

CHAPTER 18.45 ENVIRONMENTALLY CRITICAL AREAS

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18.45.10 Purpose

A. The purpose of TMC Chapter 18.45 is to protect the environment, human life and property, designate and classify ecologically critical areas such as regulated wetlands and watercourses and geologically hazardous areas and to protect these areas and their functions while also allowing for reasonable use of public and private property. These regulations are prepared to comply with the Growth Management Act, RCW 36.70A, to apply best available science according to WAC 365-195-900 through 925 and to protect critical areas as defined by WAC 365- 190-080.

B. Standards are hereby established to meet the following goals of protecting environmentally critical areas:

1. Minimize developmental impacts on the natural functions of these areas.
2. Protect quantity and quality of water resources.
3. Minimize turbidity and pollution of wetlands and fish- bearing waters and maintain wildlife habitat.
4. Prevent erosion and the loss of slope and soil stability caused by the removal of trees, shrubs, and root systems of vegetative cover.
5. Protect the public against avoidable losses, public emergency rescue and relief operations cost, and subsidy cost of public mitigation from landslide, subsidence, erosion and flooding.
6. Protect the community's aesthetic resources and distinctive features of natural lands and wooded hillsides.
7. Balance the private rights of individual property owners with the preservation of environmentally critical areas.
8. Prevent the loss of wetland and watercourse function and acreage and strive for a gain over present conditions.

9. Give special consideration to conservation or protection measures necessary to protect or enhance anadromous fisheries.

10. Incorporate the use of best available science in the regulation and protection of critical areas as required by the State Growth Management Act, according to WAC 365-195-900 through 365-195-925 and WAC 365-190-080.

(Ord. 2301 §1 (part), 2010)

18.45.20 Best Available Science

A. Policies, regulations and decisions concerning critical areas shall rely on best available science to protect the functions of these areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish and their habitats.

B. Nonscientific information may supplement scientific information but is not an adequate substitution for valid and available scientific information.

C. Incomplete or unavailable scientific information leading to uncertainty for permitting critical area impacts may require application of effective adaptive management on a case by case basis. Adaptive management relies on scientific methods to evaluate how well regulatory or non-regulatory actions protect critical areas or replace their functions.

(Ord. 2301 §1 (part), 2010)

18.45.30 Critical Area Applicability, Maps, and Inventories

A. **APPLICABILITY** – The provisions of TMC Chapter 18.45 shall apply to all land uses and all development activities in a critical area or a critical area buffer as defined in the “Definitions” chapter of this title. The provisions of TMC Chapter apply whether or not a permit or authorization is required within the City of Tukwila. No person, company, agency, or applicant shall alter a critical area or buffer except as consistent with the purposes and requirements of TMC Chapter 18.45. The following are critical areas regulated by TMC Chapter 18.45:

1. Abandoned coal mines;
2. Areas of potential geologic instability: Class 2, 3, 4 areas (as defined in the Definitions chapter of this title and TMC 18.45.120.A);
3. Wetlands;
4. Watercourses;
5. Fish and Wildlife Habitat Conservation Areas; and
6. Special Hazard Flood Areas.

B. The Growth Management Act also identifies areas of seismic instability as critical areas. Areas of seismic instability are defined and regulated through the Washington State Building Code. See maps for designated areas of seismic instability.

C. The City shall not approve any permit or otherwise issue any authorization to alter the condition of critical area land, water or vegetation or to construct or alter any structure or improvement in, over, or on a critical area or its buffer, without first ensuring compliance with the requirements of TMC Chapter 18.45.

D. Approval of a permit or development proposal pursuant to the provisions of TMC Chapter 18.45 does not release the applicant from any obligation to comply with the provisions of TMC Chapter 18.45.

E. When TMC Chapter 18.45 imposes greater restrictions or higher standards upon the development or use of land than other laws, ordinances or restrictive covenants, the provisions of TMC Chapter 18.45 shall prevail.

F. It is the obligation of the property owner to comply with all relevant provisions of this Code.

G. CRITICAL AREAS MAPS AND INVENTORIES

1. The distribution of many critical areas in Tukwila is displayed on the Critical Areas Maps, on file with the Department of Community Development (DCD). These maps are based on site assessment of current conditions and review of the best available scientific data and are hereby adopted by reference. Not all critical areas are shown on the map, it is the applicant’s responsibility to verify actual presence or absence of a critical area or critical area buffer based on the definitions in this code.

2. Studies, preliminary inventories and ratings of potential critical areas are on file with the Department of Community Development.

3. As new environmental information related to critical areas becomes available, the Director is hereby designated to periodically add new information to the Critical Areas Maps. Removal of any information from the critical area maps is a Type 1 decision.

4. All revisions, updates and reprinting of critical areas maps, inventories, ratings and buffers shall conform to TMC Chapter 18.45.

(Ord. 2301 §1 (part), 2010)

18.45.40 Critical Areas Special Studies

A. **Application Required.** An applicant for a development proposal within a parcel that may include a critical area and/or its buffer shall submit those studies as required by the City and specified below to adequately identify and evaluate the critical area and its buffers.

1. A required critical area study shall be prepared by a person with experience and training in the scientific discipline appropriate for the relevant critical area in accordance with WAC 365-195-905(4). A qualified professional must have obtained a B.S. or B.A. or equivalent degree in ecology or related science, environmental studies, fisheries, geotechnical or related field, and two years of related work experience.

a. A qualified professional for Fish and Wildlife Habitat Conservation Areas must have a degree in ecology or related sciences and professional experience related to the subject species.

b. A qualified professional for wetland critical area studies must be a certified Professional Wetland Scientist or a Wetland Scientist with at least two years of full-time work experience as a wetlands professional, including delineating wetlands using the approved federal manual and applicable regional supplements, preparing wetland reports, conducting functional assessments, and developing and implementing mitigation plans.

c. A qualified professional for a geological hazard study must be a professional geotechnical engineer as defined in the Definitions chapter of this title, licensed in the state of Washington.

d. A qualified professional for watercourses and frequently flooded areas means a hydrologist, fisheries biologist, engineer or other scientist with experience in preparing watercourse assessments.

2. The critical area study shall use scientifically valid methods and studies in the analysis of critical area data and shall use field reconnaissance and reference the source of science used. The critical area study shall evaluate the proposal and all probable impacts to critical areas in accordance with the provisions of TMC Chapter 18.45.

B. **Wetland and Watercourse Critical Area Studies.** The critical area study shall contain the following information, as applicable:

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 showing: critical areas and buffers and the development proposal with dimensions, clearing limits, proposed storm water management plan, and mitigation plan for impacts due to drainage alterations;

3. The dates, names and qualifications of the persons preparing the study and documentation of any fieldwork performed on the site;

4. Identification and characterization of all critical areas, water bodies, and buffers on or adjacent to the proposed project area or potentially impacted by the proposed project as described in the following sections:

a. Characterization of wetlands must include:

(1) A wetland delineation report that includes methods used, field indicators evaluated and the results. Wetland delineation must be performed in accordance with approved federal wetland delineation manual and current applicable regional supplements. Field data forms are to be included in the report. Data collection points are to be shown on the site plan with their corresponding numbers indicated. After the City of Tukwila confirms the boundaries, they are to be professionally surveyed to the nearest square foot and the site plan modified as necessary to incorporate the survey data. Exact wetland acreage will be calculated after the boundaries have been surveyed. Applicant must submit electronic data at the time of as-built submittal.

(2) Cowardin (Classification of Wetlands and Deepwater Habitats of the U.S. – U.S. Department of Interior) classification of the wetland(s).

(3) Hydrogeomorphic classification of the wetland(s).

(4) Hydroperiod.

(5) Brief landscape assessment of the wetland (identify hydrologic basin/sub-basin; inlets, outlets; surrounding land use; habitat quality and connectivity; ultimate point of discharge; presence of culverts or other constraints to flow; relationship to other wetlands/watercourses adjacent to or potentially impacted by the proposed project).

(6) Description of buffer size per this chapter, conditions (topographic considerations, existing vegetation types and density, habitat features, watercourse edges, presence of invasive species, etc.) and functions.

(7) Assessment. For proposed wetland filling or proposed projects that will impact buffers the Washington Wetland Classification System (2014 or most current) shall be used as a functional assessment.

b. Characterization of the watercourses on site or adjacent areas potentially impacted by the proposed project must include:

(1) Description of: flow regime, physical characteristics of streambed, banks, dimensions and bank-full width, stream gradient, stream and buffer vegetation conditions, habitat conditions, and existing modifications.

(2) Brief landscape assessment of the watercourse (identify hydrologic basin/sub-basin, and contributing basin area acreage, outlets, surrounding land use, habitat quality and connectivity, ultimate point of discharge, presence of culverts or other constraints to flow, presence of man-made or natural barriers to fish passage, relationship to wetlands or other watercourses adjacent to or potentially impacted by the proposed project, flow regime).

(3) Classification of the watercourse under Tukwila's rating system.

(4) Description of buffer size per this chapter, conditions (topographic considerations, existing vegetation types and density, habitat features, watercourse edges, presence of invasive species, etc.) and functions.

(5) Description of habitat conditions, wildlife/fish use of the watercourse, including sensitive, threatened or endangered species.

c. Citation of any literature or other resources utilized in preparation of the report.

5. A statement specifying the accuracy of the study and assumptions used in the study.

6. Determination of the degree of hazard and risk from the proposal both on the site and on adjacent properties.

7. An assessment of the probable cumulative impacts to critical areas, their buffers and other properties resulting from the proposal.

8. A description of reasonable efforts made to apply mitigation sequencing to avoid, minimize and mitigate impacts to critical areas.

9. Plans for adequate mitigation to offset any impacts.

10. Recommendations for maintenance, short-term and long-term monitoring, contingency plans and bonding measures.

11. Any technical information required by the Director to assist in determining compliance with TMC Chapter 18.45.

12. Wetland and Watercourse special studies are valid for five years following the date of the study, unless otherwise determined by the director.

C. **GEOTECHNICAL REPORT –**

1. A geotechnical report appropriate both to the site conditions and the proposed development shall be required for development in Class 2, Class 3, Class 4 areas, and any areas identified as Coal Mine Hazard Areas.

2. Geotechnical reports for Class 2 areas shall include at a minimum a site evaluation review of available information regarding the site and a surface reconnaissance of the site and adjacent areas potentially impacted by the proposed project. Subsurface exploration of site conditions is at the discretion of the geotechnical consultant.

3. Geotechnical reports for Class 3, Class 4 and Coal Mine Hazard Areas shall include a site evaluation review of available information about the site, a surface reconnaissance of the site and adjacent areas potentially impacted by the proposed project, a feasibility analysis for the use of infiltration on-site and a subsurface exploration of soils and hydrology conditions. Detailed slope stability analysis shall be done if the geotechnical engineer recommends it in Class 3 or Coal Mine Hazard Areas and must be done in Class 4 areas.

4. Applicants shall retain a geotechnical engineer to prepare the reports and evaluations required in this subsection. The geotechnical report and completed site evaluation checklist shall be prepared in accordance with the generally accepted geotechnical practices, under the supervision of and signed and stamped by the geotechnical engineer. The report shall be prepared in consultation with the Community Development and Public Works Departments.

5. The opinions and recommendations contained in the report shall be supported by field observations and, where appropriate or applicable, by literature review conducted by the geotechnical engineer which shall include appropriate explorations, such as borings or test pits, and an analysis of soil characteristics conducted by or under the supervision of the engineer in accordance with standards of the American Society of Testing and Materials or other applicable standards. If the evaluation involves geologic evaluations or interpretations, the report shall be reviewed and approved by a geotechnical engineer.

D. CRITICAL AREA STUDY - MODIFICATIONS TO REQUIREMENTS –

1. The Director may limit the required geographic area of the critical area study as appropriate if the applicant, with assistance from the City, cannot obtain permission to access properties adjacent to the project area.

2. The Director may allow modifications to the required contents of the study where, in the judgment of a qualified professional, more or less information is required to adequately address the potential critical area impacts and required mitigation.

E. REVIEW OF STUDIES – The Department of Community Development will review the information submitted in the critical area study to verify the information, confirm the nature and type of the critical area, and ensure the study is consistent with TMC Chapter 18.45. At the discretion of the Director, critical area studies may undergo peer review, at the expense of the applicant. Public Works Department shall seek a peer review of the geotechnical report on Class 3 and 4 slopes; and peer review on Class 2 slopes may be required at the discretion of the Public Works Director.

(Ord. 2368 § 47, 2012; Ord. 2301 §1 (part), 2010)

18.45.70 Critical Area Permitted Activities

A. General Activities. The following activities are outright permitted subject to the provisions of TMC Chapter 21.04 and of the mitigation requirements of this chapter, if applicable:

1. Maintenance and repair of existing facilities provided no alteration or additional fill materials will be placed or heavy construction equipment used in the critical area or buffer.

2. Site exploration or research that does not include use of heavy equipment or native vegetation removal.

3. Maintenance and repair of essential streets, roads, rights-of-way, or utilities. New fiberoptic utilities within existing improved and paved road are also permitted under this category.

4. Actions to remedy the effects of emergencies that threaten the public health, safety or welfare.

5. Maintenance activities of existing landscaping and gardens in a critical area buffer including, but not limited, to mowing lawns, weeding, harvesting and replanting of garden crops and pruning and planting of vegetation. This provision does not apply to removal of established native trees and shrubs. Excavation, filling, and construction of new landscaping features, such as concrete work, berms and walls, are not covered in this provision.

6. Voluntary native revegetation and/or removal of invasive species that does not include use of heavy equipment or herbicide.

B. PERMITTED ACTIVITIES SUBJECT TO ADMINISTRATIVE REVIEW. The following uses may be permitted only after administrative review (Type 2 Special Permission application) and approval by the Director:

1. Maintenance and repair of existing uses and facilities where alteration or additional fill materials will be placed, or heavy construction equipment used.

2. New surface water discharges to critical areas or their buffers from detention facilities, pre-settlement ponds or other surface water management structures may be allowed provided that the discharge meets the clean water standards of RCW 90.48 and WAC 173.200 and 173.201 as amended and does not adversely affect wetland hydrology or watercourse flow. Water quality monitoring may be required as a condition of use.

3. Construction of bioswales and dispersion trenches are the only storm water facilities allowed in wetland or watercourse buffers. Water quality monitoring may be required as a condition of use

4. Enhancement or other mitigation including landscaping with native plants that requires heavy equipment.

5. Construction of Essential Utilities if designed to protect the critical area and its buffer against erosion, uncontrolled storm water, restriction of groundwater movement, slides, pollution, habitat disturbance, any loss of flood carrying capacity and storage capacity, and excavation or fill detrimental to the environment.

6. Essential Public Streets, Roads and Rights-of-Way as defined by TMC 18.06.285, provided the following criteria are met:

a. Are designed and maintained to prevent erosion and avoid restricting the natural movement of groundwater.

b. Are located to conform to the topography so that minimum alteration of natural conditions is necessary. The number of crossings shall be limited to those necessary to provide essential access.

c. Are constructed in a way that does not adversely affect the hydrologic quality of the wetland or watercourse and/or its buffer. Where feasible, crossings must allow for combination with other essential utilities.

7. Public/Private Use and Access

a. Public and private access shall be limited to trails, boardwalks, covered or uncovered viewing and seating areas, footbridges only if necessary for access to other areas of the property, and displays (such as interpretive signage or kiosks), and must be located in areas that have the lowest sensitivity to human disturbance or alteration. Access features shall be the minimum dimensions necessary to avoid adverse impacts to the critical area. Trails shall be no wider than 5 feet and are only allowed in the outer 25 percent of the buffer, except for allowed wetland or stream crossings. Crossings and trails must be designed to avoid adverse impacts to critical area functions. The Director may require mechanisms to limit or control public access when environmental conditions warrant (such as temporary trail closures during wildlife breeding season or migration season).

b. Public access must be specifically developed for interpretive, educational or research purposes by, or in cooperation with, the City or as part of the adopted Tukwila Parks and Open Space Plan. Private footbridges are allowed only for access across a critical area that bisects the property.

c. No motorized vehicle is allowed within a critical area or its buffer except as required for necessary maintenance, agricultural management or security.

d. Any public access or interpretive displays developed along a critical area and its buffer must, to the extent possible, be connected with a park, recreation or open-space area.

e. Vegetative edges, structural barriers, signs or other measures must be provided wherever necessary to protect critical areas and their buffers by limiting access to designated public use or interpretive areas.

f. Access trails and footbridges must incorporate design features and materials that protect water quality and allow adequate surface water and groundwater movement. Trails must be built of permeable materials.

g. Access trails and footbridges must be located where they do not disturb nesting, breeding and rearing areas and must be designed so that sensitive plant and critical wildlife species are protected. Trails and footbridges must be placed so as to not cause erosion or sedimentation, destabilization of watercourse banks, interference with fish passage or significant removal of native vegetation. Footbridges must be anchored to prevent their movement due to water level or flow fluctuations. Any work in the wetland or stream below the OHWM will require additional federal and state permits.

8. Dredging, Digging or Filling may occur within a critical area or its buffer only with the permission of the Director provided it meets mitigation sequencing requirements and is permitted under TMC 18.45.90 (alteration of wetland) or TMC 18.45.110 (alteration of watercourse); TMC 18.45.100 (areas of geologic instability). Dredging, digging or filling shall only be permitted for flood control, improving water quality and habitat enhancement unless otherwise permitted by TMC 18.45.

(Ord. 2301 §1 (part), 2010)

18.45.075 Mitigation Sequencing

A. Applicants shall demonstrate that reasonable efforts have been examined with the intent to avoid and minimize impacts to critical areas and critical area buffers. When an alteration to a critical area or its required buffer is proposed, such alteration shall be avoided, minimized or compensated for in the following order of preference:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;

2. Minimizing critical area or critical area buffer impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

3. Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
6. Monitoring the impact and taking appropriate corrective measures.

18.45.80 Wetlands Designations, Ratings and Buffers

A. WETLAND DESIGNATIONS.

1. For the purposes of TMC Chapter 18.45, "wetlands" and "regulated wetlands" are defined in the Definitions chapter of this title. A wetland boundary is the line delineating the outer edge of a wetland established in accordance with the approved federal wetland delineation manual and applicable regional supplement.

2. Wetland determinations and delineation of wetland boundaries shall be made by a qualified professional, as described in TMC Section 18.45.040.

3. Wetland determinations and delineation of wetland boundaries must be conducted within no more than five years prior to the date of permit application.

B. WETLAND RATINGS – *Wetlands shall be designated in accordance with the Washington State Wetlands Rating System for Western Washington, (Washington State Department of Ecology, 2014, Publication # 14-06-029); or as otherwise amended by Ecology as Category I, II, III, or IV as listed below:*

C. WETLAND BUFFERS –

1. Purpose. The purpose of the buffer area shall be to protect the integrity and functions of the wetland area. Any land alteration must be located out of the buffer areas as required by this section. Wetland buffers are intended in general to:

- a. Minimize long-term impacts of development on properties containing wetlands;
- b. Protect wetlands from adverse impacts during development;
- c. Preserve the edge of the wetland and its buffer for its critical habitat value;
- d. Provide an area to stabilize banks, to absorb overflow during high water events and to allow for slight variation of aquatic system boundaries over time due to hydrologic or climatic effects;
- e. Reduce erosion and increased surface water runoff;
- f. Reduce loss of or damage to property;
- g. Intercept fine sediments from surface water runoff and serve to minimize water quality impacts; and
- h. Protect the critical area from human and domestic animal disturbances.

D. BUFFER REQUIREMENTS– Buffer widths in Table 18.45.080-1 have been established in accordance with the best available science. They are based on the category of wetland and the habitat score.

Table 18.45.080-1 Wetland Buffer Widths

Category	Wetland buffer width (ft), Ecology 2014, high-intensity land use impact					
	Habitat score <6	Habitat score ≤6	Habitat score 6-7	Habitat score 6-7	Habitat score 8-9	Habitat score 8-9
	Standard Buffer	Alternate Buffer if impact minimization measures taken AND buffer is replanted	Standard Buffer	Alternate Buffer if impact minimization measures taken AND buffer is replanted. Also, 100 feet vegetated corridor between wetland and any nearby Priority Habitats is maintained (see footnote 1)	Standard Buffer	Alternate Buffer if impact minimization measures taken AND buffer is replanted. Also, 100 feet vegetated corridor between wetland and any nearby Priority Habitats is maintained. (see footnote 1)
I	100	75	150	110	300	225
II	100	75	150	110	300	225
III	80	60	150	110	300	225
IV	50	40	50	40	50	40

1. A relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and any nearby Priority Habitats as defined by the Washington State Department of Fish and Wildlife. The corridor must be protected for the entire distance between the wetland and the Priority Habitat by some type of legal protection such as a conservation easement. Presence or absence of a nearby habitat must be confirmed by a qualified biologist. If no option for providing a corridor is available, Table 18.45.080-1 may be used with the required measures in Table 18.45.080-2 alone.

Table 18.45.080-2 Required Measures to Minimize Impacts to Wetlands

Disturbance	Required Measures to Minimize Impacts
Lights	<ul style="list-style-type: none"> • Direct lights away from wetland
Noise	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10' heavily vegetated buffer strip immediately adjacent to the outer wetland buffer
Toxic runoff	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 feet of wetland • Apply integrated pest management

Disturbance	Required Measures to Minimize Impacts
Stormwater runoff	<ul style="list-style-type: none"> • Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer • Use Low Intensity Development (LID) techniques where appropriate (for more information refer to the drainage ordinance and manual)
Change in water regime	<ul style="list-style-type: none"> • Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	<ul style="list-style-type: none"> • Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion • Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	<ul style="list-style-type: none"> • Use best management practices to control dust

E. **BUFFER SETBACKS** –

1. All commercial and industrial buildings shall be set back 15 feet and all other development shall be set back 10 feet from the buffer's edge. The building setbacks shall be measured from the foundation to the buffer's edge. Building plans shall also identify a 20-foot area beyond the buffer setback within which the impacts of development will be reviewed.

2. The Director may waive setback requirements when a site plan demonstrates there will be no impacts to the buffer from construction or occasional maintenance activities (see TMC Figure 18-2)

F. **VARIATION OF STANDARD WETLAND BUFFER WIDTH** –

1. **Buffer averaging** may be allowed by the Director as a Type 2 permit if the following criteria is met, and so long as the total area of the buffer after averaging is equal to the area required without averaging and the buffer at its narrowest point is never less than either $\frac{3}{4}$ of the required width or 75 feet for Category I and II, 50 feet for Category III, and 25 feet for Category IV, whichever is greater.

a. The wetland has significant differences in characteristics that affect its habitat functions, and the buffer is increased adjacent to the higher-functioning area of habitat or more-sensitive portion of the wetland and decreased adjacent to the lower-functioning or less-sensitive portion as demonstrated by a critical areas report from a qualified wetland professional.

b. There are no feasible alternatives to the site design that could be accomplished without buffer averaging, and the averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a critical areas report.

c. Compliance with mitigation sequencing requirements.

d. Compliance with TMC 18.45 Vegetation Protection and Management section.

e. Submittal of buffer enhancement plan, mitigation monitoring and maintenance plan along with financial guarantee in accordance with TMC 18.45.

2. **Interrupted Buffer:** Waiver for interrupted buffer may be allowed by the Director as a Type 2 permit if it complies with the following:

a. The buffer is interrupted by a paved public or private road; legally constructed buildings; or legally approved parking lots. This waiver does not apply to accessory structures such as sheds and garages.

b. The existing legal improvement creates a substantial barrier to the buffer function;

c. The interrupted buffer does not provide additional protection of the critical area from the proposed development; and

d. The interrupted buffer does not provide significant hydrological, water quality and wildlife functions.

This waiver does not apply if large trees or other significant native vegetation exists.

e. Enhancement of remaining buffer is required if feasible.

3. Buffers for all types of wetlands will be increased when they are determined to be particularly sensitive to disturbance or the proposed development will create unusually adverse impacts. Any increase in the width of the buffer shall be required only after completion of a wetland study by a qualified wetland professional or expert that documents

the basis for such increased width. An increase in buffer width may be appropriate when:

- a. The development proposal has the demonstrated potential for significant adverse impacts upon the wetland that can be mitigated by an increased buffer width; or;
- b. The area serves as a habitat for endangered, threatened, sensitive or monitor species listed by the federal government or the State.

(Ord. 2368 §48, 2012; Ord. 2301 §1 (part), 2010)

18.45.90 Wetlands Uses, Alterations and Mitigation

A. No use or development may occur in a wetland or its buffer except as specifically allowed by TMC Chapter 18.45. Any use or development allowed is subject to review and approval by the Director. Where required, a mitigation plan must be developed and must comply with the standards of mitigation required in TMC Chapter 18.45. Where unauthorized alterations occur within a critical area or its buffer, the City will require the applicant to submit a critical area study, that includes mitigation, subject to approval. The applicant shall be responsible for implementing the mitigation and for additional penalties as determined by the Director. In addition, federal and/or state authorization is required for direct impacts to waters of the United States or the State of Washington.

B. ALTERATIONS–

1. Alterations to wetlands are discouraged and are limited to the minimum necessary for project feasibility. Requests for alterations must be accompanied by a mitigation plan, are subject to Director approval, and may be approved only if the following findings are made:

- a. Complies with mitigation sequencing requirements.
- b. The alteration will not adversely affect water quality;
- c. The alteration will not adversely affect fish, wildlife, or their habitat;
- d. The alteration will not have an adverse effect on drainage and/or storm water detention capabilities;
- e. The alteration will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
- f. The alteration will not be materially detrimental to any other property; and
- g. The alteration will not have adverse effects on any other critical areas.
- h. Complies with the maintenance and monitoring section.

2. Alterations are not permitted to Category I and II wetlands unless specifically exempted under the provisions of TMC Chapter 18.45.

3. Alterations to Category III and IV wetlands are allowed only where unavoidable and adequate mitigation is carried out in accordance with the standards of this section.

4. Alterations to isolated Category IV wetlands less than 1,000 square feet in size that meet all of the following conditions are allowed where adequate mitigation is carried out in accordance with the standards of this section:

- a. They are not associated with a riparian corridor,
- b. They are not associated with shorelines of the state or their associated buffers,
- c. They are not part of a wetland mosaic;
- d. They do not contain habitat identified as essential for local populations of priority species identified by the Washington State Department of Fish and Wildlife, and
- e. They do not score 6 points or greater for habitat in the Western Washington Wetland Rating System.

C. MITIGATION STANDARDS.

1. Types of Wetland Mitigation:

a. Mitigation for wetlands shall follow the mitigation sequencing steps in this chapter and may include the following types of actions in order of decreasing preference:

(1) Restoration:

i. Re-establishment. The manipulation of the physical, chemical or biological characteristics of a site with the goal of restoring wetland functions to a former wetland, resulting in a net increase in wetland acres and functions;

ii. Rehabilitation. The manipulation of the physical, chemical or biological characteristics of a site with the goal of repairing historic functions and processes of a degraded wetland, resulting in a gain in wetland

functions but not acreage;

(2) Creation (establishment) The manipulation of the physical, chemical or biological characteristics to develop a wetland on an upland or deepwater site, where a biological wetland did not previously exist;

(3) Enhancement. The manipulation of the physical, chemical or biological characteristics to heighten, intensify, or improve specific functions (such as vegetation) or to change the growth stage or composition of the vegetation present, resulting in a change in wetland functions but not in a gain in wetland acreage.

(4) A combination of the three types.

b. Required mitigation ratios are described in TMC Section 18.45.090.E.1.b.(1). Alternate mitigation ratios may be accepted by the Director upon presentation of justification based on best available science that shows the proposed compensation represents a roughly proportional exchange for the proposed impacts.

(1) Alterations are not permitted to Category I or II wetlands unless specifically exempted under the provisions of this program. When alterations are allowed, mitigation ratios for Category I wetlands shall be at a 4:1 for creation or re-establishment, 8:1 for rehabilitation, and 16:1 for enhancement. Mitigation ratios for Category II wetlands shall be at 3:1 for creation or re-establishment, 6:1 for rehabilitation and 12:1 for enhancement. Creation or re-establishment shall be contiguous to the wetland, unless an exception is authorized by the Director. For Category II estuarine wetlands, re-establishment, creation and enhancement ratios will be decided on a case-by-case basis.

(2) Alterations to Category III wetlands are prohibited except where unavoidable and mitigation sequencing in accordance with this chapter has been utilized and where mitigation is carried out in accordance with the standards in the section. Mitigation for any alteration to a Category III wetland must be provided at a ratio of 2:1 for creation or re-establishment, 4:1 for rehabilitation and 8:1 for enhancement alone.

(3) Mitigation for alteration to a Category IV wetland will be 1.5:1 for creation or re-establishment, 3:1 for rehabilitation or 6:1 for enhancement. Where only a portion of a Category IV wetland is filled, the potential functionality of the remaining reduced wetland must be considered in mitigation planning.

(4) Mitigation for alteration to wetland buffers will be 1:1.

c. The following shall be considered the minimum performance standards for approved wetland alterations:

(1) Wetland functions improved over those of the original conditions.

(2) Hydrologic conditions and hydroperiods are improved over existing conditions and the specific hydrologic performance standards specified in the approved mitigation plan are achieved.

(3) Acreage requirements for creation, re-establishment, rehabilitation or enhancement and for proposed wetland classes are met.

(4) Vegetation native to the Pacific Northwest is installed and vegetation survival and coverage standards over time are met and maintained.

(5) Habitat features are installed, if habitat is one of the functions to be improved.

(6) Buffer and bank conditions and functions exceed the original state.

d. Maintenance and monitoring of mitigation shall be done by the property owner for a period of no less than five years and for ten years when the mitigation plan includes establishing forested wetland and/or buffers. Maintenance shall be carried out in accordance with the approved mitigation plan. Monitoring reports must be submitted to the City for review with the frequency specified in the approved mitigation plan.

D. WETLAND AND BUFFER MITIGATION LOCATION.

1. In instances where portions of a wetland or wetland buffer impacted by development remain after buffer averaging, mitigation for buffer impacts shall be provided on-site, if feasible. Where an essential public road, street or right-of-way or essential public utility cannot avoid buffer alterations, buffer enhancement must be carried out at other locations around the impacted wetland.

2. On-site mitigation for wetland impacts shall be provided, except where the applicant can demonstrate that:

a. On-site wetland mitigation is not scientifically feasible due to problems with hydrology, soils, waves or other factors; or

b. Mitigation is not practical due to potentially adverse impact from surrounding land uses; or

c. Existing functions created at the site of the proposed restoration are significantly greater than lost wetland functions ; or

d. Regional goals for flood storage, flood conveyance, habitat or other wetland functions have been established and strongly justify location of mitigation at another site.

3. Purchase of mitigation credits through mitigation banks and in lieu fee programs is preferred over permittee responsible offsite mitigation.

4. The Community Development Director may approve, through a Type 2 decision, the transfer of wetland mitigation to a wetland mitigation bank or in-lieu fee program using the criteria in 3.a. through 3.f. below. Wetland mitigation bank credits shall be determined by the certified mitigation banking or in-lieu fee instrument.

a. Off-site mitigation is proposed in a wetland mitigation bank that has been approved by all appropriate agencies, including the Department of Ecology, Corps of Engineers, EPA and certified under state rules; and

b. The proposed wetland alteration is within the designated service area of the wetland bank; and

c. The applicant provides a justification for the number of credits proposed; and

d. The mitigation achieved through the number of credits required meets the intent of TMC Chapter 18.45; and

e. The Director bases the decision on a written staff report, evaluating the equivalence of the lost wetland functions with the number of wetland credits required; and

f. The applicant provides a copy of the wetland bank ledger demonstrating that the approved number of credits has been removed from the bank.

5. Where off-site mitigation location is proposed it shall comply with the following criteria:

a. Mitigation sites located within the Tukwila City limits are preferred

b. Mitigation bank or in-lieu fee option is not feasible.

c. The proposed mitigation will not alter or increase buffers on adjacent properties without their permission.

6. The Director may approve permittee-responsible offsite mitigation sites outside the city upon finding that:

(1) Adequate measures have been taken to ensure the non-development and long-term viability of the mitigation site; and

(2) Adequate coordination with the other affected local jurisdiction has occurred.

(3) applicants shall select a site in a location where the targeted functions can reasonably be performed and sustained and shall pursue sites in the following order of preference:

Sites within the immediate drainage sub-basin;

Sites within the next higher drainage sub-basin; and

Sites within Green/Duwamish River basin.

E. **MITIGATION TIMING** – Mitigation projects shall be completed prior to activities that will permanently disturb wetlands and either prior to or immediately after activities that will temporarily disturb wetlands. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife, flora and water quality, and shall be completed prior to use or occupancy of the activity or development. The Director may allow activities that permanently disturb wetlands prior to implementation of the mitigation plan under the following circumstances:

1. To allow planting or re-vegetation to occur during optimal weather conditions;

2. To avoid disturbance during critical wildlife periods; or

3. To account for unique site constraints that dictate construction timing or phasing.

(Ord. 2301 §1 (part), 2010)

F. **WETLAND MITIGATION PLAN CONTENT.**

1. The mitigation plan shall be developed as part of a critical area study by a qualified professional. Wetland and/or buffer alteration or relocation may be allowed only when a mitigation plan clearly demonstrates that the changes would be an improvement of wetland and buffer quantitative and qualitative functions. The plan shall show how water quality, habitat, and hydrology would be improved.

2. The scope and content of a mitigation plan shall be decided on a case-by-case basis taking into account

the degree of impact and the extent of the mitigation measures needed. As the impacts to the critical area increase, the mitigation measures to offset these impacts will increase in number and complexity.

3. For wetlands, the format of the mitigation plan should follow that established in Wetland Mitigation in Washington State, Part 2 – Developing Mitigation Plans (Washington Department of Ecology, Corps of Engineers, EPA, March 2006 or as amended).

4. The components of a complete mitigation plan are as follows:

a. Baseline information of quantitative data collection or a review and synthesis of existing data for both the project impact zone and the proposed mitigation site.

b. Environmental goals and objectives that describe the purposes of the mitigation measures. This should include a description of site selection criteria, identification of target evaluation species and resource functions.

c. Performance standards of the specific criteria for fulfilling environmental goals and for beginning remedial action or contingency measures. They may include water quality standards, species richness and diversity targets, habitat diversity indices, or other ecological, geological or hydrological criteria.

d. A detailed construction plan of the written specifications and descriptions of mitigation techniques. This plan should include the proposed construction sequence, construction management and tree protection and be accompanied by detailed site diagrams and blueprints that are an integral requirement of any development proposal.

e. A monitoring and/or evaluation program that outlines the performance standards and methods for assessing whether those performance standards are achieved during the specified monitoring period, at least 5 years. At a minimum, the monitoring plan should address vegetative cover, survival, and species diversity. Any project that alters the dimensions of a wetland or creates a new wetland shall also monitor wetland hydrology. An outline shall be included that spells out how the monitoring data will be evaluated by agencies that are tracking the mitigation project's progress.

f. Contingency plan identifying potential courses of action and any corrective measures to be taken when monitoring or evaluation indicates project performance standards have not been met..

g. Performance security or other assurance devices as described in TMC Section 18.45.210.

18.45.100 Watercourse Designations, Ratings and Buffers

A. **WATERCOURSE RATINGS.** Watercourse ratings are consistent with the Washington Department of Natural Resources water typing categories (WAC 222-16-030) or as amended, which are based on the existing habitat functions and classified as follows:

1. Type S Watercourse: Watercourses inventoried as Shorelines of the State, under RCW 90.58. These watercourses shall be regulated under TMC Chapter 18.44, Shoreline Overlay.

2. Type F Watercourse: Those watercourses that are known to be used by fish or meet the physical criteria to be potentially used by fish (as established in WAC 222-16-031(3) or as amended) and that have perennial (year-round) or seasonal flows.

3. Type Np Watercourse: Those watercourses that have perennial flows and do not meet the criteria of a Type F stream or have been proven not to contain fish using methods described in the Forest Practices Board Manual Section 13.

4. Type Ns Watercourse: Those watercourses that have intermittent flows (do not have surface flow during at least some portion of the year) ; do not meet the physical criteria of a Type F watercourse; or have been proven to not support fish using methods described in the Forest Practices Board Manual Section 13.

B. **WATERCOURSE BUFFERS** – Any land alteration must be located out of the buffer areas as required by this section. Watercourse buffers are intended in general to:

1. Minimize long-term impacts of development on properties containing watercourses;
2. Protect the watercourse from adverse impacts during development;
3. Preserve the edge of the watercourse and its buffer for its critical habitat value;
4. Provide shading to maintain stable water temperatures and vegetative cover for additional wildlife habitat;
5. Provide input of organic debris and uptake of nutrients;
6. Provide an area to stabilize banks, to absorb overflow during high water events and to allow for slight variation of aquatic system boundaries over time due to hydrologic or climatic effects;
7. Reduce erosion and increased surface water runoff;

8. Reduce loss of, or damage to, property;
9. Intercept fine sediments from surface water runoff and serve to minimize water quality impacts; and
10. Protect the critical area from human and domestic animal disturbance.

An undisturbed and high quality critical area or buffer may substitute for the yard setback and landscape requirements of TMC Chapter 18.50 and 18.52.

C. **WATERCOURSE BUFFER WIDTHS** – The following buffer widths, measured from the Ordinary High Water Mark (OHWM), apply to each side of a watercourse. If the OHWM cannot be determined, then the buffer will be measured from the top of bank:

1. Type S Watercourse: Regulated under TMC Chapter 18.44, Shoreline Overlay.
2. Type F Watercourse: 100-foot-wide buffer.
3. Type Np Watercourse: Standard 80-foot-wide buffer; alternate buffer in the 50-65 range allowed with buffer enhancement.
4. Type Ns Watercourse: 50-foot-wide buffer.

D. **BUFFER SETBACKS** –

1. All commercial and industrial buildings shall be set back 15 feet and all other development shall be set back 10 feet. Building setbacks shall be measured from the foundation to the buffer's edge. Building plans shall also identify a 20-foot area beyond the buffer setback within which the impacts of development will be reviewed.

2. The Director may waive setback requirements when a site plan demonstrates there will be no impacts to the buffer from construction or occasional maintenance activities (see TMC Figure 18-2).

E. **VARIATION OF STANDARD WATERCOURSE BUFFER WIDTH** –

1. Buffer averaging may be allowed by the Director as a Type 2 permit if either of the following (a) or (b) apply, and so long as the total area of the buffer after averaging is equal to the area required without averaging and the buffer at its narrowest point is never less than either $\frac{3}{4}$ of the required width.

a. The watercourse has significant differences in characteristics that affect its habitat functions, and the buffer is increased adjacent to the higher-functioning area of habitat or more-sensitive portion of the wetland and decreased adjacent to the lower-functioning or less-sensitive portion as demonstrated by a critical areas report from a qualified wetland professional.

b. There are no feasible alternatives to the site design that could be accomplished without buffer averaging, and the averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a critical areas report.

c. Compliance with mitigation sequencing requirements.

d. Compliance with TMC 18.45 Vegetation Protection and Management section.

e. Submittal of buffer enhancement plan, mitigation monitoring and maintenance plan along with financial guarantee in accordance with TMC 18.45.

2. Interrupted Buffer: Waiver for interrupted buffer may be allowed by the Director as a Type 2 permit if it complies with the following:

a. The buffer is interrupted by a paved public or private road; legally constructed buildings; or legally approved parking lots. This waiver does not apply to accessory structures such as sheds and garages.

b. the existing legal improvement creates a substantial barrier to the buffer function;

c. The interrupted buffer does not provide additional protection of the critical area from the proposed development; and

d. The interrupted buffer does not provide significant hydrological, water quality and wildlife functions. This waiver does not apply if large trees or other significant native vegetation exists.

e. Enhancement of remaining buffer is required if feasible.

3. Buffers for all types of watercourses will be increased when they are determined to be particularly sensitive to disturbance or the proposed development will create unusually adverse impacts. Any increase in the width of the buffer shall be required only after completion of a watercourse study by a qualified professional or expert that documents the basis for such increased width. An increase in buffer width may be appropriate when:

a. The development proposal has the demonstrated potential for significant adverse impacts upon the watercourse that can be mitigated by an increased buffer width; or

b. The area serves as habitat for endangered, threatened, sensitive or monitor species listed by the federal government or the State.

(Ord. 2301 §1 (part), 2010)

18.45.110 Watercourse Alterations and Mitigation

A. **WATERCOURSE ALTERATIONS.** No use or development may occur in a watercourse or its buffer except as specifically allowed by TMC Chapter 18.45. Any use or development allowed is subject to the standards of TMC Chapter 18.45.

B. **ALTERATIONS.**

Piping, dredging, diverting or rerouting may only occur with the permission of the Director and subject to mitigation sequencing; approved mitigation plan; and the following criteria:

1. Any watercourse alteration shall comply with the standards in current use and the standards of the Washington Department of Fish and Wildlife in the "Water Crossing Design Guidelines" manual (2013 or as amended).
2. Any watercourse alteration shall not cause adverse impacts to fish, confine the channel or floodplain, or adversely affect riparian habitat (including downstream habitat).
3. Maintenance dredging of watercourses shall be allowed only when necessary to protect public safety, structures and fish passage and shall be done as infrequently as possible. Long-term solutions such as stormwater retrofits are preferred over ongoing maintenance dredging.
4. Stormwater runoff shall be detained and infiltrated to preserve the existing hydrology of the watercourse.
5. All construction shall be designed to have the least adverse impact on the watercourse, buffer and surrounding environment. Construction shall minimize sedimentation through implementation of best management practices for erosion control.
6. All watercourse alterations shall be carried out or constructed during periods of low flow, or as specified by the State Department of Fish and Wildlife in accordance with an approved Hydraulic Project Approval (HPA).
7. A watercourse may be rerouted or daylighted as a mitigation measure to improve watercourse function.
8. As a condition of approval, the Director may require water quality monitoring for stormwater discharges to streams, and additional treatment of stormwater if water quality standards are not being met.
9. Permanent piping of any watercourse should be avoided. Relocation of a watercourse or installation of a bridge is preferred to piping. If piping occurs in a watercourse critical area, it shall be limited to the degree necessary for stream crossings for access and shall require approval of the Director. The criteria for approval is:
 - a. Where allowed, piping shall be limited to the shortest length possible as determined by the Director to allow access onto a property.
 - b. Where water is piped for an access point, those driveways or entrances shall be consolidated to serve multiple properties where possible, and to minimize the length of piping.
 - c. Piping shall not create an entry point for road runoff, create downstream scour, or cause erosion or sedimentation
 - d. Water quality must be as good or better for any water exiting the pipe as for the water entering the pipe, and flow must be comparable.

C. **MITIGATION STANDARDS–**

1. The following shall be considered the minimum standards for approved mitigation projects:
 - a. Maintenance or improvement of stream channel habitat and dimensions such that the fisheries habitat functions of the compensatory stream meet or exceed that of the original stream;
 - b. Bank and buffer configuration restored to an enhanced state;
 - c. Channel, bank and buffer areas replanted with native vegetation that improves upon the original condition in species diversity and density;
 - d. Stream channel bed and biofiltration systems equivalent to (in the case of public drainage maintenance projects) and better than (in the case of other kinds of projects) in the original stream;
 - e. Original fish and wildlife habitat enhanced unless technically not feasible.
2. Relocation of a watercourse shall not result in the new critical area or buffer extending beyond the

development site and onto adjacent property without the written agreement of the affected property owners.

D. **MITIGATION TIMING** – Department of Community Development-approved plans must have the mitigation construction completed before the existing watercourse can be modified. The Director may allow activities that permanently disturb a watercourse prior to implementation of the mitigation plan under the following circumstances:

To allow planting or re-vegetation to occur during optimal weather conditions; or
To avoid disturbance during critical wildlife periods; or
To account for unique site constraints that dictate construction timing or phasing.

E. **MITIGATION PLAN CONTENT** - All impacts to a water- course that degrade the functions of the watercourse or its buffer shall be avoided. If alteration to the watercourse or buffer is unavoidable, all adverse impacts resulting from a development proposal or alteration shall be mitigated in accordance with an approved mitigation plan as described below.

1. Mitigation plans shall be completed for any proposals of dredging, filling, diverting, piping and rerouting of watercourses or buffer impacts and shall be developed as part of a critical area study by a qualified professional. The plan must show how water quality, treatment, erosion control, pollution reduction, wildlife and fish habitat, and general watercourse quality would be improved.

2. The scope and content of a mitigation plan shall be decided on a case-by-case basis taking into account the degree of impact and extent of mitigation measures needed. As the impacts to the watercourse or its buffer increase, the mitigation plan to offset these impacts will increase in extent and complexity.

3. The components of a complete mitigation plan are as follows:

a. Baseline information including existing watercourse conditions such as hydrologic patterns/flow rates, stream gradient, bank full width, stream bed conditions, bank conditions, fish and other wildlife use, in-stream structures, riparian conditions, buffer characteristics, water quality, fish barriers and other relevant information.

b. Environmental goals and objectives that describe the purposes of the mitigation measures. This should include a description of site selection criteria, identification of target evaluation species and functions.

c. Performance standards for fulfilling environmental goals and objectives and for triggering remedial action or contingency measures. Performance standards may include water quality standards, species richness and diversity targets, habitat diversity indices, creation of fish habitat, or other ecological, geological or hydrological criteria.

d. Detailed construction plan of the written specifications and descriptions of mitigation techniques. This plan should include the proposed construction sequence and construction management, and be accompanied by detailed site diagrams and blueprints that are an integral requirement of any development proposal.

e. Monitoring and/or evaluation program that outlines the approach for assessing a completed project. At least five years of monitoring is required. An outline shall be included that spells out how the monitoring data will be evaluated by agencies that are tracking the mitigation project's process. For projects that discharge stormwater to a stream, the Director may require water quality monitoring.

f. Contingency plan identifying potential courses of action and any corrective measures to be taken when monitoring or evaluation indicates project performance standards have not been met.

g. Performance security or other assurance devices as described in TMC Section 18.45.210.

(Ord. 2301 §1 (part), 2010)

18.45.100 Areas of Potential Geologic Instability Designation, Rating and Buffers

A. **DESIGNATION** – Potential areas of geologic instability include areas of potential erosion and landslide hazards. Areas of potential geologic instability are classified as follows:

1. Class 1 area, which slope is less than 15%;
2. Class 2 areas, which slope is between 15% and 40%, and which are underlain by relatively permeable soils;
3. Class 3 areas, which include areas sloping between 15% and 40%, and which are underlain by relatively impermeable soils or by bedrock, and which also include all areas sloping more steeply than 40%;

4. Class 4 areas, which include sloping areas with mappable zones of groundwater seepage, and which also include existing mappable landslide deposits regardless of slope;

B. Mapping.

1. The approximate location, extent, and designation of areas of potential geologic instability are depicted in the City's Sensitive Areas Map. Actual boundaries and designations shall be determined by a qualified professional on a site-specific basis.

2. In addition to the City's Sensitive Areas Map, the following publicly available mapping information may be used to determine appropriate designations:

- a. For historic landslides, areas designated as quaternary slumps, earthflows, mudflows, or landslides on maps published by the U.S. Geological Survey or the WDNR Division of Geology and Earth Resources;
- b. For potential or historic landslides, those areas mapped by the WDNR (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5);
- c. For soil characteristics, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) Official Soil Survey Data; and
- d. For general instability, those areas mapped by the NRCS as having a significant limitation for building site development.

C. BUFFERS –

1. The buffers for areas of potential geologic instability are intended to:
 - a. Minimize long-term impacts of development on properties containing critical areas;
 - b. Protect critical areas from adverse impacts during development;
 - c. Prevent loading of potentially unstable slope formations;
 - d. Protect slope stability;
 - e. Provide erosion control and attenuation of precipitation surface water and stormwater runoff; and
 - f. Reduce loss of or damage to property.

D. Each development proposal containing or threatened by an area of potential geologic instability Class 2 or higher shall be subject to a geotechnical report pursuant to the requirements of TMC Chapter 18.45.040 C, and 18.45.060. The geotechnical report shall analyze and make recommendations on the need for and width of any setbacks or buffers necessary to achieve the goals and requirements of TMC Chapter 18.45. Development proposals shall then include the buffer distances as defined within the geotechnical report.

(Ord. 2368 §49, 2012; Ord. 2301 §1 (part), 2010)

18.45.130 Areas of Potential Geologic Instability Uses, Exemptions, Alterations and Mitigation.

A. **GENERAL** – The uses permitted in the underlying zoning district may be undertaken on sites that contain areas of potential geologic instability subject to the standards of this section and the recommendations of a geotechnical study.

B. **EXEMPTIONS** – The following areas are exempt from regulation as geologically hazardous areas:

1. Temporary stockpiles of topsoil, gravel, beauty bark or other similar landscaping or construction materials;
2. Slopes related to materials used as an engineered pre-load for a building pad;
3. Roadway embankments within right-of-way or road easements; and
4. Slopes retained by approved engineered structures.

C. **ALTERATIONS** –

1. Prior to permitting alteration of an area of potential geologic instability, the applicant must demonstrate one of the following:
 - a. There is no evidence of past instability or earth movement in the vicinity of the proposed development, and where appropriate, quantitative analysis of slope stability indicates no significant risk to the proposed development or surrounding properties; or
 - b. The area of potential geologic instability can be modified or the project can be designed so that any potential impact to the project and surrounding properties is eliminated, slope stability is not decreased, and the increase in surface water discharge or sedimentation shall not decrease slope stability.

2. Where any portion of an area of potential geologic instability is cleared for development, a landscaping plan for the site shall include tree replanting with an equal mix of evergreen and deciduous trees, shrubs and groundcovers, preferably native, and approved by the Director. Replacement vegetation shall be sufficient to provide erosion and stabilization protection.

3. Critical facilities shall not be sited within or below an area of potential geologic instability unless there is no practical alternative (demonstrated by the applicant)

4. Land disturbing activities in an area of potential geologic instability shall provide for storm water quality and quantity control, including preparation of a TESC and permanent drainage plan prepared by a professional engineer licensed in WA.

5. Unless otherwise provided or as part of an approved alteration, removal of vegetation from an area of potential geologic instability or its buffer shall be prohibited. When permitted as part of an approved alteration, vegetation removal shall be minimized to the extent practicable.

6. Surface drainage, including downspouts, shall not be directed across the face of an area of potential geologic instability; if drainage must be discharged from the top of a hazard to its toe, it shall be collected above the top and directed to the toe by tight line drain, and provided with an energy dissipative device at the toe for discharge to a swale or other acceptable natural drainage areas.

7. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography (minimize grading/cut & fill to amount necessary). The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties.

D. DISCLOSURES, DECLARATIONS AND COVENANTS

1. It shall be the responsibility of the applicant to submit, consistent with the findings of the geotechnical report, structural plans that were prepared and stamped by a structural engineer. The plans and specifications shall be accompanied by a letter from the geotechnical engineer who prepared the geotechnical report stating that in his/her judgment the plans and specifications conform to the recommendations in the geotechnical report, the risk of damage to the proposed development site from soil instability will be minimal subject to the conditions set forth in the report, and the proposed development will not increase the potential for soil movement.

2. Further recommendations signed and sealed by the geotechnical engineer shall be provided should there be additions or exceptions to the original recommendations based on the plans, site conditions or other supporting data. If the geotechnical engineer who reviews the plans and specifications is not the same engineer who prepared the geotechnical report, the new engineer shall, in a letter to the City accompanying the plans and specifications, express his or her agreement or disagreement with the recommendations in the geotechnical report and state that the plans and specifications conform to his or her recommendations.

3. The architect or structural engineer shall submit to the City, with the plans and specifications, a letter or notation on the design drawings at the time of permit application stating that he or she has reviewed the geotechnical report, understands its recommendations, has explained or has had explained to the owner the risks of loss due to slides on the site, and has incorporated into the design the recommendations of the report and established measures to reduce the potential risk of injury or damage that might be caused by any earth movement predicted in the report.

4. The owner shall execute a Critical Areas Covenant and Hold Harmless Agreement running with the land on a form provided by the City. The City will file the completed covenant with the King County Department of Records and Elections at the expense of the applicant or owner. A copy of the recorded covenant will be forwarded to the owner.

E. **ASSURANCE DEVICES** – Whenever the City determines that the public interest would not be served by the issuance of a permit in an area of potential geologic instability without assurance of a means of providing for restoration of areas disturbed by, and repair of property damage caused by, slides arising out of or occurring during construction, the Director may require assurance devices pursuant to TMC Section 18.45.210.

F. CONSTRUCTION MONITORING –

1. Where recommended by the geotechnical report, the applicant shall retain a geotechnical engineer to monitor the site during construction. The applicant shall preferably retain the geotechnical engineer who prepared the final geotechnical recommendations and reviewed the plans and specifications. If a different geotechnical engineer is

retained by the owner, the new geotechnical engineer shall submit a letter to the City stating whether or not he/she agrees with the opinions and recommendations of the original geotechnical engineer. Further recommendations, signed and sealed by the geotechnical engineer, and supporting data shall be provided should there be exceptions to the original recommendations.

2. The geotechnical engineer shall monitor, during construction, compliance with the recommendations in the geotechnical report, particularly site excavation, shoring, soil support for foundations including piles, sub-drainage installations, soil compaction and any other geotechnical aspects of the construction. Unless otherwise approved by the City, the specific recommendations contained in the soils report must be implemented by the owner. The geotechnical engineer shall make written, dated monitoring reports on the progress of the construction to the City at such timely intervals as shall be specified. Omissions or deviations from the approved plans and specifications shall be immediately reported to the City. The final construction monitoring report shall contain a statement from the geotechnical engineer that based upon his or her professional opinion, site observations and testing during the monitoring of the construction, the completed development substantially complies with the recommendations in the geotechnical report and with all geotechnical-related permit requirements. Occupancy of the project will not be approved until the report has been reviewed and accepted by the Director.

G. *CONDITIONING AND DENIAL OF USE OR DEVELOPMENTS* –

1. Substantial weight shall be given to ensuring continued slope stability and the resulting public health, safety and welfare in determining whether a development should be allowed.

2. The City may impose conditions that address site- work problems which could include, but are not limited to, limiting all excavation and drainage installation to the dryer season, or sequencing activities such as installing erosion control and drainage systems well in advance of construction. A permit will be denied if it is determined by the Director that the development will increase the potential of soil movement that results in an unacceptable risk of damage to the proposed development, its site or adjacent properties.

(Ord. 2301 §1 (part), 2010)

18.45.140 Abandoned Mine Areas

A. Development of a site containing an abandoned mine area may be permitted when a geotechnical report shows that significant risks associated with the abandoned mine workings can be eliminated or mitigated so that the site is safe. Approval shall be obtained from the Director before any building or land-altering permit processes begin.

B. Any building setback or land alteration shall be based on the geotechnical report.

C. The City may impose conditions that address site-work problems which could include, but are not limited to, limiting all excavation and drainage installation to the dryer season, or sequencing activities such as installing drainage systems or erosion controls well in advance of construction. A permit will be denied if it is determined that the development will increase the potential of soil movement or result in an unacceptable risk of damage to the proposed development or adjacent properties.

D. The owner shall execute a Critical Areas Covenant and Hold Harmless Agreement running with the land on a form provided by the City. The City will file the completed covenant with the King County Division of Records and Elections at the expense of the applicant or owner. A copy of the recorded covenant will be forwarded to the owner.

(Ord. 2301 §1 (part), 2010)

18.45.150 Fish and Wildlife Habitat Conservation Areas Designation, Mapping, Uses and Standards

A. *DESIGNATION* –

1. Fish and wildlife habitat conservation areas include the habitats listed below:
 - a. Areas with which endangered, threatened, and sensitive species have a primary association;
 - b. Habitats and species of local importance, including but not limited to bald eagle habitat, heron rookeries, mudflats and marshes, and areas critical for habitat connectivity;
 - c. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat;
 - d. Waters of the State;
 - e. State natural area preserves and natural resource conservation areas; and

- f. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity
2. Type S watercourses, including the Green/Duwamish River, are regulated under TMC 18.44 and not under this section.
3. Wetlands and watercourses are addressed under 18.45.080, 18.45.090, 18.45.100 and 18.45.110, and not under this section.

B. MAPPING –

1. The approximate location and extent of known fish and wildlife habitat conservation areas are identified by the City's Critical Areas Maps, inventories, open space zones, and Natural Environment Background Report.
2. In addition to the Critical areas Maps, the following maps are to be used as a guide for the City, but do not provide a final habitat area designation:
 - a. Washington State Department of Fish and Wildlife Priority Habitat and Species Maps;
 - b. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors report for the Green/Duwamish and Central Puget Sound Watersheds published by King County and the Washington Conservation Commission; and NOAA Digital Coast for Washington State.

C. BUFFERS –

1. Each development proposal on, adjacent to, or with the potential to impact a Fish and Wildlife Habitat Conservation Area other than wetlands and watercourses shall be subject to a habitat assessment report pursuant to the requirements of TMC Chapter 18.45.040.B and 18.45.060. The habitat assessment shall analyze and make recommendations on the need for and width of any setbacks or buffers necessary to achieve the goals and requirements of TMC Chapter 18.45, with specific consideration of Priority Habitats and Species Management Recommendations from the Washington Department of Fish and Wildlife. Recommended buffers shall be no less than 100 feet in width.
2. Buffers may be increased by the Director when an area is determined to be particularly sensitive to the disturbance created by a development. Such a decision will be based on a City review of the report as prepared by a qualified biologist and by a site visit.

D. USES AND STANDARDS – Each development proposal on, adjacent, or with the potential to impact a Fish and Wildlife Habitat Conservation Area that is not fully addressed under 18.45.080, 18.45.090, 18.45.100 and 18.45.110 shall be subject to a habitat assessment report pursuant to the requirements of TMC Chapter 18.45.040.B and 18.45.060. The habitat assessment shall analyze potential impacts to Fish and Wildlife Habitat Conservation Areas and make recommendations to minimize such impacts, with specific consideration of Priority Habitats and Species Management Recommendations from the Washington Department of Fish and Wildlife.

(Ord. 2301 §1 (part), 2010)

18.45.155 Special Hazard Flood Areas

A. Regulations governing Special Hazard Flood areas are found in TMC Chapter 16.52, Flood Zone Management and 18.45.155.B.

B. Floodplain Habitat Assessment.

1. When development is proposed within a Special Hazard Flood areas, a floodplain habitat assessment shall be prepared pursuant to the requirements of TMC Chapter 18.45.040 B and 18.45.060.
2. The floodplain habitat assessment shall address the effects of the development on federally listed salmon, including, but not limited to the following:
 - a. Impervious surfaces,
 - b. Floodplain storage and conveyance,
 - c. Floodplain and riparian vegetation, and
 - d. Stormwater drainage.
3. If the floodplain habitat assessment concludes that the project is expected to have an adverse effect on listed species as evaluated under the guidance issued for ESA compliance under the National Flood Insurance Program in Puget Sound, the applicant shall mitigate those impacts. Such mitigation shall be consistent with, or in addition to, any mitigation required by critical area regulations in Chapter 18.45 TMC and shall be incorporated into the approved project plans.
4. Activities Exempt from Floodplain Habitat Assessment. A floodplain habitat assessment is not required

under the following circumstances:

- a. Projects that are undergoing or have undergone consultation with the National Marine Fisheries Service under the Endangered Species Act.
- b. Repair or remodeling of an existing structure, if the repair or remodeling is not a substantial improvement.
- c. Expansion of an existing structure that is no greater than 10 percent beyond its existing footprint; provided, that the repairs or remodeling is not a substantial improvement, or a repair of substantial damage. This measurement is counted cumulatively from September 22, 2011. If the structure is in the floodway, there shall be no change in the dimensions perpendicular to flow.
- d. Activities with the sole purpose of creating, restoring, or enhancing natural functions provided the activities do not include structures, grading, fill, or impervious surfaces.
- e. Development of open space and recreational facilities, such as parks and trails, that do not include structures, fill, impervious surfaces or removal of more than 5 percent of the native vegetation on that portion of the property in the regulatory floodplain.
- f. Repair to on-site septic systems provided the ground disturbance is the minimum necessary.
- g. Other minor activities considered to have no effect on listed species, as interpreted using ESA guidance issued by the National Flood Insurance Program in Puget Sound and confirmed through City review of the development proposal.

18.45.158 Vegetation Protection and Management in Critical Areas and their buffers

A. Purpose, Objectives and Applicability.

1. The purpose of this section is to:
 - a. Regulate the protection of existing trees and native vegetation in the critical areas including wetlands, watercourses, steep slopes and their buffers;
 - b. Establish requirements for removal of invasive plants at the time of development or re-development of sites;
 - c. Establish requirements for the long-term maintenance of native vegetation to prevent establishment of invasive species and promote ecosystem processes.
2. The City's goal is to:
 - a. Preserve as many existing trees as possible and increase the number of native trees, shrubs and other vegetation in the critical areas because of their importance to a variety of ecosystem functions as listed below:
 - (1) Overhead tree canopy to provide shade for water temperature control and improve water quality, and increase water recharge
 - (2) Habitat for birds, insects and small mammals;
 - (3) Stabilize steep slopes and reduce erosion;
 - (5) Filtering of pollutants and slowing of stormwater prior to it entering the critical area and
 - (6) provide green, natural spaces for the health of the citizens of Tukwila
 - b. In addition, trees and other native vegetation are important for aesthetics. It is the City's goal that unsightly invasive vegetation, such as blackberries, be removed from the critical areas and their buffers and be replaced with native vegetation to promote greater enjoyment of the City's natural areas.
 - c. The City will provide information and technical assistance to property owners for improving vegetation in critical areas and will work collaboratively with local citizen groups to assist property owners in the removal of invasive vegetation and planting of native vegetation, particularly for residential areas.

B. Vegetation Retention and Replacement.

1. The tree protection and retention requirements and the vegetation management requirements apply to existing uses as well as new or re-development.
2. Native vegetation in critical areas and their buffers must be protected and maintained. No removal of native vegetation is allowed without prior approval by the City except in cases of emergency where an imminent hazard to public life, safety or property exists. Vegetation may be removed from the buffer as part of an enhancement plan approved by the Director. Enhancements will ensure that slope stability and wetland quality will be maintained or improved. Any temporary disturbance of the buffers shall be replanted with a diverse plant community of native

northwest species.

3. Invasive vegetation (blackberry, ivy, laurel, etc.) may be removed without a permit if removal does not utilize heavy equipment or herbicide. Invasive vegetation removal on steep slopes requires prior City Approval

4. Only hazardous or defective trees, as defined in TMC 18.06, may be removed from a critical area if threat posed by the tree is imminent. If the hazard is not obvious, an assessment by a certified professional, as defined in TMC 18.06, may be required by the Director. Dead and hazardous trees should remain standing or be cut and placed within the critical area to the extent practicable to maximize habitat. Tree replacement in accordance with this chapter is required for any hazardous tree removed from a critical area.

5. In the case of development or re-development, as many significant trees and as much native vegetation as possible are to be retained on a site, taking into account the condition and age of the trees. As part of project review, the Director of Community Development or the Board of Architectural Review may require alterations in the arrangement of buildings, parking or other elements of proposed development in order to retain significant vegetation.

6. To protect the ecological functions that trees, and native vegetation provide to critical areas, removal of any significant tree or native vegetation in a critical area or its buffer requires a Critical Area Tree Removal and Vegetation Clearing Permit and is generally only allowed on sites undergoing development or re-development. Only trees that interfere with access and passage on public trails or trees that present an imminent hazard to existing structures or the public may be removed from sites without an issued building permit or Federal approval. Factors that will be considered in approving tree removal include but are not limited to: tree condition and health, age, risks to structures, and potential for root or canopy interference with utilities.

7. Prior to any tree removal or site clearing unless it is part of Special Permission approval for interrupted buffer, buffer averaging or other critical areas deviation, a Type 2 Critical Area Tree Removal and Vegetation Clearing Permit application must be submitted to the Department of Community Development (DCD) containing the following information:

a. A vegetation survey on a site plan that shows the diameter, species and location of all significant trees and all existing native vegetation.

b. A site plan that shows trees and native vegetation to be retained and trees to be removed and provides a table showing the number of significant trees to be removed and the number of replacement trees required.

c. Tree protection zones and other measures to protect any trees or native vegetation that are to be retained for sites undergoing development or re-development.

d. Location of the OHWM, stream buffer, wetland, wetland buffer, steep slope or any other critical areas with their buffers.

e. A landscape plan that shows diameter, species name, spacing and planting location for any required replacement trees and other proposed vegetation.

f. An arborist evaluation justifying the removal of hazardous trees if required by DCD.

g. An application fee per the current Land Use Permit Fee resolution.

8. Where permitted, significant trees that are removed from critical areas shall be replaced pursuant to the tree replacement requirements shown below, up to a density of 100 trees per acre (including existing trees). The Director may require additional trees or shrubs to be installed to mitigate any potential impact from the loss of this vegetation as a result of new development.

Tree Replacement Requirements

Diameter* of Tree Removed (*measured at height of 4.5 feet from the ground)	Number of Replacement Trees Required
4 6 inches (single trunk); 2 inches (any trunk of a multi-trunk tree)	3
Over 6 - 8 inches	4
Over 8 - 20 inches	6
Over 20 inches	8

9. The property owner is required to ensure the viability and long-term health of vegetation planted for

replacement or mitigation through proper care and maintenance for the life of the project Mitigation or restoration projects that fail to meet pre-determined performance standards must be replanted in the next appropriate season for planting or per requirements of approved Mitigation Plan.

10. If all required replacement trees cannot be reasonably accommodated on the site, the applicant shall pay into a tree replacement fund. The fee shall be determined on an annual basis as part of the Fee resolution.

11. Dead or dying trees located within a of a critical area or its buffer shall be left in place as wildlife snags, unless they present a hazard to structures, facilities or the public. Dead or dying trees within developed or landscaped areas shall be replaced 1:1 in the next appropriate season for planting.

12. Topping of trees is prohibited and will be regulated as removal with tree replacement required.

13. Trees may only be pruned to lower their height to prevent interference with an overhead utility line with prior approval by the Director as part of Type 2 critical area tree permit. The pruning must be carried out under the direction of a Qualified Tree Professional or performed by the utility provider under the direction of a Qualified Tree Professional. The crown shall be maintained to at least 2/3 the height of the tree prior to pruning.

C. Tree Protection

All trees not proposed for removal as part of a project or development shall be protected using Best Management Practices and the standards below.

1. The Critical Root Zones (CRZ) for all trees designated for retention, on site or on adjacent property as applicable, shall be identified on all construction plans, including demolition, grading, civil and landscape site plans.

2. Any roots within the CRZ exposed during construction shall be covered immediately and kept moist with appropriate materials. The City may require a third-party Qualified Tree Professional to review long-term viability of the tree.

3. Physical barriers, such as 6-foot chain link fence or plywood or other approved equivalent, shall be placed around each individual tree or grouping at the CRZ.

4. Minimum distances from the trunk for the physical barriers shall be based on the approximate age of the tree (height and canopy) as follows:

a. Young trees (trees which have reached less than 20% of life expectancy): 0.75 per inch of trunk diameter.

b. Mature trees (trees which have reached 20-80% of life expectancy): 1 foot per inch of trunk diameter.

c. Over mature trees (trees which have reached greater than 80% of life expectancy): 1.5 feet per inch of trunk diameter.

5. Alternative protection methods may be used that provide equal or greater tree protection if approved by the Director.

6. A weatherproof sign shall be installed on the fence or barrier that reads:

“TREE PROTECTION ZONE – THIS FENCE SHALL NOT BE REMOVED OR ENCROACHED UPON. No soil disturbance, parking, storage, dumping or burning of materials is allowed within the Critical Root Zone. The value of this tree is \$ [insert value of tree as determined by a Qualified Tree Professional here]. Damage to this tree due to construction activity that results in the death or necessary removal of the tree is subject to the Violations section of TMC Chapter 18.54.”

7. All tree protection measures installed shall be inspected by the City and, if deemed necessary a Qualified Tree Professional, prior to beginning construction or earth moving.

8. Any branches or limbs that are outside of the CRZ and might be damaged by machinery shall be pruned prior to construction by a Qualified Tree Professional. No construction personnel shall prune affected limbs except under the direct supervision of a Qualified Tree Professional.

9. The CRZ shall be covered with 4 to 6 inches of wood chip mulch. Mulch shall not be placed directly against the trunk. A 6-inch area around the trunk shall be free of mulch. Additional measures, such as fertilization or supplemental water, shall be carried out prior to the start of construction if deemed necessary by the Qualified Tree Professional's report to prepare the trees for the stress of construction activities.

10. No storage of equipment or refuse, parking of vehicles, dumping of materials or chemicals, or placement of permanent heavy structures or items shall occur within the CRZ.

11. No grade changes or soil disturbance, including trenching, shall be allowed within the CRZ. Grade changes within 10 feet of the CRZ shall be approved by the City prior to implementation.

12. The applicant is responsible for ensuring that the CRZ of trees on adjacent properties are not impacted by the proposed development.

13. A pre-construction inspection shall be conducted by the City to finalize tree protection actions.

14. Post-construction inspection of protected trees shall be conducted by the City and, if deemed necessary by the City, a Qualified Tree Professional. All corrective or reparative pruning will be conducted by a Qualified Tree Professional.

D. Plant Materials Standards

For any new development, redevelopment or restoration in a Critical Area, invasive vegetation must be removed, and native vegetation planted and maintained in the Critical Area and its buffer.

1. A planting plan prepared by an approved biologist shall be submitted to the City for approval that shows plant species, size, number, spacing, soil preparation irrigation, and invasive species removal. The requirement for a biologist may be waived by the Director for single family property owners (when planting is being required as mitigation for construction of overwater structures or shoreline stabilization), if the property owner accepts technical assistance from City staff.

2. Invasive vegetation must be removed as part of site preparation and native vegetation planted in the Critical Area and its buffer where impacts occur.

3. Removal of invasive species shall be done by hand or with hand-held power tools. Where not feasible and mechanized equipment is needed, the applicant must obtain permission and permit prior to work being conducted. Removal of invasive vegetation must be conducted so that the slope stability, if applicable, will be maintained. A plan must be submitted indicating how the work will be done and what erosion control and tree protection features will be utilized. Federal and State permits may be required for vegetation removal with mechanized equipment.

4. Removal of invasive vegetation may be phased over several years prior to planting, if such phasing is provided for by a plan approved by the Director to allow for alternative approaches, such as sheet mulching and goat grazing. The method selected shall not destabilize the bank or cause erosion.

5. A combination of native trees, shrubs and groundcovers (including grasses, sedges, rushes and vines) shall be planted. Site conditions, such as topography, exposure, and hydrology shall be taken into account for plant selection. Other species may be approved if there is adequate justification.

6. Non-native trees may be used as street trees in cases where conditions are not appropriate for native trees (for example where there are space or height limitations or conflicts with utilities).

7. Plants shall meet the current American Standard for Nursery Stock (American Nursery and Landscape Association – ANLA).

8. Smaller plant sizes (generally one gallon, bareroot, plugs, or stakes, depending on plant species) are preferred for buffer plantings. Willow stakes must be at least 1/2-inch in diameter. Refer to landscaping chapter TMC 18.52 for plant sizes in required landscape areas.

9. Site preparation and planting of vegetation shall be in accordance with best management practices for ensuring the vegetation's long-term health and survival. Irrigation is required for all plantings for the first three years, unless otherwise approved by Director. Temporary automatic irrigation systems, cisterns, and hand-watering or a combination of types may be approved by Director.

10. Plants may be selected and placed to allow for public and private view corridors with approval by Director.

11. Native vegetation in Critical Areas and their buffers installed in accordance with the preceding standards shall be maintained by the property owner to promote healthy growth and prevent establishment of invasive species. Invasive plants (such as blackberry, ivy, knotweed, bindweed) shall be removed on a regular basis, according to the approved maintenance plan.

12. Critical Areas including steep slopes disturbed by removal of invasive plants or development shall be replanted with native vegetation where necessary to maintain the density shown in Table below. and must be replanted in a timely manner, except where a long-term removal and re-vegetation plan, as approved by the City, is being implemented.

Critical Area Buffer Vegetation Planting Densities Table

Plant Material Type	Planting Density
Stakes/cuttings along streambank (willows, red osier dogwood)	1 - 2 feet on center or per bioengineering method
Shrubs	3 - 5 feet on center, depending on species
Trees	15 - 20 feet on center, depending on species
Groundcovers, sedges, herbaceous plants, grasses, rushes, other	1 - 1.5 feet on center, depending on species
Native seed mixes	5 - 25 lbs. per acre, depending on species

13. The Department Director, in consultation with the City's environmentalist, may approve the use of shrub planting and installation of willow stakes to be counted toward the tree replacement standard in the buffer if proposed as a measure to control invasive plants and increase buffer function.

E. Vegetation Management in Critical Areas The requirements of this section apply to all existing and new development within critical areas.

1. Trees and shrubs may only be pruned for safety, to maintain access corridors and trails by pruning up or on the sides of trees, to maintain clearance for utility lines, and/or for improving shoreline ecological function. No more than 25% may be pruned from a tree within a 36 month period without prior City review. This type of pruning is exempt from any permit requirements.

2. Plant debris from removal of invasive plants or pruning shall be removed from the site and disposed of properly unless on site storage is approved by the Director.

3. Use of pesticides.

a. Pesticides (including herbicides, insecticides, and fungicides) shall not be used in the critical area or its buffer except where:

(1) Alternatives such as manual removal, biological control, and cultural control are not feasible given the size of the infestation, site characteristics, or the characteristics of the invasive plant species;

(2) The use of pesticides has been approved through a comprehensive vegetation or pest management and monitoring plan;

(3) The pesticide is applied in accordance with state regulations;

(4) The proposed herbicide is approved for aquatic use by the U.S. Environmental Protection Agency; and

(5) The use of pesticides in the shoreline jurisdiction is approved in writing by the City and the applicant presents a copy of the Aquatic Pesticide Permit issued by the Department of Ecology or Washington Department of Agriculture.

b. Self-contained rodent bait boxes designed to prevent access by other animals are allowed.

c. Sports fields, parks, golf courses and other outdoor recreational uses that involve maintenance of extensive areas of turf shall provide and implement an integrated turf management program or integrated pest management plan designed to ensure that water quality in the Critical Area is not adversely impacted.

4. Restoration Project Plantings: Restoration projects may overplant the site as a way to discourage the re-establishment of invasive species. Thinning of vegetation without a separate Type 2 Special Permission or critical area tree permit may be permitted five to ten years after planting if this approach is approved as part of the restoration project's maintenance and monitoring plan and with approval by the City prior to thinning work.

F. Maintenance and Monitoring.

1. A five-year monitoring and maintenance plan must be approved by the City prior to permit issuance. The monitoring period will begin when the restoration is accepted by the City and as-built plans have been

submitted.

2. Monitoring reports shall be submitted annually for City review up until the end of the monitoring period. Reports shall measure survival rates against project goals and present contingency plans to meet project goals.
3. Mitigation will be complete after project goals have been met and accepted by the City environmentalist.
4. A performance bond or financial security equal to 150% of the cost of labor and materials required for implementation of the planting, maintenance and monitoring shall be submitted prior to City acceptance of project.

18.45.160 Critical Area Master Plan Overlay

A. The purpose of this section is to provide an alternative to preservation of existing individual wetlands, watercourses and their buffers in situations where an area-wide plan for alteration and mitigation will result in improvements to water quality, fish and wildlife habitat and hydrology beyond those that would occur through the strict application of the provisions of TMC Chapter 18.45.

B. The City Council may designate certain areas as Critical Area Master Plan Overlay Districts for the purpose of allowing and encouraging a comprehensive approach to critical area protection, restoration, enhancement and creation in appropriate circumstances utilizing best available science. Designation of Critical Area Master Plan Overlay Districts shall occur through the Type 5 decision process established by TMC Chapter 18.104.

C. Criteria for designating a Critical Area Master Plan Overlay District shall be as follows:

1. The overlay area shall be at least 10 acres.
2. The City Council shall find that preparation and implementation of a Critical Area Master Plan is likely to result in net improvements in critical area functions when compared to development under the general provisions of TMC Chapter 18.45.

D. Within a Critical Area Master Plan Overlay District, only those uses permitted under TMC Sections 18.45.070, 18.45.090 and 18.45.110 shall be allowed within a Category I wetland, or its buffer.

E. Within a Critical Area Master Plan Overlay district, the uses permitted under TMC 18.45.070, 18.45.090 and 18.45.110 and other uses as identified by an approved Critical Area Master Plan shall be permitted within Category III and Category IV wetlands and their buffers; and within Type F, Np, and Ns watercourses and their buffers, provided that such uses are allowed by the underlying zoning designation.

F. A Critical Area Master Plan shall be prepared under the direction of the Director of Community Development. Consistent with subsection A, the Director may approve development activity within a Critical Area Overlay District for the purpose of allowing and encouraging a comprehensive approach to critical areas protection, creation, and enhancement that results in environmental benefits that may not be otherwise achieved through the application of the requirements of TMC Chapter 18.45.

G. The Director shall consider the following factors when determining whether a proposed Critical Areas Overlay and Master Plan results in an overall net benefit to the environment and is consistent with best available science:

1. Whether the Master Plan is consistent with the goals and policies of the Natural Environment Element and the Shorelines Element (if applicable) of the Tukwila Comprehensive Plan.
2. Whether the Master Plan is consistent with the purposes of TMC Chapter 18.45 as stated in TMC Section 18.45.010.
3. Whether the Master Plan includes a Mitigation Plan that incorporates stream or wetland restoration, enhancement or creation meeting or exceeding the requirements of TMC Section 18.45.090 and/or TMC Section 18.45.110, as appropriate.
4. Whether proposed alterations or modifications to critical areas and their buffers and/or alternative mitigation results in an overall net benefit to the natural environment and improves critical area functions.
5. Whether the Mitigation Plan gives special consideration to conservation and protection measures necessary to preserve or enhance anadromous fisheries.
6. Mitigation shall occur on-site unless otherwise approved by the Director. The Director may approve off-site mitigation only upon determining that greater protection, restoration or enhancement of critical areas could be achieved at an alternative location within the same watershed.

7. Where feasible, mitigation shall occur prior to grading, filling or relocation of wetlands or watercourses.
8. At the discretion of the Director, a proposed Master Plan may undergo peer review, at the expense of the applicant. Peer review, if utilized, shall serve as one source of input to be utilized by the Director in making a final decision on the proposed action.

H. A Critical Area Master Plan shall be subject to approval by the Director of Community Development. Such approval shall not be granted until the Master Plan has been evaluated through preparation of an Environmental Impact Statement (EIS) under the requirements of TMC Chapter 21.04. The EIS shall compare the environmental impacts of development under the proposed Master Plan relative to the impacts of development under the standard requirements of TMC Chapter 18.45. The Director shall approve the Critical Area Master Plan only if the evaluation clearly demonstrates overall environmental benefits, giving special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

(Ord. 2301 §1 (part), 2010)

18.45.170 Critical Areas Tracts and Easements

A. In development proposals for planned residential or mixed use developments, short subdivisions or subdivisions, and boundary line adjustments and binding site plans, applicants shall create critical areas tracts or easements, in lieu of an open space tract, per the standards of the Planned Residential Development District chapter of this title.

B. Applicants proposing development involving uses other than those listed in TMC Section 18.45.170A, on parcels containing critical areas or their buffers, may elect to establish a critical areas tract or easement which shall be:

1. If under one ownership, owned and maintained by the ownership;
2. If held in common ownership by multiple owners, maintained collectively; or
3. Dedicated for public use if acceptable to the City or other appropriate public agency.

C. A notice shall be placed on the property title or plat map that critical area tracts or easements shall remain undeveloped in perpetuity.

(Ord. 2301 §1 (part), 2010)

18.45.180 Exceptions

A. REASONABLE USE EXCEPTIONS –

1. If application of TMC Chapter 18.45 would deny all reasonable use of the property containing designated critical areas or their buffers, the property owner or the proponent of a development proposal may apply for a reasonable use exception.

2. Applications for a reasonable use exception shall be a Type 3 decision and shall be processed pursuant to TMC Chapter 18.104.

3. If the applicant demonstrates to the satisfaction of the Hearing Examiner that application of the provisions of TMC Chapter 18.45 would deny all reasonable use of the property, development may be allowed that is consistent with the general purposes of TMC Chapter 18.45 and the public interest.

4. The Hearing Examiner, in granting approval of the reasonable use exception, must determine that:

a. There is no feasible on-site alternative to the proposed activities, including reduction in size or density, modifications of setbacks, buffers or other land use restrictions or requirements, phasing of project implementation, change in timing of activities, revision of road and lot layout, and/or related site planning that would allow a reasonable economic use with fewer adverse impacts to the critical area.

b. As a result of the proposed development there will be no unreasonable threat to the public health, safety or welfare on or off the development proposal site.

c. Alterations permitted shall be the minimum necessary to allow for reasonable use of the property.

d. The proposed development is compatible in design, scale and use with other development with similar site constraints in the immediate vicinity of the subject property if such similar sites exist.

e. Disturbance of critical areas and their buffers has been minimized to the greatest extent possible.

f. All unavoidable impacts are fully mitigated.

g. The inability to derive reasonable use of the property is not the result of:

(1) a segregation or division of a larger parcel on which a reasonable use was permissible after the effective date of Critical Areas Ordinance No. 1599, June 10, 1991;

(2) actions by the owner of the property (or the owner's agents, contractors or others under the owner's control) that occurred after the effective date of the critical areas ordinance provisions that prevents or interferes with the reasonable use of the property; or

(3) a violation of the sensitive areas ordinance;

h. The Hearing Examiner, when approving a reasonable use exception, may impose conditions, including but not limited to a requirement for submission and implementation of an approved mitigation plan designed to ensure that the development:

(1) complies with the standards and policies of the critical areas ordinance to the extent feasible; and

(2) does not create a risk of damage to other property or to the public health, safety and welfare.

i. Approval of a reasonable use exception shall not eliminate the need for any other permit or approval otherwise required for a project, including but not limited to design review.

- B. **EMERGENCIES** – Alterations in response to an emergency that poses an immediate threat to public health, safety or welfare, or that poses an immediate risk of damage to private property may be excepted. Any alteration undertaken as an emergency shall be reported within one business day to the Community Development Department. The Director shall confirm that an emergency exists and determine what, if any, mitigation and conditions shall be required to protect the health, safety, welfare and environment and to repair any damage to the critical area and its required buffers. Emergency work must be approved by the City. If the Director determines that the action taken, or any part thereof, was beyond the scope of an allowed emergency action, then the enforcement provisions of TMC Section 18.45.195 shall apply.

(Ord. 2368 §50, 2012; Ord. 2301 §1 (part), 2010)

18.45.190 Time Limitation, Appeals and Vesting

- A. Time Limitation: Critical area studies are valid for a period of 5 years. Type 2 Special Permission decision for interrupted buffer, buffer averaging or other alterations shall expire in one year unless the applicant submits a complete building permit or other construction permit within one year. Type 1 tree permit for tree removal within sensitive areas or their buffers shall expire in one year unless an extension is granted by the Director.

The Director may grant an extension if:

1. Unforeseen circumstances or conditions necessitate the extension of the permit; and
2. Termination of the permit would result in unreasonable hardship to the applicant; and the applicant is not responsible for the delay; and
3. The extension of the permit will not cause substantial detriment to existing uses, critical areas, or critical area buffers in the immediate vicinity of the subject property.

- B. Appeals: Any appeal of a final decision made by the Community Development Department, pursuant to TMC Chapter 18.45, shall be an appeal of the underlying permit or approval. Any such appeal shall be processed pursuant to TMC Section 18.108.020 and TMC Chapter 18.116.

In considering appeals of decisions or conditions, the following shall be considered:

1. The intent and purposes of the critical areas ordinance;
2. Technical information and reports considered by the Community Development Department; and
3. Findings of the Director, which shall be given substantial weight.

- C. Vesting: Projects are vested to critical area ordinance in effect at the time a complete building permit is submitted except for short plats, subdivisions and shoreline permits. Short plats or subdivisions are vested at the time complete application is submitted for preliminary plats. For short plats and subdivisions which received preliminary plat approval prior to the adoption of this ordinance, building permits on the lots shall be considered under the critical areas ordinance in effect on the date of the preliminary plat approval provided complete building or construction permits are submitted within one year of the final plat approval. Vesting provisions for shoreline permits are provided in TMC 18.44

(Ord. 2301 §1 (part), 2010)

18.45.195 Violations

A. **VIOLATIONS.** The following actions shall be considered a violation of this chapter:

1. To use, construct or demolish a structure or to conduct clearing, earth-moving, construction or other development not authorized under a Special Permission, Reasonable Use or other permit where such permit is required by this chapter.

2. Any work that is not conducted in accordance with the plans, conditions, or other requirements in a permit approved pursuant to this chapter, provided the terms or conditions are stated in the permit or the approved plans.

3. To remove or deface any sign, notice, complaint or order required by or posted in accordance with this chapter.

4. To misrepresent any material fact in any application, plans or other information submitted to obtain any critical area use, buffer reduction or development authorization.

5. To fail to comply with the requirements of this chapter.

B. **ENFORCEMENT.** It shall be the duty of the Community Development Director to enforce this chapter pursuant to the terms and conditions of TMC Chapter 8.45.

C. **INSPECTION ACCESS.**

1. For the purposes of inspection for compliance with the provisions of a permit or this chapter, authorized representatives of the Community Development Director may enter all sites for which a permit has been issued.

2. Upon completion of all requirements of a permit, the applicant shall request a final inspection by contacting the planner of record. The permit process is complete upon final approval by an authorized representative of the Community Development Director.

D. **PENALTIES.**

1. Any violation of any provision of this chapter, or failure to comply with any of the requirements of this chapter, shall be subject to the penalties prescribed in TMC Chapter 8.45, "Enforcement," and shall be imposed pursuant to the procedures and conditions set forth in that chapter.

2. Penalties assessed for violations of the Critical Areas shall be determined by TMC Chapter 8.45.120, Penalties

3. It shall not be a defense to the prosecution for failure to obtain a permit required by this chapter that a contractor, subcontractor, person with responsibility on the site, or person authorizing or directing the work erroneously believed a permit had been issued to the property owner or any other person.

4. Penalties for Tree Removal

a. Each unlawfully removed or damaged tree shall constitute a separate violation.

b. The amount of the penalty shall be \$1,000 per tree or up to the marketable value of each tree removed or damaged as determined by an ISA certified arborist. The Director may elect not to seek penalties or may reduce the penalties if he/she determines the circumstances do not warrant imposition of any or all of the civil penalties.

c. Any illegal removal of required trees shall be subject to obtaining a tree permit and replacement with trees that meet or exceed the functional value of the removed trees. In addition, any shrubs and groundcover removed without City approval shall be replaced.

d. To replace the tree canopy lost due to the tree removal, additional trees must be planted on-site. Payment may be made into the City's Tree Fund if the number of replacement trees cannot be accommodated on-site. The number of replacement trees required will be based on the size of the tree(s) removed as stated in TMC 18.45.158 B.

E. **REMEDIAL MEASURES REQUIRED.** In addition to penalties provided in TMC Chapter 8.45, the Director may require any person conducting work in violation of this chapter to mitigate the impacts of unauthorized work by

carrying out remedial measures.

1. Remedial measures must conform to the policies and guidelines of this chapter.
2. The cost of any remedial measures necessary to correct violation(s) of this chapter shall be borne by the property owner and/or applicant.

F. **INJUNCTIVE RELIEF.**

1. Whenever the City has reasonable cause to believe that any person is violating or threatening to violate the critical areas regulations or any rule or other provisions adopted or issued pursuant to these regulations, it may either before or after the institution of any other action or proceeding authorized by this ordinance, institute a civil action in the name of the City for injunctive relief to restrain the violation or threatened violation. Such action shall be brought in King County Superior Court.

2. The institution of an action for injunctive relief under this section shall not relieve any party to such proceedings from any civil or criminal penalty prescribed for violations of these regulations.

G. **ABATEMENT.** - Any use, structure, development or work that occurs in violation of these regulations, or in violation of any lawful order or requirement of the Director pursuant to this section, shall be deemed to be a public nuisance and may be abated in the manner provided by the Tukwila Municipal Code, Section 8.45.105.

(Ord. 2301 §1 (part), 2010)

18.45.200 Recording Required

The property owner receiving approval of a use or development permit pursuant to TMC Chapter 18.45 shall record the City-approved site plan, clearly delineating the wetland, watercourse, areas of potential geologic instability or abandoned mine and their buffers designated by TMC Sections 18.45.080, 18.45.090, 18.45.100, 18.45.120, 18.45.140 and 18.45.150 with the King County Division of Records and Elections. The face of the site plan must include a statement that the provisions of TMC Chapter 18.45, as of the effective date of the ordinance from which TMC Chapter 18.45 derives or is thereafter amended, control use and development of the subject property, and provide for any responsibility of the property owner for the maintenance or correction of any latent defects or deficiencies. Additionally, the applicant shall provide data (GPS or survey data) for updating the City's critical area maps.

(Ord. 2301 §1 (part), 2010)

18.45.210 Assurance Device

A. In appropriate circumstances, such as when mitigation is not completed in advance of the project, the Director may require a letter of credit or other security device acceptable to the City to guarantee performance and maintenance requirements of TMC Chapter 18.45. All assurances shall be on a form approved by the City Attorney and be equal to 150% of the cost of the labor and materials for implementation of the approved mitigation plan.

B. When alteration of a critical area is approved, the Director may require an assurance device, on a form approved by the City Attorney, to cover the cost of monitoring and maintenance costs and correction of possible deficiencies for five years. If at the end of five years performance standards are not being achieved, an increase in the security device may be required by the Director. When another agency requires monitoring beyond the City's time period, copies of those monitoring reports shall be provided to the City.

C. The assurance device shall be released by the Director upon receipt of written confirmation submitted and confirmed by the City to the Department from the applicant's qualified professional that the mitigation or restoration has met its performance standards and is successfully established. Should the mitigation or restoration meet performance standards and be successfully established in the third or fourth year of monitoring, the City may release the assurance device early. The assurance device may be held for a longer period, if at the end of the monitoring period, the performance standards have not been met or the mitigation has not been successfully established. In such cases, the monitoring period will be extended and the bond held until the standards have been met.

D. Release of the security does not absolve the property owner of responsibility for maintenance or correcting latent defects or deficiencies or other duties under law.

(Ord. 2301 §1 (part), 2010)

18.45.220 Assessment Relief

A. **FAIR MARKET VALUE** – The King County Assessor considers critical area regulations in determining the fair market value of land under RCW 84.34.

B. **CURRENT USE ASSESSMENT** – Established critical area tracts or easements, as defined in the Definitions chapter of this title and provided for in TMC Section 18.45.170, may be classified as open space and owners thereof may qualify for current use taxation under RCW 18.34; provided, such landowners have not received density credits, or setback or lot size adjustments as provided in the Planned Residential Development District chapter of this title.

C. **SPECIAL ASSESSMENTS** – Landowners who qualify under TMC Section 18.45.220 B shall also be exempted from special assessments on the critical area tract or easement to defray the cost of municipal improvements such as sanitary sewers, storm sewers and water mains.

(Ord. 2301 §1 (part), 2010)

TMC 18.70.050 Nonconforming Structures

Where a lawful structure exists at the effective date of adoption of this title that could not be built under the terms of this title by reason of restrictions on area, development area, height, yards or other characteristics of the structure, it may be continued so long as the structure remains otherwise lawful subject to the following provisions:

1. No such structure may be enlarged or altered in such a way that increases its degree of nonconformity. Ordinary maintenance of a nonconforming structure is permitted, pursuant to TMC Section 18.70.060, including but not limited to painting, roof repair and replacement, plumbing, wiring, mechanical equipment repair/replacement and weatherization. These and other alterations, additions or enlargements may be allowed as long as the work done does not extend further into any required yard or violate any other portion of this title. Complete plans shall be required of all work contemplated under this section.

2. Should such structure be destroyed by any means to an extent of more than 50% of its replacement cost at time of destruction, in the judgment of the City's Building Official, it shall not be reconstructed except in conformity with provisions of this title, except that in the LDR zone, structures that are nonconforming in regard to yard setbacks or sensitive area buffers, but were in conformance at the time of construction may be reconstructed to their original dimensions and location on the lot.

3. Should such structure be moved for any reason or any distance whatsoever, it shall thereafter conform to the regulations for the zone in which it is located after it is moved.

4. When a nonconforming structure, or structure and premises in combination, is vacated or abandoned for 24 consecutive months, the structure, or structure and premises in combination, shall thereafter be required to be in conformance with the regulations of the zone in which it is located. Upon request of the owner, the City Council may grant an extension of time beyond the 24 consecutive months.

5. Residential structures and uses located in any single-family or multiple-family residential zoning district and in existence at the time of adoption of this title shall not be deemed nonconforming in terms of bulk, use, or density provisions of this title. Such buildings may be rebuilt after a fire or other natural disaster to their original dimensions and bulk, but may not be changed except as provided in the non-conforming uses section of this chapter.

6. Single-family structures in single- or multiple-family residential zone districts that have legally nonconforming building setbacks, shall be allowed to expand the ground floor only along the existing building line(s), so long as the existing distance from the nearest point of the structure to the property line is not reduced, and the square footage of new intrusion into the setback does not exceed 50% of the square footage of the current intrusion.

7. In wetlands, watercourses and their buffers, existing structures that do not meet the requirements of the Critical Areas Overlay District chapter of this title may be remodeled, reconstructed or replaced, provided that:

a. The new construction does not further intrude into or adversely impact an undeveloped sensitive area or the required buffer except where interrupted buffer waiver has been granted by the Director. However legally constructed buildings other than accessory structures may:

- i) Expand vertically to add upper stories in exchange for buffer enhancement; and no significant tree is removed.
- ii) Expand laterally along the building side that is opposite of critical area up to a maximum of 1000 sq. ft; provided that expansion is outside 75 percent of the required buffer; buffer enhancement is proposed; and no significant tree is removed.
- iii) Expand laterally along the existing building lines in exchange for buffer enhancement; provided the expansion into the buffer is less than 50 percent of the current encroachment or 500 sq. ft, whichever is less. Further under this option expansion is outside 75 percent of the required buffer; and no significant tree is removed.
- iv) Enclose within existing footprint in exchange for buffer enhancement; and no significant tree is removed.

b. The new construction does not threaten the public health, safety or welfare; and

c. The structure otherwise meets the requirements of this chapter.

8. In areas of potential geologic instability, coal mine hazard areas, and buffers, as defined in the Sensitive Areas Overlay District chapter of this title, existing structures may be remodeled, reconstructed or replaced, provided that:

a. The new construction is subject to the geotechnical report requirements and standards of TMC Sections 18.45.120B and 18.45.120C;

b. The new construction does not threaten the public health, safety or welfare;

c. The new construction does not increase the potential for soil erosion or result in unacceptable risk or damage to existing or potential development or to neighboring properties; and

d. The structure otherwise meets the requirements of this chapter.