecting the downdip limit angle from the lowest limit of the documented workings to the ground surface. Mine workings are considered to potentially influence the property if the property lies within the line at which the limit angle intersects the ground surface.
2. Subsurface conditions may be evaluated by drilling. Drilling is the most acceptable method for providing information for reducing the Remaining Mine Height value used in subsidence calculations to less than the height of the original workings.
- a. Drillholes shall be logged continuously from 100 feet above to 20 feet below mine workings, including lithology at 5-foot intervals, drill fluid circulation, penetration rate, and free fall of the drill string.
 - b. Greater confidence will be placed in core drilling logs than rotary drilling logs.
 - c. As a guideline, a minimum of one drillhole penetrating each seam that could potentially cause trough subsidence at the site should be drilled for each 200 foot length of the adit, unless alternative spacing is demonstrated to provide adequate information concerning the workings.
 - d. Surface geophysics, or other indirect means, may be used to assist in projecting information between and beyond drillholes, but shall not be accepted as the sole method for evaluating the condition of underground mine workings and calculating Remaining Mine Height.
3. Calculation of Trough Subsidence Magnitudes, Tilts, and Strains shall be in accordance with the empirical function method of the British National Coal Board, as presented in their Subsidence Engineers' Handbook, adjusted to reflect the effects of inclined seams and a downdip limit angles encountered and shall be based on a conservative evaluation of site conditions developed from the review of available records, site investigation and subsurface exploration.
- a. Direct field evidence or a review of detailed mine records shall be used to calculate the subsidence factor, the downdip limit angle.
 - b. Remaining Mine Height shall be presumed to be equal to the seam thickness for the subsidence calculations unless evidence from drilling justifies modification.


- c. The calculation of potential tilts and strains shall consider effects of individual panel widths and barrier pillar widths. If direct subsurface investigation indicates that the mine workings are fully collapsed, an estimate of potential surface settlements due to consolidation of rubble and loose material shall be made for the cumulative effect of all seams that could induce trough subsidence at the site.
- 4. Site plans shall be prepared showing the proposed development and calculated magnitudes of potential subsidence, strains, and tilts at the property boundaries and at the locations of any proposed structures.
 - a. A map showing contours of potential subsidence magnitudes, strains, and tilts throughout the property shall be submitted for use in design of roads and utilities.
 - b. Appropriate recommendations shall be provided for structural and civil design requirements.

D. Site-Specific Evaluation: Potential Sinkhole Hazards

- 1. Review of Available Record shall be as in (1) (a) above.
- 2. Subsurface conditions for workings located within 150 feet of the ground surface shall be investigated by drilling.
 - a. Drillhole sites shall be selected at representative locations and at representative working depths. A minimum of five drillholes shall be drilled along the alignment of any linear structure, such as roads or utility lines designed to cross a mine hazard area. No less than one drillhole per acre shall be provided for a site.
 - b. Core drilling is preferred, but is not compulsory. Rotary drilling is an acceptable method provided it is used in combination with downhole geophysical logging, including caliper logs. Drilling shall penetrate immediately above and through the predicted workings locations to facilitate interpretation of the condition of the mine workings.
 - c. Drillholes shall be logged continuously throughout their length, including lithology at 5-foot intervals for rotary drillholes, drill fluid circulation, penetration rate, and free fall

19.10.440 Seismic Hazard Areas

Development may be allowed in seismic hazard areas when all of the following apply:


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- A. If evaluation of site-specific subsurface conditions by a qualified professional demonstrates that the proposed development site is not subject to the conditions indicating seismic risk in, the provisions of this subsection shall not apply.
- B. If a site is subject to seismic risk, the applicant shall implement appropriate engineering design based on analysis by a qualified professional of the best available engineering and geological practices that either eliminates or minimizes the risk of structural damage or injury resulting from seismically induced settlement or soil liquefaction, including compliance with the following criteria:
 - 1. Subdivision within a seismic hazard areas shall assure that each resulting lot has sufficient buildable area outside of the hazard area or that appropriate limitations on building and reference to appropriate standards are incorporated into subdivision approval and may be placed as restrictions on the face of the plat;
 - 2. Structures in seismic hazard areas shall conform to applicable analysis and design criteria of the International Building Code;
 - 3. Public Roads, bridges, utilities and trails shall be allowed when there are no feasible alternative locations and geotechnical analysis and design are provided that ensure the roadway, bridge and utility structures and facilities will not be susceptible to damage from seismic induced ground deformation. Mitigation measures shall be designed in accordance with the most recent version of the American Association of State Highway and Transportation Officials (AASHTO) Manual or other appropriate document.
- C. The mayor or his/her designee may waive or reduce engineering study and design requirements for alterations in seismic hazard areas for:
 - 1. Mobile homes;
 - 2. Additions or alterations to existing structures that do not increase occupancy or significantly affect the risk of structural damage or injury; and
 - 3. Buildings that are not dwelling units or used as places of employment or public assembly.

19.10.445 Seismic hazard review and reporting requirements

- A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a geologically hazardous area the mayor or his/her designee shall have the authority to require the submittal of a seismic hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:
- B. An existing conditions assessment and investigation to evaluate the geologic

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characteristics of the subject property and adjacent areas and their susceptibility to damage during a seismic event.

1. The seismic assessment shall include field investigation and may include the analysis of historical aerial photographs, review of public records and documentation, and interviews with adjacent property owners, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:
 2. A description of the general surface and subsurface geology, hydrology, soils, and vegetation found in the project area, including faults and indicators of earth movement, past seismic events and other features that would affect the site response to seismic conditions. This may include surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or regional, local and site investigations that may be useful in making conclusions or recommendations about the site under investigation;
- C. A description of the vulnerability of the site and structures to seismic and other geologic processes and a description of any potential hazards that could be created or exacerbated as a result of site development.
1. Evaluation of the current design in terms of the risk of structural damage or injury resulting from seismically induced stress, settlement, soil liquefaction, and other processes.
 2. A description and evaluation of the best available engineering and geological practices that either eliminates or minimizes the risk of structural damage or injury resulting from seismic forces including public roads, utilities and other features.

19.10.500 Sensitive Aquifer Recharge Areas

A. Classification.

Aquifer recharge areas are categorized according to the following criteria.

1. Category I - Severe Aquifer Sensitivity. "Category I - Severe aquifer sensitivity" are those areas which provide rapid recharge with little protection, having highly permeable soils. The predominant soil series and types are those listed in Category I in Table 19.10.500.B.
2. Category II - Moderate Aquifer Sensitivity. "Category II - Moderate aquifer sensitivity" are those areas with aquifers present, but which have a surface soil material that encourages run-off and slows water entry into the ground. The predominant soil series and

types are those listed as Category II in Table 19.10.500.B.

3. Category III - Slight Aquifer Sensitivity. "Category III - Slight aquifer sensitivity" are those areas of low ground water availability and whose soil series are derived from basaltic, andesitic, or sedimentary rock or ancient glacial till which are parent material for soils with more clays at the surface. These geological formations do not provide abundant ground water. The predominant soil series and types are those listed as Category III in Table 19.10.500.B.

Table 19.10.500.A – Aquifer Sensitivity Ratings for Soil Texture

Soil Texture ¹	DRASTIC Rating ¹	Sensitivity
Thin or Absent ³	10	Category I - Severe
Gravel	10	Category I - Severe
Sand	9	Category I - Severe
Peat	8	Category I - Severe
Shrink/Swell Clay	7	Category II - Moderate
Sandy loam	6	Category II - Moderate
Loam	5	Category II - Moderate
Silt loam	4	Category II - Moderate
Clay loam	3	Category III - Slight
Muck	2	Category III - Slight
Non-shrink/Swell Clay	1	Category III - Slight

1. The DRASTIC Index (Aller et.al. June 1987) was developed cooperatively between the National Water Well Association (NWWA; now the National Ground Water Association) and the U.S. Environmental Protection Agency (EPA) to rank soil types with respect to pollution transport potential.

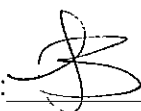
Table 19.10.500.B – Aquifer Sensitivity Ratings for Soil Units

Soil Series Name & Map Unit Symbol	Category I Severe	Category II Moderate	Category III Slight
Alderwood gravelly sandy loam (Ag)		X	
Alderwood and Kitsap soils, very steep		X	

Soil Series Name & Map Unit Symbol	Category I Severe	Category II Moderate	Category III Slight
(AkF)			
Beausite gravelly sandy loam (Be)		X	
Bellingham silt loam (Bh)		X	
Buckley silt loam (Bu)		X	
Everett gravelly sandy loam (Ev)		X	
Mixed alluvial land (Ma)		X	
Norma sandy loam (No)		X	
Ragnar-Indianola association, sloping (RdC)		X	
Seattle muck (Sk)			X
Shalcar muck (Sm)			X

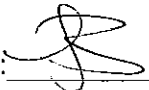
B. Prohibited Uses and Criteria

1. The following new development proposals and alterations are not allowed on a site located in a category I sensitive aquifer recharge area:
 - a. Disposal of radioactive wastes, as defined in chapter 43.200 RCW;
 - b. Hydrocarbon extraction;
 - c. Commercial wood treatment facilities;
 - d. Class V injection wells, but limited to subclasses 5F01, 5D03, 5D04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X1S, 5W20, 5X28, and 5N24;
 - e. Underground storage tanks, including tanks exempt from the requirements of chapter 173-360 WAC, with hazardous substances, as defined in chapter 70.105 RCW, that do not comply with the requirements of chapter 173-360 WAC and K.C.C. Title 17;
 - f. Above ground storage tanks for hazardous substances, as defined in chapter 70.105 RCW, unless protected with primary and secondary containment areas and a spill protection plan;
 - g. Landfills for hazardous waste, or special waste, as defined in WAC173-303;

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- h. Wrecking yards;
 - i. Electroplating;
 - j. Solid waste handling and processing facilities
 - k. Dry cleaners, excluding drop-off only operations;
 - l. Landfills for municipal solid waste;
 - m. Transmission pipelines carrying petroleum or petroleum products;
 - n. Sand and gravel, and hard rock mining
 - o. Mining of any type below the upper surface of the saturated ground water that could be used for potable water supply;
 - p. Vehicle repair
 - q. Biological research
 - r. Chemical manufacturing, mixing and remanufacturing
 - s. Golf courses;
 - t. Cemeteries;
2. Except as otherwise provided in subsection C. of this section, the following new development proposals and alterations are not allowed on a site located in a category II sensitive aquifer recharge area: items (a) through (i) in subsection (B)(1) above.
 3. Except as otherwise provided in subsection C. of this section, the following new development proposals and alterations are not allowed on a site located in a category III sensitive aquifer recharge area: items (a) through (h) in subsection (B)(1) above.
- C. The following standards apply to development proposals and alterations that are substantial improvements on a site located in a sensitive aquifer recharge area:
1. The owner of an underground storage tank, including a tank that is exempt from the requirements of chapter 173 WAC, in a category I, II or III sensitive aquifer recharge area shall either bring the tank into compliance with the standards of chapter 173 WAC and or properly decommission or remove the tank; and
 2. A development proposal for new residential development, including, but not limited to, a subdivision, short subdivision, or dwelling unit, shall incorporate best management practices in order to infiltrate stormwater runoff to the maximum extent

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19.10.600 Definitions.

Words not defined in this chapter shall be as defined in the city code, the Washington Administrative Code, or the Revised Code of Washington. Words not found in either code shall be as defined in the Webster's Third New International Dictionary, latest edition.

19.10.601 *Adjacent* – Immediately adjoining (in contact with the boundary of the influence area) or within a distance that is less than that needed to separate activities from sensitive areas to ensure protection of the functions and values of the sensitive areas. *Adjacent* shall be determined on a case by case basis and at the minimum shall include any activity or development located:

- A. On a site immediately adjoining a sensitive area;
- B. A distance equal to or less than the greatest potential sensitive area buffer width and building setback applicable to the resource;
- C. A distance equal to or less than one-half mile (2,640 feet) from a bald eagle nest;
- D. A distance equal to or less than three hundred (300) feet upland from a stream, wetland, or water body;
- E. Bordering or within the floodway, floodplain or channel migration zone; or
- F. A distance equal to or less than two hundred (200) feet from a sensitive aquifer recharge area.

19.10.602 *Agricultural activities* – Agricultural uses and practices existing or legally allowed on the effective date of this ordinance on rural land or agricultural land designated under RCW 36.70A.170 including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, when the replacement facility is no closer to a sensitive area than the original facility; and maintaining agricultural lands under production or cultivation

19.10.603 *Alteration* – Any human induced change on a site, or in the vicinity that alters the existing condition and/or ecological functions and

values of a sensitive area or its buffer. Alterations include, but are not limited to grading, filling, channelizing, dredging, clearing (vegetation), construction, compaction, excavation, or any other activity that changes the character of the sensitive area.

19.10.604 *Anadromous fish* – Fish that spawn and rear in freshwater and mature in the marine environment.

19.10.605 *Applicant* – A person who files an application for permit under this chapter and who is either the owner of the land on which that proposed activity would be located, a contract purchaser, has a valid easement of other right to utilize, or is a public utility or public agency with the right of eminent domain, or is the authorized agent of such a person.

19.10.606 *Aquifer, sole source* – An area designated by the U.S. Environmental Protection Agency under the Safe Drinking Water Act of 1974, Section 1424(e). The aquifer(s) must supply fifty percent (50%) or more of the drinking water for an area without a sufficient replacement available.

19.10.607 *Best available science* – Current scientific information used in the process to designate, protect, or restore sensitive areas, that is derived from a valid scientific process as defined by WAC 365-195-900 through 925. Sources of best available science are included in Citations of Recommended Sources of the Best Available Science for Designating and Protecting Sensitive Areas published by the Washington State Office of Community Development.

19.10.608 *Best management practices (BMPs)* – Conservation practices or systems of practices and management measures that reflect the current scientific and technical consensus on the best or most effective means of addressing adverse effects upon a resource.

19.10.609 *Buffer or buffer zone* – An area that is contiguous to a sensitive area and provides an area for related ecological functions to take place including, but not limited to, the continued maintenance, functioning, and/or structural stability of a sensitive area and/or separates and protects the sensitive area from adverse impacts associated with adjacent land uses.

19.10.610 *Compensation project* – Actions that are necessary to replace project-induced sensitive area and buffer losses, including land acquisition, planning, construction plans, monitoring, and contingency actions.

19.10.611 *Compensatory mitigation* – Replacing project-induced losses or impacts to a sensitive area, and includes, but is not limited to, the following:

Restoration – Actions performed to reestablish functional characteristics and processes that have been lost by alterations, activities, or catastrophic events within an area that no longer provides such functions.

Creation – Actions performed to intentionally establish functional characteristics of an ecosystem at a site where it did not formerly exist.

Enhancement – Actions performed to improve the condition of existing degraded ecological functions so that the functions they provide are of a higher quality.

19.10.612 Conservation easement – A legal agreement that the property owner enters into to restrict uses of the land. Such restrictions can include, but are not limited to, restrictions on use or specific facilities to protect resources such as water quality, wetland function, vegetation and habitat and may include passive recreation uses such as trails or scientific uses and may require specific measures to protect resources such as fences or other barriers. The easement is recorded on a property deed, runs with the land, and is legally binding on all present and future owners of the property, therefore, providing permanent or long-term protection.

19.10.613 Cumulative impacts or effects – The combined, incremental effects of human activity on ecological or sensitive areas functions and values. Cumulative impacts result when the effects of an action are added to or interact with other effects or actions in a particular place and within a particular time.

19.10.614 Developable area – A site or portion of a site that may be utilized as the location of development, in accordance with the rules of this chapter.

19.10.615 Development – Any activity upon the land consisting of construction or alteration of structures, earth movement, dredging, dumping, grading, filling, mining, removal of any sand, gravel, or minerals, driving of piles, drilling operations, bulkheading, clearing of vegetation, or other land disturbance. Development includes the storage or use of equipment or materials inconsistent with the existing use. Development also includes approvals issued by the city that binds land to specific patterns of use, including but not limited to, subdivisions, short subdivisions, zone changes, conditional use permits, and binding site plans. Development activity does not include the following activities:

- A. Interior building improvements.
- B. Exterior structure maintenance activities, including painting and roofing.

- C. Routine landscape maintenance of established, ornamental landscaping, such as lawn mowing, pruning and weeding.
- D. Maintenance of the following *existing* facilities that does not expand the affected area: septic tanks (routine cleaning); wells; individual utility service connections; and individual cemetery plots in established and approved cemeteries.

19.10.616 *Development permit* – Any permit issued by the [city/county], or other authorized agency, for construction, land use, or the alteration of land.

19.10.617 *Erosion* – The process whereby wind, rain, water, and other natural agents mobilize and transport particles.

19.10.618 *Erosion hazard areas* – At least those areas identified by the United State Department of Agriculture National Resources Conservation Service as have a “severe” rill and inter-rill erosion hazard.

19.10.619 *Exotic* – Any species of plants or animals, which are foreign to the planning area.

19.10.620 *Fish habitat* – Habitat that provides the life supporting and reproductive needs of a species or life stage of fish. Although the habitat requirements of a species depend on its age and activity, the basic components of fish habitat in rivers, streams, ponds, lakes, and nearshore areas include, but are not limited to, the following:

- A. Clean water and appropriate temperatures for spawning, rearing, and holding;
- B. Adequate water depth and velocity for migrating, spawning, rearing, and holding, including off-channel habitat;
- C. Abundance of bank and in-stream structures to provide hiding and resting areas and stabilize stream banks and beds;
- D. Appropriate substrates for spawning and embryonic development. For stream and lake dwelling fishes, substrates range from sands and gravel to rooted vegetation or submerged rocks and logs. Generally, substrates must be relatively stable and free of silts or fine sand;
- E. Presence of riparian vegetation that creates a transition zone, which provides shade, and food sources of aquatic and terrestrial insects for fish;
- F. Unimpeded passage (i.e. due to suitable gradient and lack of barriers) for upstream and downstream migrating juveniles and adults.

19.10.621 *Flood or flooding* – A general and temporary condition of

partial or complete inundation of normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

19.10.622 Floodplain – The total land area adjoining a river, stream, watercourse or lake subject to inundation by the base flood.

19.10.623 Formation – An assemblage of earth materials grouped together into a unit that is convenient for description or mapping.

19.10.624 Functions and values – Functions are processes or attributes provided by areas of the landscape (e.g. wetlands, rivers, streams, and riparian areas) The beneficial roles served by sensitive areas including, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, ground water recharge and discharge, erosion control, wave attenuation, protection from hazards. Values are human perceptions of individual and social benefit associated with these functions and may include functional value for economic benefit, historical and archaeological value, aesthetic appreciation, educational, scientific, recreational or religious pursuits. These beneficial roles are not listed in order of priority.

19.10.625 Ground water – Water in a saturated zone or stratum beneath the surface of land or a surface water body.

19.10.626 Geologically Hazardous areas – Areas designated as geologically hazardous areas due to potential for erosion, landslide, seismic activity, mine collapse, or other geological condition.

19.10.627 Hazardous substances – Any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100.

19.10.628 Natural condition – Condition of the land, including flora, fauna, soil, topography, and hydrology that existed before the area and vicinity were developed or altered by human activity.

19.10.629 In-kind compensation – To replace sensitive areas with substitute areas whose characteristics and functions closely approximate those destroyed or degraded by a regulated activity. It does not mean replacement "in-category."

19.10.630 Isolated wetlands – Those wetlands that are outside of and not contiguous to any 100-year floodplain of a lake, river, or stream, and have no contiguous hydric soil or hydrophytic vegetation between the wetland and any surface water.

19.10.631 Infiltration – The downward entry of water into the immediate surface of soil.

19.10.632 Landslide hazard areas – Areas that are potentially subject to risk of mass movement due to a combination of geologic landslide resulting from a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, ground water, or other factors.

19.10.633 Monitoring – Evaluating the impacts of development proposals on the biological, hydrological, and geological elements of such systems and assessing the performance of required mitigation measures throughout the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features, and includes gathering baseline data.

19.10.634 Native growth protection area (NGPA) – An area where native vegetation is preserved for the purpose of preserving ecological functions or preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, buffering and protecting plants and animal habitat;

19.10.635 Native vegetation – Plant species that are indigenous to the area in question.

19.10.636 Natural waters – Waters, excluding water conveyance systems that are artificially constructed and actively maintained for irrigation.

19.10.637 Non-indigenous – See “exotic.”

19.10.638 Nonconforming –A use, development, structure or parcel that was lawfully constructed or established prior to the effective date of this code or amendments hereto, but which does not conform to present regulations or standards.

19.10.639 Off-site compensation – To replace sensitive areas away from the site on which a sensitive area has been impacted.

19.10.640 On-site compensation – To replace sensitive areas at or adjacent to the site on which a sensitive areas has been impacted.

19.10.641 Out-of-kind compensation – To replace sensitive areas with substitute sensitive areas whose characteristics do not closely approximate those destroyed or degraded. It does not refer to replacement "out-of-category."

19.10.642 Practical alternative – An alternative that is available and capable of being carried out after taking into consideration, cost, existing



technology, and logistics in light of overall project purposes, and having fewer impacts to sensitive areas.

19.10.643 Primary association area – The area used on a regular basis by, or is in close association with, or is necessary for the proper functioning of the habitat of a sensitive species. Regular basis means that the habitat area is normally, or usually known to contain a sensitive species, or based on known habitat requirements of the species, the area is likely to contain the sensitive species. Regular basis is species and population dependent. Species that exist in low numbers may be present infrequently yet rely on certain habitat types.

19.10.644 Priority habitat – Habitat type or elements with unique or significant value to one or more species as classified by the Department of Fish and Wildlife. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element (WAC 173-26-020(34)).

19.10.645 Project area – The area proposed to be disturbed, altered, or used by the proposed activity or the construction of any proposed structures. When the action binds the land, such as a subdivision, short subdivision, binding site plan, planned unit development, or rezone, the project area shall include the entire contiguous parcel owned or controlled by the applicant, at a minimum.

19.10.646 Qualified professional – A person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant sensitive area subject in accordance with WAC 365-195-905(4). A qualified professional must have obtained a B.S. or B.A. or equivalent degree in the relevant field, and two years of related work experience.

- A. A qualified professional for terrestrial or aquatic habitats must have a degree in biology and professional experience related to the subject species.
- B. A qualified professional for wetlands must have a degree in biology and professional experience related to wetlands and has passed a certification course.
- C. A qualified professional for a geological hazard must be a professional engineer or geologist, licensed in the state of Washington.
- D. A qualified professional for sensitive aquifer recharge areas means a hydrogeologist, geologist, engineer, or other scientist with experience in preparing hydrogeologic assessments.

19.10.647 Recharge – The process involved in the absorption and addition

of water to ground water.

19.10.648 *Relative density* – A method for evaluating the density of trees in relation to the theoretical maximum density for trees of the same size and species. It is preferable to a simple density (trees/acre) because it is a more accurate measure of occupied growing space and suppression mortality. Relative density equals the basal area of all trees in the stand divided by the square root of the quadratic mean diameter.

19.10.649 *Repair or maintenance* – An activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design and drain, dredge, fill, flood, or otherwise alter sensitive areas are not included in this definition.

19.10.650 *Restoration* – Measures taken to restore an altered or damaged natural feature including:

- A. Active steps taken to restore damaged or altered ecological conditions, wetlands, streams, protected habitat, or their buffers to the functioning condition that existed prior to an unauthorized alteration; and
- B. Actions performed to reestablish structural and functional characteristics of the sensitive area that have been lost by alteration, past management activities, or catastrophic events.

19.10.651 *Riparian habitat* – Areas adjacent to aquatic systems (stream, lake or pond) that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. Riparian areas include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., zone of influence). The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. Riparian habitat areas include those riparian areas altered due to human development activities.

19.10.652 *River* – See “Watercourse”

19.10.653 *Scientific process* – A valid scientific process is one that produces reliable information useful in understanding the consequences of a decision. The characteristics of a valid scientific process are as follows:

- A. **Peer review.** The information has been sensitively reviewed by other qualified scientific experts in that scientific discipline.

- B. **Methods.** The methods that were used are standardized in the pertinent scientific discipline or the methods have been appropriately peer-reviewed to assure their reliability and validity.
- C. **Logical conclusions and reasonable inferences.** The conclusions presented are based on reasonable assumptions supported by other studies and are logically and reasonably derived from the assumptions and supported by the data presented.
- D. **Quantitative analysis.** The data have been analyzed using appropriate statistical or quantitative methods.
- E. **Context.** The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.
- F. **References.** The assumptions, techniques, and conclusions are well referenced with citations to pertinent existing information.


19.10.654 Seismic hazard areas – Areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

19.10.655 Sensitive area tract – Land designated as a separate parcel and retained in an open condition in perpetuity for the protection of sensitive areas. Lands within this type of dedication may include sensitive areas and related buffers. Ownership may be vested in a private party, in undivided interest by lots in a subdivision, in a non-profit entity or a public entity.

19.10.656 Sensitive habitat- Habitat areas with which endangered, threatened, sensitive or monitored plant, fish, or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating). Such areas are identified herein with reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or 232-12-014; in the Priority Habitat and Species (PHS) program of the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with jurisdiction for such designations.

19.10.657 SEPA – Washington State Environmental Policy Act, Chapter 43.21C RCW.

19.10.658 Shorelands or shoreland areas – Those lands extending landward for two hundred feet (200 ft) in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and

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contiguous floodplain areas landward two hundred (200) feet from such floodways; and all wetlands and river deltas associated with the streams, lakes and tidal waters which are subject to the provisions of Chapter 90.58 RCW.

19.10.659 *Soil survey* – The most recent soil survey for the local area or county by the National Resources Conservation Service, U.S. Department of Agriculture.

19.10.660 *Species* – Any group of animals classified as a species or subspecies as commonly accepted by the scientific community.

19.10.661 *Species, endangered* – Any fish or wildlife species that is threatened with extinction throughout all or a significant portion of its range and is listed by the state or federal government as an endangered species.

19.10.662 *Species of local importance* – Those species of local concern due to their population status or their sensitivity to habitat manipulation, or that are game species.

19.10.663 *Species, priority* – Any fish or wildlife species requiring protective measures and/or management guidelines to ensure their persistence as genetically viable population levels as classified by the Department of Fish and Wildlife, including endangered, threatened, sensitive, candidate and monitor species, and those of recreational, commercial, or tribal importance.

19.10.664 *Species, threatened* – Any fish or wildlife species that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range without cooperative management or removal of threats, and is listed by the state or federal government as a threatened species.

19.10.665 *Stream* – See “Watercourse.”

19.10.666 *Sub-drainage basin or subbasin* – The drainage area of the highest order stream containing the subject property impact area. Stream order is the term used to define the position of a stream in the hierarchy of tributaries in the watershed. The smallest streams are the highest order (first order) tributaries. These are the upper watershed streams and have no tributaries of their own. When two first order streams meet, they form a second order stream, and when two second order streams meet they become a third order stream, and so on.

19.10.667 *Unavoidable* – Adverse impacts that remain after all appropriate and practicable avoidance and minimization have been achieved.

19.10.668 Water dependent – A use or portion of a use that cannot exist in a location that is not adjacent to the water, but is dependent on the water by reason of the intrinsic nature of its operations. A use that can be carried out only on, in, or adjacent to water. Examples of water dependent uses include ship cargo terminal loading areas; fishing; ferry and passenger terminals; barge loading, ship building, and dry docking facilities; marinas, moorage, and boat launching facilities; aquaculture; float plane operations; surface water intake; and sanitary sewer and storm drain outfalls.

19.10.669 Water resource inventory area (WRIA) – One of sixty-two (62) watersheds in the state of Washington, each composed of the drainage areas of a stream or streams, as established in Chapter 173-500 WAC on January 1, 1997, as amended hereafter.

19.10.670 Water table – That surface in an unconfined aquifer at which the pressure is atmospheric. It is defined by the levels at which water stands in wells that penetrate the aquifer just far enough to hold standing water.

19.10.671 Watercourse – Those areas where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the annual passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition includes drainage ditches or other artificial water courses where natural streams existed prior to human alteration, and/or the waterway is used by anadromous or resident salmonid or other fish populations.

19.10.672 Well – A bored, drilled or driven shaft, or a dug hole whose depth is greater than the largest surface dimension for the purpose of withdrawing or injecting water or other liquids.

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

the conversion of wetlands. For identifying and delineating a wetland, local government shall use the Washington State Wetland Identification and Delineation Manual.

19.10.674 Wetland edge – The boundary of a wetland as delineated based on the definitions contained in this chapter.

EXHIBIT A

FINDINGS OF FACT

A. General Sensitive Areas Findings

1. The Growth Management Act requires the adoption of development regulations that protect sensitive areas designated in accordance with RCW 36.70A.170.
2. RCW 36.70A.172 requires local governments to give special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries.
3. Development may result in cumulative impacts to those functions and values of sensitive areas that contribute to and are necessary for a healthy natural environment and perceived quality of life.
4. The development of residences, businesses, shopping areas and other structures, and the clearing of land for accommodation of livestock and for such development all have the potential of adversely and significantly impacting the functions and values of sensitive areas.
5. The unwise development of resource lands or areas susceptible to natural hazards may lead to inefficient use of limited public resources, jeopardize environmental resource functions and values, subject persons and property to unsafe conditions, and affect the perceived quality of life.
6. It is more costly to remedy the loss of sensitive area functions and values than to conserve and protect them from loss or degradation.
7. In determining what sensitive areas are to be afforded a particular degree of protection, the City of Black Diamond has evaluated a wide range of the best science available with

respect to the sensitive areas to make informed decisions that meet the intent of the Growth Management Act and that are also reflective of local needs. The sources of this best available science that were evaluated and included in this ordinance include the following:

August xx, 2008 Washington State Wetland Identification and Delineation Manual, (Ecology Publication #96-94 1997).

Washington State Wetland Rating System for Western Washington, (Ecology Publication #04-06-025).

Wetland Mitigation in Washington State – Part 2: Guidelines for Developing Wetland Mitigation Plans and Proposals, April 2004 (Ecology Publication #04-06-013b).

Appendix 8-B *Wetland Language in a Sensitive Areas Ordinance* (April 2005).

Appendix 8-C *Guidance on Buffers and Ratios—Western Washington* (April 2005).

Wetland Replacement Ratios: Defining Equivalency, (Washington State Department of Ecology, 1992, Publication #92-08).

Sensitive Areas Assistance Handbook (CTED November 2003).

Appendix A, Example Code Provisions for Designating and Protecting Sensitive Areas.

Management Recommendations for Washington's Priority Habitats: Riparian, Washington Department of Fish and Wildlife, 1997.

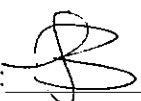
U.S. Geological Survey landslide hazard, seismic hazard, and volcano hazard maps.

Washington State Department of Natural Resources seismic hazard maps for Western Washington.

Washington State Department of Natural Resources slope stability maps.

Black Diamond Sensitive Areas Map.

8. Protection standards for one sensitive area often provide

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protection for one or more other sensitive areas.

9. Sensitive areas may also be protected by other actions by the City of Black Diamond, such as stormwater management standards, sensitive area restoration, and public education; and from other regulations, such as the Forest Practices Act, the Shoreline Management Act, and the State Environmental Policy Act.

B. Wetlands

1. Wetlands and streams are environmentally sensitive and serve numerous natural functions and values. These functions include: wildlife and fisheries habitat; water quality protection; flood protection; shoreline stabilization; stream flow; and ground water recharge and discharge. In many situations, these functions cannot be adequately replicated or replaced.
2. The scientific literature supports in the inclusion of protective buffers from wetlands to provide sediment control and nutrient inputs to wetlands, and to protect important wetland functions.
3. Wetlands are identified and rated according to the Washington State Wetland Identification and Delineation Manual and Washington State Wetland Rating System Western Washington, prepared by the Washington State Department of Ecology (Ecology).
4. The scientific literature supports protective buffers ranging from 25 to 300 feet of relatively intact native vegetation to adequately protect wetland functions and values.
5. Appropriate wetland mitigation ratios – ratios of areas of wetland replacement and enhancement to that altered or destroyed – are established in Wetland Mitigation Replacement Ratios: Defining Equivalency, published by Ecology, 1992.

C. Fish and Wildlife Habitat Conservation Areas

1. Fish and wildlife habitat conservation areas perform many important physical and biological functions that benefit the [jurisdiction] and its residents, including but not limited to: maintaining species diversity and genetic diversity; providing opportunities for food, cover, nesting, breeding and movement for fish and wildlife; serving as areas for recreation, education and scientific study and aesthetic appreciation; helping to maintain air and water quality; controlling erosion; and


providing neighborhood separation and visual diversity within urban areas.

2. Wetlands and streams are environmentally sensitive and serve numerous natural functions and values. These functions include: wildlife and fisheries habitat; water quality protection; flood protection; shoreline stabilization; stream flow; and ground water recharge and discharge. In many situations these functions cannot be adequately replicated or replaced.
3. The scientific literature supports in the inclusion of protective buffers from streams to provide sediment control, nutrient inputs to downstream waters, large woody debris, and other functions important to riparian areas.
4. The Washington Department of Fish and Wildlife (WDFW) has prepared management recommendations for the preservation of priority habitat and species, which are based on the best available science, and include, in some instances, recommended protective buffer distances.
5. Salmonid and anadromous fish may be more impacted by development and human activity during some times than others. Such times are referred to as "fish windows," which have been documented by WDFW.
6. DNR has classified watercourses according to a stream-typing system based on channel width, fish use, and perennial or intermittent status.
7. WAC 365-190-080(5) grants the City of Black Diamond the flexibility to make decisions in the context of local circumstances, and specifically excuses local jurisdictions from being required to protect "all individuals of all species at all time."

D. Geologically Hazardous Areas

1. Geologically hazardous areas are subject to periodic geological events that result in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2. Geologic hazards may be exacerbated by development and human activity in sensitive areas, and impacts resulting from geologic hazards may be reduced by limiting development and

- human activity within or adjacent to the geologic hazard.
3. Some geologic hazards may be intensified during periods of consistent or heavy rainfall that results in ground saturation or surface water drainage flows.

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