Appendix E: Critical Area Regulations Incorporated By Reference

E.1 Incorporation of Title 24 TCC

A. RCW 90.58.090(4) and RCW 36.70A.480(3) require jurisdictions to incorporate protections for critical areas into their master programs for those critical areas occurring within shoreline jurisdiction. All critical areas located within the minimum shoreline jurisdiction as defined in RCW 90.58 and 173-22 WAC are considered part of shoreline jurisdiction governed by this program. The entire extent of critical areas located partially within minimum shoreline jurisdiction, and buffers necessary to protect those critical areas, are also part of shoreline jurisdiction governed by this program, with the exception of critical aquifer recharge areas, lahar hazards, seismic hazards, mine hazards, and terrestrial species and their habitats subject to Chapter 24.25 TCC.

Development standards for all critical areas as included in this Program will continue to apply within shoreline jurisdiction, unless noted otherwise below. Permitting and administration for critical areas within shoreline jurisdiction shall be handled solely by the SMP. In general, the following critical areas provisions do not apply within shoreline jurisdiction:

1. Requirements to obtain Reasonable Use Exceptions – these shall be replaced by shoreline variances.
2. Requirements to obtain Critical Area Review Permits or Critical Area Administrative Reviews – these shall be replaced by shoreline permits and approvals.
3. Statements about conflicts between regulatory documents. Such conflicts shall be handled pursuant to 19.100.125 TCC.

B. Relevant portions of the following sections of Title 24 TCC, Critical Areas Ordinance (Ordinance No. 14773, adopted July 24, 2012, and as amended through Ordinance No. 16260, adopted March 21, 2023), are incorporated herein by this reference, and are provided here for reference, except as supplemented or modified under Sections 19.400.115(B) - 19.400.115(G).

E.2 General Provisions (Chapter 24.01 TCC)

This chapter is incorporated into this appendix except paragraph 24.01.030(D). Conflicts between critical area and SMP provisions are handled by the SMP per 19.100.125(B).

24.01.005 Short title.

This title shall be known as the "Thurston County Critical Areas Ordinance."

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.010 Purpose—Statement of policy for critical areas.

These regulations are intended to:

A. Minimize loss of life, injury, and property damage due to natural hazards such as flooding, landslides, seismic events, and volcanic eruptions, minimize the need for emergency rescue, and avoid the cost of replacing public facilities;

B. Identify and protect the functions and values of unique, fragile, and vulnerable elements of the environment such as fish and wildlife habitats, wetlands, and other ecosystems;

C. Maintain water quality and quantity to meet human and wildlife needs;

D. Recognize and address cumulative adverse impacts that could degrade or deplete water resources, wetlands or fish and wildlife habitat, or exacerbate flooding and landslide hazards;

E. Alert the public to the development limitations and hazards associated with critical areas;

F. Protect critical areas, associated buffers designed to protect the functions of critical areas, and their functions and values while allowing reasonable use of property by: directing activities not essential in such areas to other locations; providing for review of proposed uses and activities on properties containing critical areas or their buffers to achieve compliance with standards designed to minimize impacts to critical areas and associated buffers; and providing for mitigation of unavoidable impacts;

G. Establish enforcement tools and processes designed to deter activities in violation of this chapter and provide for remedial action for unauthorized impacts to critical areas and their buffers;

H. Promote programs to protect and enhance critical areas where agricultural activities are conducted, while maintaining and improving the long-term viability of agriculture;

I. Implement the Washington State Growth Management Act (RCW 36.70A), including consideration of best available science in the designation, protection, and management of critical areas, with special consideration for the protection of anadromous fish; and

J. Carry out the goals and policies of the Thurston County Comprehensive Plan.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.015 Purpose—Statements for critical areas categories.

A specific purpose statement also begins each of the critical areas categories.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.020 Critical areas designated.

To carry out the purposes of this title and the Growth Management Act (RCW 36.70A), the following critical areas further described in this title shall be designated in the unincorporated territory of Thurston County:

A. Critical aquifer recharge areas;

B. Geologic hazards;

C. Frequently flooded areas;

D. Fish and wildlife habitat conservation areas; and

E. Wetlands.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.025 Applicability of critical areas regulations.

The provisions of this title for regulating critical areas shall apply to all land, all water areas and all structures, and all uses irrespective of lot lines in the unincorporated territory of Thurston County, Washington, except for agricultural activities and facilities. Agricultural activities meeting the requirements of TCC Section 17.15.110 shall be regulated by Chapter 17.15 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 2(Att. B), 12-17-2013)

24.01.030 Interpretations.

For the purposes of this title, certain words and terms shall be interpreted as follows:

A. The director shall review and resolve any questions involving the proper interpretation or application of the provisions of this title that may be requested by any property owner, tenant, government officer, department, or other person affected. The director's decision shall be in keeping with the intent of this title, the Thurston County Comprehensive Plan, the Growth Management Act, and other applicable federal, state and county regulations.

B. Recognizing that there may be uses not specifically mentioned in this title, either because of advancing technology or any other reason, the director may permit or condition such use if it is clearly evident that the use is consistent with the listed principal uses permitted in the critical area in which it is to be located. The decision by the director shall be in writing, published on the county's web page, and can be appealed in accordance with this title.

C. When interpreting and applying the regulations of this code, its provisions shall be the minimum requirements, unless otherwise stated.

D. [Not incorporated]

E. When the exact location of a critical area or buffer is in doubt, or where there appears to be a conflict between a mapped boundary and actual field conditions, county personnel shall determine the correct boundary. The approval authority may also require submittal of a report by a qualified professional, at the applicant's expense, as needed to make such determinations. The approval authority may, at the applicant's expense, require a third party review of a report. The approval authority shall determine the third party reviewer.

F. In the event that a boundary on an official county critical areas map depicting critical areas conflicts with the application of the text of this chapter, the text shall control.

G. Words used in the present tense can include the future; words used in the masculine gender can include the feminine and neuter; words in the singular number can include the plural; and words in the plural can include the singular, unless obvious construction of the wording indicates otherwise.

H. The inclusion of the words "must" and "shall" in a regulation indicates the requirement is mandatory.

I. Unless otherwise specified, all distances shall be measured horizontally and at right angles to the line from which the distance is specified.

J. Unless otherwise specified, the term "day" shall mean calendar day.

K. The word "used" shall be deemed to also include "designed, intended, or arranged to be used"; the term "erected" shall be deemed also to include "constructed, reconstructed, altered, placed or relocated."

L. The terms "land use" and "use of land" shall be deemed also to include the building use and use of building.

M. The terms "Board of Thurston County Commissioners," "planning commission," "hearing examiner," "resource stewardship director," "health officer," "building officer," "building inspector" and other similar officers shall mean the respective boards, commissions, and officers of Thurston County and/or their authorized agents. The use of the term "board" or "Board" shall always mean the Board of Thurston County Commissioners. The use of the terms "planning commission" or "Planning Commission" shall always mean the Thurston County Planning Commission. The use of the terms "examiner" or "hearing examiner" shall always mean the Thurston County Hearings Examiner. The term "director" shall always mean the resource stewardship director or designee.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.035 General requirements.

A. Avoid Impacts. All uses and activities on sites containing critical areas and/or associated buffers or riparian or marine shoreline management zones shall be located, designed and constructed to avoid or, where that is not possible, minimize all adverse impacts to critical areas, associated buffers designed to protect the functions of critical areas, and management zones. The county shall not authorize impacts to critical areas or buffers unless the applicant demonstrates an inability to avoid impacts and that there will be no net loss of critical area functions as required in subsection (B). Impacts to critical areas and associated buffers that cannot be avoided shall be minimized by sensitive site design and appropriate precautions during the permitted activity and as specifically provided for in this title.

B. No Net Loss of Critical Area Functions. Uses and activities carried out pursuant to this title shall result in equivalent or, if the applicant chooses, greater critical area functions. Impacts to critical areas, and associated buffers designed to protect the functions of critical areas, shall be repaired or mitigated through restoration, replacement, enhancement, or through purchase of credits at a mitigation bank consistent with the applicable provisions of this title.

C. Monitoring. In addition to the specific monitoring requirements in this title, the approval authority may require that permitted uses and mitigation projects be reviewed at appropriate intervals as necessary to ensure that they are functioning consistent with the project approval and applicable provisions of this title. The approval authority may require remedial action as warranted to correct problems identified during monitoring to avoid degradation of critical areas and associated buffers designed to protect the functions of critical areas, and to ensure that any required mitigation is successful.

D. Access to Enable Administration. Property owners shall grant access to the county, or designee, for the purpose of inspecting sites proposed for development and performing monitoring required pursuant to this title. County personnel shall present proper credentials and make a reasonable effort to contact the property owner before entering onto private property.

E. Forestry. As required by state law, forestry and associated development subject to county approval under Chapter 17.25 TCC, Thurston County Forest Lands Conversion Ordinance, are subject to the provisions of this chapter. In the event that any provision of this chapter conflicts with state forest practices regulations, the County shall apply the more restrictive provision to uses subject to Chapter 17.25 TCC.

F. Property Assessment Relief. The Thurston County Assessor shall consider the restrictions on property use imposed pursuant to this title, particularly on conservation areas and critical area tracts, when determining the fair market value of land.

G. Construction Setbacks. Construction activity must occur outside of the critical area and associated buffer unless specifically authorized pursuant to this title. Structures or uses requiring a permit shall be set back a minimum of fifteen feet from wetland buffers, riparian habitat areas, marine buffers, important habitat buffers, priority species conservation areas, and landslide hazards area buffers unless the applicant demonstrates to the approval authority's satisfaction that the proposed construction activity will not encroach into the protected area. Structures and uses not requiring a building permit are required to observe the setbacks and other requirements of this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.037 Mitigation sequencing.

Mitigation actions associated with development proposals impacting critical areas shall adhere to the following mitigation sequence:

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

B. Minimizing 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;

C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

F. Monitoring the impact and taking appropriate corrective measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.040 Critical areas maps.

A. Official Maps. The resource stewardship department director, or designee, shall maintain the official critical areas maps.

B. Maps Submitted by Applicants. Applicants shall submit required maps delineating critical areas and/or associated buffers in a digital format acceptable to the county to enable incorporation of the data in the official critical areas maps.

C. Map Omissions. The presence of critical areas or associated buffers on a parcel triggers the requirements of this chapter, regardless of whether or not a critical area or buffer is depicted on an official critical areas map.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.050 Best available science.

A. The Growth Management Act (RCW 36.70A) requires jurisdictions to consider the best available science in developing policies and development regulations to designate and protect critical areas. Best available science guidance criteria are located in WAC 365-195-900 through 365-195-925, as amended, which have been incorporated in the definition for best available science in this title (Chapter 24.03 TCC).

B. Thurston County has considered and included best available science in developing this title. This has been achieved through research and consultation with experts, including state and federal agencies. Relevant nonscientific information, including legal, social, policy, economic, and land use issues has also been considered. The use of nonscientific information reflects the county's responsibility to balance the goals of the Growth Management Act (RCW 36.70A), and the need to address local circumstances. The county shall also use its authority under the State Environmental Policy Act (RCW 43.21C) to identify, consider, and mitigate where appropriate, significant adverse effects on critical areas not otherwise addressed by this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.3 Definitions (Chapter 24.03 TCC)

The following section of the CAO is included, except where conflict exists, then the definitions in this Program shall govern.

24.03.010 Definitions.

The following definitions, as well as those found in Section 17.15.200 TCC shall apply to this title:

"Accessory structure" means a structure detached from the principal building located on the same lot and customarily incidental and subordinate to the principal building. Any part of the main building which shares a common wall and roof is considered a part of that building. A building or portion thereof attached to a primary structure by a covered breezeway is not considered attached.

"Accessory use" means a use of land or a portion thereof customarily incidental and subordinate to the principal use of the land and located on the same lot with the principal use.

"Accessory use, residential" means an accessory use to a primary residence as defined in this chapter, including but not limited to keeping household pets, private pools, docks, boathouses, detached accessory structures, private green houses, and agriculture or gardening for personal consumption which is secondary to the use of the property as a residence, including no employees.

"Adjacent" means nearby and not necessarily contiguous.

"Adjoins" means sharing a common boundary of sufficient width to maintain vehicular access.

"Alteration, structure" means change to, addition to, or modification of an existing physical structure beyond routine repair and maintenance but not amounting to complete replacement. This includes changes to the supporting members of a building such as bare walls, columns, beams, floor joists, roof joists, girders, rafters, or changes in roof or exterior building footprint. An alteration also includes activity that requires a building permit. The cost of an alteration shall not exceed fifty percent of the structure's current market value as determined by an accredited appraisal or the assessor's valuation, at the owner's option. The value shall be determined based the value of the structure either before the repair, maintenance, alternation, or expansion is started, or if the structure has been damaged, and is being restored, before the damage occurred.

"Alteration, use" means change to, addition to, or modification of an existing use, including any human activity that results or is likely to result in an adverse impact upon the existing condition of a critical area or its buffer. "Alteration" does not include passive recreation such as walking, fishing or similar low impact activities.

"Anadromous fish" means fish that hatch and rear, to some extent, in freshwater, migrate to marine waters to feed and mature, then return to freshwater to spawn. Examples include salmon, steelhead trout, sea-run cutthroat trout, sea-run Dolly Varden, sea-run bull trout, and Pacific and river lamprey.

"Applicant" means any person, business entity, or a government agency which applies for a development proposal, permit or approval subject to review under this chapter.

"Approval authority" means the director of the Thurston County Resource Stewardship Department, or his/her designee, for administrative permits or the hearings examiner for proposals as shown in Chapter 24.05 TCC.

"Aquatic noxious weeds" means aquatic plants on the state noxious weed list as prescribed by RCW 17.10.010.

"Aquatic plants" means beneficial plants and noxious weeds that occur within the ordinary high water mark (OHWM) of state waters.

"(Nitrate) Assimilative capacity" means the difference between the nitrate water quality standard of 10.0 mg/l and the site background nitrate concentration. Maximum contaminant levels for drinking water are defined by Chapter 246-290 WAC.

"Bankfull depth" means the average vertical distance between the channel bed and the estimated water surface elevation required to completely fill the channel to a point above which water would enter the flood plain or intersect a terrace or hillslope. In cases where multiple channels exist, the bankfull depth is the average depth of all channels along the cross-section.

"Bankfull width" means:

(a) For streams, the measurement of the lateral extent of the water surface elevation perpendicular to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the sum of the individual channel widths along the cross-section;

(b) For lakes, ponds, and impoundments, line of mean high water.

(c) For tidal water, line of mean high tide.

(d) For periodically inundated areas of associated wetlands, line of periodic inundation, which will be found by examining the edge of inundation to ascertain where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland.

"Base flood elevation (BFE)" means the flood elevation as indicated on any of the following:

(a) Thurston County Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA), supplemented by the current Flood Insurance Study for Thurston County; or

(b) The Thurston County High Ground Water Hazard Area Resource Map on file with the Resource Stewardship Department or recognized by a detailed Thurston County groundwater study; or

(c) The highest known recorded flood elevation.

If there is more than one base elevation listed, the county shall utilize whichever elevation is greater.

"Beneficial use" means the use of solid waste as an ingredient in a manufacturing process, or as an effective substitute for natural or commercial products, in a manner that does not pose a threat to human health or the environment. Avoidance of processing or disposal cost alone does not constitute beneficial use.

"Best available science" means scientific information applicable to this title that is prepared by local, state or federal natural resource agencies, scientifically based peer reviewed literature, a qualified scientific professional or a team of qualified scientific professionals, that is consistent with the Growth Management Act (RCW 36.70A) and the criteria established in the Washington Administrative Code regarding best available science (WAC 365-195-900 through 365-195-925, as amended) to implement the Growth Management Act.

"Best management practices (BMPs)" means conservation practices or systems of practices and management measures that:

(a) Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics, or sediment;

(b) Minimize adverse impacts to surface water and groundwater flow and circulation patterns and to the chemical, physical, and biological characteristics of a critical area;

(c) Protect trees, vegetation and soils designated to be retained during and after site construction and use native plant species appropriate to the site for re-vegetation of disturbed areas; and

(d) Provide standards for property use of chemical herbicides within critical areas.

"Bioengineering" means use of plant materials, particularly native plants, that have root systems that stabilize the soil and are adapted to the local climate and soil conditions; and large woody debris, designed to stabilize eroding stream channels and banks, marine shorelines, or slopes. Bioengineering may contain limited structural elements for anchoring such as rock.

"Biosolids" means municipal sewage sludge that is a primarily organic, semisolid product resulting from the waste-water treatment process, that can be beneficially recycled and meets all requirements under chapter 173-308 WAC, and other applicable provisions of the Thurston County Code, as amended. Biosolids includes a material derived from biosolids, and septic tank sludge, also known as septage, that

can be beneficially recycled and meets all applicable requirements under chapter 173-308 WAC, as amended.

"Buffer, critical area" means that area which surrounds and protects the functions and values of critical areas from adverse impacts, minimizes public safety risks, and/or which may provide wildlife habitat integrally related to the critical area. See also "riparian habitat area."

"Buildable area" or "building envelope" means the three-dimensional space within which a structure or development is permitted to be built on a lot and which is defined by regulations in this title and subject to other provisions of the Thurston County Code, state and federal laws.

"Building" means any structure used or intended for supporting or sheltering any use or occupancy. The word building includes the word structure and the word structure includes the word building.

"Building footprint" means the area delineated by the outer edge of the foundation.

"Bulkhead" means walls or structures constructed parallel to the shoreline whose primary purpose is to retain the slope or prevent the erosion of soil due to wave action.

"Channel migration zone" means the area where the active channel of a stream is prone to move, resulting in a potential near-term loss of riparian function and associated habitat adjacent to the stream, except as modified by a permanent levee or dike. For this purpose, near-term means the time scale required to grow a mature forest; those areas within the lateral extent of likely stream channel movement that are subject to risk due to stream bank destabilization, rapid stream incision, stream bank erosion, and shifts in the location of stream channels.

"Channel migration hazard area - one hundred year" means a portion of the channel migration zone, including the present channel, that equals one hundred times the average annual channel migration rate, plus the present channel width.

"Chemical storage" means the storage of chemicals within an enclosed container or structure.

"Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the flood insurance rate map (FIRM) as Zone V1-30, VE or V.

"Composting" means the biological degradation and transformation of organic solid waste under controlled conditions designed to promote aerobic decomposition. Natural decay of organic solid waste under uncontrolled conditions is not composting.

"Composting facility" means all contiguous land (including buffer zones) and structures, other appurtenances, and improvements on the land used for composting. This does not include home composting.

"Conservation area" means an easement or area shown on a lot or plat that contains one or more types of critical areas, but may not itself constitute a separate lot.

"Conservation easement" means a limited protective easement granted to Thurston County or a nonprofit entity (e.g., Land Trust) to enable the county to protect a critical area and associated buffer from use and development that is inconsistent with this title.

"Construction period" means the period during which all construction related activities are initiated and completed, including but not limited to, clearing, grading, building, finishing and landscaping.

"Contaminants of emerging concern (CECs)" means substances present in water or soils, for which environmental or health standards have not been established. These are often generally referred to as "contaminants of emerging concern" because the risk to human health and the environment associated with their presence, frequency of occurrence, or source may not be known. These substances are known to include endocrine disrupting chemicals, perfluorinated compounds, and pharmaceuticals and personal care products. Contaminants of emerging concern may also be referred to as "constituents of emerging concern," "compounds of emerging concern" or "chemicals of emerging concern."

"Contamination" means the presence in the outdoor atmosphere, ground, or water of any substances, contaminants, noise, or man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of air or water, in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal, or plant life, or property, or unreasonably interfere with the enjoyment of life or property.

"County" means the County of Thurston, State of Washington, unless otherwise specified by this title.

"County boundary" means the exterior boundary of the county.

"Contiguous." See "adjoins."

"Critical aquifer recharge area" means an area with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge.

"Critical area tract" means an area containing a critical area owned in common by the owners of separate lots within a development proposal, and/or a conservation easement or lot.

"Critical areas" means the following areas, as per RCW 36.70A:

1. Critical aquifer recharge areas;
2. Geologic hazard areas;
3. Fish and wildlife habitat conservation areas;
4. Flood and channel migration hazard areas; and
5. Wetlands.

"Critical facilities" means those facilities which are particularly vulnerable to natural disasters, or which pose a high risk to the public if damaged (e.g. dams), or which are necessary for emergency (e.g., earthquake, flood, etc.) operations or are listed as category III or IV in the International building code. Refer to Table 24.15-2 for a current list of "Critical Facilities for Thurston County."

"Crown cover" means the area covered by tree crowns.

"Danger tree." See "hazard tree."

"Department" means the "resource stewardship department" unless otherwise specified in this title.

"Development" means any human-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, clearing, paving, excavation or drilling operations, storage of equipment or materials, or any other activity which results in the removal of vegetation or in the alteration of natural site characteristics.

"Development proposal" means any of the activities relating to the use and/or development of land requiring a permit or approval from Thurston County as described in this title.

"Development proposal site" means the legal boundaries of the parcel or parcels on which an applicant has applied for authority from Thurston County to carry out a development proposal.

"Dispersion" means the release of surface and stormwater runoff from a drainage facility system such that the flow spreads over a wide area and is located so as not to allow flow to concentrate anywhere upstream of a drainage channel with erodible underlying granular soils.

"Drainage district" means an active drainage district as provided in chapters 85.06 and 85.38 RCW. Active drainage districts in Thurston County include, but are not limited to, Chambers Lake, Hopkins Creek (i.e. Hopkins Ditch), and Scott Lake.

"Dripline" means the area defined by the outermost circumference of a tree canopy.

"Dry cleaner facility" means an establishment which launders or dry cleans articles dropped off on the premises directly by the customer, but excluding facilities where articles are dropped off, sorted, and picked up but where laundering or cleaning is done elsewhere.

"Duff layer" means the matted, friable, partly decomposed, organic surface layer of forested soils. This term is used to identify a generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

"Emergency" means an unanticipated and immediate threat to public health, safety or the environment which requires immediate action within a time period too short to allow submission and review of an application in compliance with this chapter.

"Enhancement" means an action which improves the functions of a stream, wetland, or other wildlife habitat.

"Erosion hazard areas" means land characterized by soil types that are subject to severe erosion when disturbed. These include, but are not limited to, those identified by the United States Department of Agriculture Soil Conservation Service Soil Classification System, with a water erosion hazard of "severe" or "high" (See Table 24.15-3, Erosion Soils of Thurston County). These areas may not be highly erodible until or unless the soil is disturbed by activities such as clearing or grading.

"Exotic" means any species of plants or animals not indigenous to Thurston County.

"Expansion" means alteration of a structure beyond the existing building footprint, or the alteration of a use beyond the existing use area. Also see definition of "alteration."

"Expansion, vertical." Refer to definition of "alteration."

"Federal" means the federal government of the United States.

"Federally designated endangered and threatened species" means those fish and wildlife species identified by the U.S. Fish and Wildlife Service that are in danger of extinction or threatened to become endangered.

"Fill" means a deposit or redistribution of any earth, vegetation, debris or other materials within a one-hundred-year floodplain; or within an important habitat, lake, pond, stream, or wetland; and their associated buffers as described in this chapter. Large woody debris or other native materials approved as a part of a habitat restoration project shall not be considered fill.

"Fish and wildlife habitat conservation" means land management for maintaining populations of species in suitable habitats within their natural geographic distribution so that the habitat available is sufficient to support viable populations over the long term and isolated subpopulations are not created. This does not mean maintaining all individuals of all species at all times, but it does mean not degrading or reducing populations or habitats so that they are no longer viable over the long term.

"Fish and wildlife habitat conservation areas" are areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness. These also include locally important habitats and species.

Fish and wildlife habitat conservation areas that must be considered for classification and designation include:

A. Areas where endangered, threatened, and sensitive species have a primary association;

B. Habitats and species of local importance, as determined locally;

C. Commercial and recreational shellfish areas;

D. Kelp and eelgrass beds; herring, smelt, and other forage fish spawning areas;

E. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;

F. Waters of the state;

G. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;

H. State natural area preserves, natural resource conservation areas, and state wildlife areas; and

I. Any other habitat areas as defined by WAC 365-190-130, as amended.

"Fish hatcheries" mean those structures, ponds and on-site improvements used for the propagation and rearing of various types of fin-fish but does not include egg boxes, egg tubes or other similar fisheries enhancement activities undertaken within the stream channel.

"Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from: the overflow of inland or tidal waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

"Floodplain, one hundred-year," "one hundred-year floodplain" or "flood hazard areas" means those lands which are subject to a one percent or greater chance of flooding in any year. (Refer to Figures 11 and 12 located at the end of this chapter.)

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Flood protection facility" or "flow control facility" means those physical structural works which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to flooding and the extent of the depths of associated flooding. Such a system typically includes dams, reservoirs, levees, or dikes.

"Forest, mature" means a stand of trees that have developed for ninety years or longer.

"Forest, old growth" means a stand of trees that have developed for one hundred fifty years or longer and have the following structural characteristics: large old-growth trees, large snags, large logs on land, and large logs in streams.

"Forest practices" means any activity conducted on or impacting forest land. This may include, but is not limited to:

1. Road and trail construction;
2. Harvesting, final and intermediate;
3. Precommercial thinning;
4. Reforestation;
5. Fertilization;
6. Prevention and suppression of diseases and insects;
7. Salvage of trees; and
8. Brush control.

Forest practices shall not include preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

"Frequently flooded areas" means lands in the flood plain subject to at least a one percent or greater chance of flooding in any given year or areas within the highest known recorded flood elevation, or within areas subject to flooding due to high ground water. This includes all areas within unincorporated Thurston County identified on flood insurance rate maps prepared by the Federal Insurance Administration, as supplemented by "The Flood Insurance Study for Thurston County," dated November 17, 1980, as amended. (These maps and the referenced report shall be on file with the department at the Thurston County Permit Assistance Center). Frequently flooded areas may include special flood hazard areas as defined in Chapter 14.38 TCC or high ground water flood hazard areas, where high ground water forms ponds on the ground surface, or may overlap with other critical areas, such as streams, rivers, lakes, coastal areas, and wetlands.

"Functions and values" or "functions" means the beneficial roles served by critical areas. For example, functions and values associated with wetlands include: water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, groundwater recharge and discharge, erosion control, wave attenuation, aesthetic value and recreation.

"Gardening for personal consumption" means the production of typical garden crops (e.g. fruits, vegetables and herbs) that are not intended for retail sale. Generally, personal gardens are no larger than two thousand square feet and do not require clearing of habitat areas or buffers.

"Geologic hazard areas" means those areas that because of their susceptibility to erosion, landsliding, earthquake, volcanic lahar, liquefaction or other geological events, are not suited to siting commercial, residential or industrial development consistent with public health or safety concerns.

"Geologist" means a person who has earned a degree in geology from an accredited college or university, or a person who has equivalent educational training and has experience as a practicing geologist, licensed in the State of Washington.

"Geotechnical engineer" means a practicing, geotechnical/ civil engineer licensed as a professional civil engineer with the State of Washington who has at least four years of professional employment pertaining to the field of geotechnical engineering.

"Geotechnical professional" means a person with experience and training in analyzing, evaluating, and mitigating any of the following: landslide, erosion, seismic, volcanic and/or mine hazards, or hydrogeology, fluvial geomorphology and river dynamics. A geotechnical professional shall be licensed in the State of Washington as an engineering geologist or professional engineer. In accordance with WAC 308-15-140 and 196-27-020, engineering geologists and professional engineers shall affix their signatures or seals only to plans or documents dealing with subject matter in which they are qualified by training or experience.

"Grading" means any excavating or filling of soil, or removal of the duff layer, or any combination thereof.

"Habitats of local importance" means those habitats designated as locally important by Thurston County. These may include a seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long-term. These might include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These might also include habitats that are of limited availability or high vulnerability to alteration. Also see "species of local importance."

"Hazardous materials" means those substances, debris and waste which are a physical or health hazard, chemical substances that are ignitable, corrosive, reactive or toxic, consistent with Chapter 173-303 WAC and the International Fire Code (2009), as amended, including chemicals listed in WAC 173-303-9903 as "P" chemicals.

"Hazard tree" or "danger tree" means a tree with a high probability of falling due to a debilitating disease, a structural defect, a root ball more than fifty percent exposed, or having been exposed to wind throw within the past ten years, and where there is a residence or residential accessory structure within a tree length of the base of the trunk, or where the top of a bluff or landslide hazard area is endangered. Where not immediately apparent to the review authority, the danger tree determination shall be made after review of a report prepared by an arborist certified in Washington State.

"Health officer" means that person of the Thurston County health department described as such in Chapter 70.05 RCW or his/her duly authorized representative.

"High ground water flood hazard areas" means an area where flooding occurs as a result of subsurface geologic conditions that prevent recharging water from moving downward or laterally as fast as it enters the ground water system. The result is a rise in the ground water table and accumulation of surfacing ground water, typically intermixed with stormwater that cannot infiltrate, at low points on the ground's surface. Such ponding may persist over protracted periods of time.

"Home composting" means composting of wastes generated on site, and incidental materials beneficial to the composting process, by the owner or person in control of a single-family residence, or for a dwelling that houses two to five families, such as a duplex or clustered dwellings.

"Hydric soil" means a soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil column. The presence of hydric soil shall be determined following the methods described in the Corps of Engineers Wetlands Delineation Manual (1987, as amended), with "Washington Regional Guidance on the 1987 Wetlands Delineation Manual" (1994, as amended). A list of "Hydric Soils of Thurston County" is contained in Table 24.30-5.

"Hydrologic regime" means the distribution over time of water in a watershed, among precipitation, evaporation, soil moisture, groundwater storage, surface storage, and runoff.

"Impervious surface" means pavement (compacted gravel, asphalt and concrete), roofs, revetments, or any other human-made surface which substantially impedes the infiltration of precipitation and other surface water that had entered the soil under natural conditions prior to development; and/or that hard surface area that causes water to run off the surface in greater quantities or at an increased rate of flow from that present under natural conditions prior to development. Common impervious surfaces include, but are not limited to: rooftops, walkways, patios, driveways, parking lots, concrete or asphalt paving, gravel roads, and packed earthen materials.

"Important habitats," "important species" or "important habitats and species" means those federal, state priority habitats and species and those local habitats and species recognized as such by this title. Also see "fish and wildlife habitat conservation."

"Important marine habitats" means marine shorelines of statewide significance and marine shorelines of the state (see chapter 90.58 RCW and related rules) consistent with WAC 173-26-221(2)(iii)(A). It also applies to marine areas supporting kelp and eelgrass beds; herring spawning areas; intertidal areas supporting surf smelt and sand lance spawning, salmonids, and shellfish beds sustaining commercial or recreational harvest, including shellfish protection districts established pursuant to Chapter 90.72 RCW.

"Integrated pest management (IPM)" means an approach to pest and vegetation control that utilizes regular monitoring to determine if and when treatments are needed. The approach emphasizes physical, mechanical, cultural, and biological tactics to keep pest numbers or vegetation problems low enough to prevent intolerable damage, annoyance, or public safety hazards. When chemical controls are necessary, they will be the least toxic available and will be used only when no other control methods would be effective or practical. Components for integrated pest management programs are established in the Thurston County Pest and Vegetation Management Policy.

"Intensification" means to alter the character of a use to the extent that the use generates new or greater impacts on the critical area and/or any associated buffers. See Section 24.50.035 TCC.

"Intensive use" means land uses that involve use or storage of hazardous materials or would generate excessive nutrients, sediments, or pollutants on property containing critical areas and/or buffers.

"Intermediate stability (I)" means slopes that are generally steeper than fifteen percent except where conditions such as weaker material and/or abundant groundwater exist. Identified areas include slopes of sand and gravel, till, or thin soils over bedrock which have no known failures. (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980).)

"Invasive species" means nonnative organisms that cause economic or environmental harm and are capable of spreading to new areas of the state. "Invasive species" does not include domestic livestock, intentionally planted agronomic crops, or non-harmful exotic organisms.

"Lahar" means a flowing mixture of water-saturated debris that moves downslope under the force of gravity. Debris flows consist of material varying in size from clay to blocks several tens of meters in maximum dimension. When moving, they resemble masses of wet concrete and tend to flow downslope along channels or stream valleys. Debris flows are formed when loose masses of unconsolidated wet debris become unstable. Water may be supplied by rainfall or by melting of snow or ice. Debris flows may be formed directly if lava or pyroclastic flows are erupted onto ice or snow. Debris flows may be either hot or cold, depending on their manner of origin and temperature of their constituent debris.

"Lake" means a naturally existing or artificially created body of standing water twenty acres or larger in size. Lakes include reservoirs which exist on a year-round basis and occur in a depression of land or expanded part of a stream. A lake is bounded by the ordinary high water mark or the extension of the elevation of the lake's ordinary high water mark within the stream, where the stream enters the lake. All lakes meet the criteria of Chapter 90.58 RCW (Shoreline Management Act) and have been inventoried as "shorelines of the state" under the Shoreline Master Program for the Thurston Region, and Chapter 19.04 TCC.

"Landslide" means episodic downslope movement of a mass of soil or rock that includes but is not limited to rockfalls, slumps, mudflows, earthflows and snow avalanches.

"Landslide hazard areas" means those areas which are potentially subject to risk of landslide due to a combination of geologic, topographic, and/or hydrologic factors; and where the vertical height is fifteen feet or more, excluding those wholly manmade slopes created under the design and inspection of a geotechnical professional. The following areas, at a minimum, are considered to be subject to landslide hazards:

A. Any area with a combination of:

1. Slopes of fifteen percent or steeper; and

2. Impermeable subsurface material (typically silt and clay), frequently interbedded with granular soils (predominantly sand and gravel); and

3. Springs or seeping groundwater during the wet season;

B. Slopes of forty percent or greater;

C. Any areas located on a landslide feature which has shown movement during the Holocene Epoch (post glacial) or which is underlain by mass wastage debris from that period of time;

D. Known hazard areas, such as areas of historic failures, including areas of unstable, old and recent landslides;

E. Breaks between landslide hazard areas shall be considered part of the landslide hazard area under the following condition: The length of the break is twice the height or less than the height of the slope below or above the break, whichever is greater; and the combined height is fifteen feet or more. When this condition is present, the upper and lower landslide hazard areas and the break shall be combined into one landslide hazard area.

"Large woody debris" means fallen trees and limbs with a minimum diameter of four inches and a minimum length of six feet that protrude or lay within a stream channel. These materials can include whole trees with a rootwad and limbs attached or portions of trees with or without rootwad or limbs.

"Legal lot" means a lot that meets the criteria for a legal lot in title 18 TCC, Platting and Subdivisions. The word "lot" includes the word "plot."

"Liquefaction" means a phenomenon in which strong earthquake shaking causes a soil to rapidly lose its strength and behave like quicksand. Liquefaction typically occurs in artificial fills and in areas of loose sandy soils that are saturated with water, such as low-lying coastal areas, lakeshores, and river valleys.

"Maintenance." See "repair and maintenance."

"Mass wasting" means one of several processes by which a large mass of rock or earth material is moved down slope by gravity.

"Marine bluff" means all the shorelines of Puget Sound, excluding the Nisqually Delta which extends from Luhr Beach easterly to the center of the Nisqually River.

"Marine bluff hazard area" means the following:

A. Those marine bluffs which have a vertical height of fifteen feet or more, including the upland area which lies within two hundred feet of the top of the marine bluff; or

B. Those marine bluffs mapped as "unstable"(U), "unstable recent landslide" (URS), unstable old landslide" (UOS) or "intermediate stability" (I) on the maps of the Coastal Zone Atlas of Washington; Volume 8 Thurston County (1980), including the upland area which lies within two hundred feet of the top of the marine bluff; provided that bluffs less than fifteen feet high and determined stable on an individual parcel basis by the approval authority may be excluded.

C. Known hazard areas, such as areas of historic failures or areas with active bluff retreat that exhibit continuing sloughing of bluff sediments resulting in a steep bluff face.

D. Breaks between marine bluff hazard areas shall be considered part of the marine bluff hazard area under the following condition: The length of the break is twice the height, or less, than the height of the slope below or above the break, whichever is greater, and the combined height is fifteen feet or more. When this condition is present, the upper and lower marine bluff hazard areas and the break shall be combined into one marine bluff hazard area.

E. Any other marine area that does not meet the criteria above may still be considered a landslide hazard area.

"Maximum contaminant level (MCL)" means the maximum concentration of a contaminant in water specified in WAC 246-290 and WAC 173-200, as amended.

"Methods of prevention and control" (MPCs) means reasonable methods of prevention and control. Examples of MPCs include, but are not limited to, pollution prevention plan development and implementation, routine maintenance, secondary containment, and measures to eliminate containment pathways to the source water.

"Minerals" include gravel, sand, and valuable metallic substances.

"Mine hazard areas" means those areas directly underlain by, adjacent to, or directly affected by mine workings such as adits (mine entrances), gangways (tunnels), drafts or air shafts.

"Mitigation bank" means a program to implement mitigation at a subwatershed or watershed scale and provide opportunities to provide larger, better habitat in advance of impacts. Mitigation banking involves the generation of "credits" through restoring, creating, and/or enhancing habitats. These credits can then be sold to permit applicants who need to offset the adverse impacts of projects that would occur within the "service area" of the bank. Wetland mitigation is regulated by Chapter 90.84 RCW. The U.S. Army Corps of Engineers and U.S. Environmental Protection Agency also offer guidance.

"Mitigation" or "compensatory mitigation" means replacing project-induced critical area losses or impacts, and includes, but is not limited to, restoration, creation or enhancement.

"Mitigation, wetland creation (establishment)" means the manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.

"Mitigation, enhancement" means the manipulation of the physical, chemical, or biological characteristics of a critical area to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in some critical area functions and can lead to a decline in other functions, but does not result in a gain in critical area acreage. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these activities.

"Mitigation, wetland protection/maintenance (preservation)" means removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term "preservation." Preservation does not result in a gain of wetland acres, may result in a gain in functions, and will be used only in exceptional circumstances.

"Mitigation, re-establishment" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former critical area. Re-establishment results in a gain in critical area acreage (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.

"Mitigation, rehabilitation" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland or other critical area. Rehabilitation results in a gain in critical area function but does not result in a gain in critical area

acreage. Activities could involve breaching a dike to reconnect wetlands to a floodplain or returning tidal influence to a wetland.

"Mitigation, restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland or other critical area. For the purpose of tracking net gains in wetland acres, restoration is divided into re-establishment and rehabilitation.

"Mitigation, in-kind" or "in-kind mitigation" means to replace wetlands, other critical areas, associated buffers and their functions with substituted critical areas/buffers whose characteristics closely approximate those destroyed or degraded by an allowable use or activity.

"Mitigation, out-of-kind" or "out-of-kind mitigation" means to replace a critical area, associated buffer and their functions with a substitute critical area and buffer whose characteristics do not closely approximate those destroyed or degraded by an allowable use or activity. It does not refer to replacement out-of-category.

"Mitigation, off-site" or "off-site mitigation" means to replace a critical area, buffer and their functions away from the site on which a critical area has been impacted by an allowable use or activity.

"Mitigation, project" means actions necessary to replace project-induced losses to the functions of a critical area, including land acquisition, planning, construction plans, monitoring and contingency actions.

"Mitigation sequencing." Refer to TCC 24.01.037.

"Monitoring" means the collection and analysis of data by various methods for the purposes of understanding and documenting changes in natural ecosystems and features, and includes gathering baseline data, evaluating the impacts of development proposals on the biological, hydrologic and geologic elements of such systems and assessing the performance of required mitigation measures.

"No development zone (NDZ)" means an area extending fifty feet, measured on a horizontal plane, from the outer edge of the high ground water hazard area or extending to a ground elevation two feet (vertically) above the base flood elevation, whichever is less. No development is allowed in the NDZ.

"No net loss" means that permitted uses in critical areas shall be designed and conducted in a manner consistent with WAC 197-11-768 to avoid, minimize and/or mitigate, in so far as practical, any resultant damage to the ecology and environment of the critical area. It may also encompass restoration of ecological functions necessary to sustain critical areas.

The concept of "net" as used herein, recognizes that any development has potential or actual, short-term or long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the critical area resources and functions as they currently exist.

"Nonconforming structure" means a building or a portion thereof, which was lawfully erected, altered or maintained prior to the adoption of this chapter, but because of the application of this chapter, does not conform to the provisions of this chapter.

"Nonconforming use" means an activity that was lawfully established prior to the adoption of this chapter, but because of the application of this chapter does not conform to the provisions of this chapter.

"Normal residential appurtenances" means those improvements or structures which are connected to the use and enjoyment of the single-family residence and are located landward of the ordinary high-water mark and includes a garage, deck, driveway and utilities.

"Noxious weed" means a plant that when established is highly destructive, competitive, or difficult to control by cultural or chemical practices. See "noxious weed control."

"Noxious weed control" means those activities subject to review or action by the Thurston County Noxious Weed Control Board to control noxious weeds. The noxious weed control board is authorized to carry out noxious weed control under Chapter 17.10 RCW, Noxious Weed Control Board Act, and adopts rules and regulations regarding the listing and control of noxious weeds consistent with Chapter 16-750 WAC and Chapter 17.10 RCW.

"Prior converted croplands" please see Section 17.15.200 Definitions—Critical areas, categories and terms, as amended.

"Oak habitat" means stands of Oregon white oak (Quercus garryana) or Oregon white oak/conifer associations where canopy coverage of the oak component of the stand is twenty-five percent or more; or where total canopy coverage of the stand is less than twenty-five percent, but oak accounts for at least fifty percent of the canopy coverage. The latter is often referred to as oak savanna. Oak habitat includes oak savannas and oak woodlands.

"Oak savanna" means an oak habitat with a community of widely spaced Oregon white oak trees (Quercus garryana) where total canopy coverage is less than twenty-five percent but where Oregon white oak accounts for at least fifty percent of the canopy coverage above a layer of native prairie grasses and forbs. The spacing of these trees is widely scattered so that there is no closed canopy and groups of trees. In degraded habitat, trees may be more widely spaced above a layer of non-native vegetation on developed property.

"Oak woodlands" means those stands of Oregon white oak (Quercus garryana) or Oregon white oak/conifer associations where the crown cover of the Oregon white oak component of the stand is greater than or equal to twenty-five percent. In degraded habitat, the Oregon white oak component of the stand may be less than twenty-five percent, or the canopy coverage may be less than fifty percent.

"Open space" means lands which are in a natural or underdeveloped character because they have not been developed with structures, paving or other appurtenances. Open space lands can refer to parks; recreation areas; conservation easements; critical area buffers, and/or critical area tracts.

"Ordinary high water mark" means the mark on all lakes, streams and tidal waters which is found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland; provided, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Permanent roof structure for deck or patio" means a legally permitted roof structure that, if enclosed, would create habitable living space in compliance with the Thurston County Building Code. This does not include canvas awnings or free-standing gazebo structures.

"Permitted use." See "use, permitted or allowed."

"Pier" means a structure generally built from the shore extending out over the water to provide moorage for commercial or private recreation water craft or float planes or for water-oriented recreation use. When such a structure is serving ten or more boats it is considered a marina. It may be either anchored and floating or permanently fixed to pilings.

"Pollution prevention plan" means a site-specific plan that addresses the avoidance of unplanned chemical release in the air, water, or land. It is based on deliberate waste management planning, site design, and operational practices.

"Pond" means a naturally existing or artificially created body of standing water less than twenty acres in size and not defined as "Shorelines of the State" by chapter 90.58 RCW (Shoreline Management Act) or as a wetland under this title. Ponds can include reservoirs which exist on a year-round basis and occur in a depression of land or expanded part of a stream, but shall exclude, wholly man-made legally permitted ski lakes, stormwater or agricultural stock ponds within the Nisqually or long-term agricultural districts. A pond is bounded by the ordinary high water mark or the extension of the elevation of the pond's ordinary high water mark within the stream, where the stream enters the pond.

"Prairie" or "westside prairie," means herbaceous, non-forested (forested means greater than or equal to sixty percent forest canopy cover) plant communities that can either take the form of a dry prairie where soils are well-drained or a wet prairie. In parts of the Puget Trough, prairies can sometimes be recognized by mounded topography commonly referred to as Mima Mounds. Mima Mounds are a unique geologic feature of prairie habitat in Thurston County.

"Prairie, dry" means prairies located in areas containing prairie vegetation. Although dry prairie can occur on other soils, typically it occurs on any one of the soils known to be associated with prairie (Table 24.25-6). Locations occurring on mapped prairie soils where the surface is impervious is not considered dry prairie. Certain vegetation characteristics typify dry prairie. These include the occurrence of diagnostic grasses, sedges, and forbs. Mosses, lichens, and bare ground may also be found in the spaces between grass and forbs cover.

The presence of certain diagnostic plants is required to establish an occurrence of dry prairie. In particular, three of the diagnostic grasses, sedges, or forbs (Table 24.25-8) are required to establish the presence of dry prairie.

Shrubs such as black hawthorn (Crataegus douglasii), kinnikinnick (Arctostaphylos uva-ursi), and oval-leaf viburnum (Viburnum ellipticum) can be found at low densities within dry prairies. Some Oregon white oak (Quercus garryana) can also be present in native prairie (see Oak Habitat).

Native and nonnative invasive plants typically dominate most remaining prairie. Common invasive species are Scot's broom (Cytisus scoparius), colonial bentgrass (Agrostis tenuis), common velvetgrass (Holcus lanatus), tall oat-grass (Arrhenatherum elatius), and Kentucky bluegrass (Poa pratensis). Douglas fir is also considered an invasive species with respect to prairie habitat. Other invasive grasses, forbs, and shrubs also may be present.

Marginal or fair condition areas may be dominated by non-native species with several native prairie species present (e.g. from Tables 24.25-7 and 24.25-8) or with a significant cover of native prairie species. Areas dominated by invasive species, such as Scot's broom (non-native shrub), can be restorable to prairie if they have native prairie species in the understory. Such marginal and restorable areas may have significant value if they are large in area, located close to prairies, or in a landscape that connects two or more prairies.

"Prairie, wet" means prairies located in areas containing prairie vegetation. Although wet prairie can occur on other soils, typically it occurs on any one of the soils where the surface topology and the groundwater table approach each other, and where local aquifers are present. Locations occurring on mapped prairie soils where the surface is impervious is not considered wet prairie. Wet prairies in the Puget Trough generally are found on glacial outwash soils that typically are limited to swales or low-gradient riparian areas. Three diagnostic grasses, sedges, or forbs from a combination of the wet prairie diagnostic species list (Table 24.25-7) and the dry prairie diagnostic species list (Table 24.25-8) are required to establish the presence of wet prairie.

Areas dominated by invasive species, such as Scot's broom (non-native shrub), can be restorable to prairie if they have native prairie species in the understory.

"Primary association" means the use of a habitat area by a listed or priority species for breeding/spawning, rearing young, nesting, roosting, feeding, foraging, and/or migrating on a frequent and/or regular basis during the appropriate season(s) as well as habitats that are used less frequently/regularly but which provide for essential life cycle functions such as breeding/nesting/spawning.

"Primary structure" means the structure in which the primary use of a given lot is conducted, as distinguished from a secondary or accessory structure.

"Primary use" means the principal or predominant use of any lot, building or structure.

"Priority habitat, state" or "state priority habitat" means a seasonal range or habitat element, so identified by the Washington Department of Fish and Wildlife, with which a given species has a primary association, or habitat types or elements with unique or significant value to a diverse assemblage of species, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. These might include areas of high relative diversity or species richness, breeding habitat, and winter range and movement corridors. These might also include habitats that are of limited availability or high vulnerability to alteration. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. Priority habitats and species are identified by the state department of fish and wildlife.

A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to fish and wildlife (such as oak woodlands or eelgrass meadows or beds). A priority habitat may also be described by a successional stage (such as, old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (such as a consolidated marine/estuarine shoreline, talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain priority and/or non-priority fish and wildlife.

"Priority species, state" or "state priority species" means those species that are so identified by the Washington Department of Wildlife due to their population status and their sensitivity to habitat manipulation. Priority species include those which are state-listed endangered, threatened and sensitive and candidate species; animal aggregations considered vulnerable; vulnerable species of recreational, commercial or tribal importance; as well as other species of concern and game species.

"Priority species conservation area" means the areas containing a documented priority species location and the associated buffer established pursuant to this chapter.

"Project area or boundary" means the geographic limits or the outer extent of the site to be altered or impacted by proposed development.

"Public agency" means any agency, political subdivision or unit of local government of this state including but not limited to municipal corporations, special purpose districts, and local service districts; any agency of the state of Washington, the United States or any state thereof; or any Indian tribe recognized as such by the federal government.

"Public facilities" means the buildings, streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools or uses of land whether owned or leased, operated by a public agency for such purposes as providing places for public assembly and recreation, operating services of benefit to the public or for the administration of public affairs.

"Public project of significant importance" means a project funded by a public agency, department or jurisdiction which is found to be of compelling interest to the citizens of Thurston County. The Thurston County board of commissioners may only declare a project as such in a resolution after a public hearing.

"Public services" mean fire protection and suppression, law enforcement, public health, education, recreation, environmental protection and other governmental services.

"Public use" means any area, building or structure held, used or controlled exclusively for public purposes by any department or branch of any government, without reference to the ownership of the building or structure or of the land upon which it is situated.

"Public utility" means a business or service, either governmental or having appropriate approval from the state, which is engaged in regularly supplying the public with some commodity or service which is of public consequence and need such as electricity, gas, water, transportation or communications.

"Ravine" means a narrow gorge containing steep slopes and deeper than fifteen vertical feet as measured from the centerline of the ravine to the top of the slope. Refer to Figure 13.

"RCW" means Revised Code of Washington.

"Reclaimed water" means water derived in any part from wastewater with a domestic wastewater component that has been treated for use in beneficial purposes, such as irrigation, industrial processes, landscaping, or aquifer recharge.

"Recreation, active" means leisure-time activities, usually of a formal nature and often performed with others, requiring equipment and taking place at prescribed places, sites, or fields. The term "active recreation" includes, but is not limited to, swimming, tennis, and other court games, baseball, soccer and other field sports, and playground activities.

"Recreation, passive" means low intensity recreation activities which have limited noise and light impacts and are minimally disruptive to the natural environment. For the purposes of this title, "passive recreation" includes, but is not limited to, walking, hiking, canoeing, viewing, nature study, photography, fishing and hunting.

"Recreational vehicle" means a vehicle which is: built on a single chassis, four hundred square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light duty truck; and designed primarily as temporary living quarters for recreational, camping, travel, or seasonal use. Recreational vehicles are not for use as permanent dwellings.

"Reference wetland" means, in the context of compensatory mitigation, a wetland chosen to represent the functions and characteristics that are being created, restored, or enhanced at the "mitigation" site. A reference wetland can be used for monitoring the success of the mitigation project. Reference wetlands, in the context of methods for assessing wetland functions, mean the sites chosen to represent the full range of functioning in a region or hydrogeomorphic class. Data collected at these sites are used to calibrate the methods.

"Repair and maintenance" means those activities associated with the routine care and upkeep of a structure, development, land use or activity.

"Replacement" or "total replacement" of a structure involves the removal of more than fifty percent of the lineal footage of existing exterior ground floor walls or the cost of repairs exceeds fifty percent of the structure's current market value as determined by an accredited appraisal or the assessor's valuation, at the owner's option. The value shall be determined based the value of the structure either before the repair, maintenance, alternation, or expansion is started, or if the structure has been damaged, and is being restored, before the damage occurred.

"Restoration" means the return of a critical area to a state in which its functions approach its unaltered state as closely as possible.

"Restricted development zone (RDZ)" means an area extending from the outer edge of the no development zone to a ground elevation two feet (vertically) above the base flood elevation.

"Retaining wall" means a wall or structure constructed to hold or prevent the sliding of soil. Such a wall or structure located along the shoreline or the ordinary high water mark is referred to as a "bulkhead."

"Review area" means the area surrounding or adjacent to a point location of a species of concern, or other critical area or buffer in which proposed activities are reviewed to determine what, if any, impacts may occur to the critical area, or what hazard(s) the critical area may pose to the proposed activity. A project located in a review area does not necessarily require submission of any detailed critical area reports. The review area is not a buffer; it allows the approval authority to look beyond the immediate area or proposed impact to assess the project on a larger scale.

"Right-of-way" means an area dedicated to public use for pedestrian and vehicular movement, which may also accommodate public utilities.

"Riparian habitat areas" are areas that include both freshwater and marine riparian habitat areas.

"Riparian habitat areas, freshwater" are areas adjacent to streams containing elements of both aquatic and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. For the purposes of these regulations, riparian habitat areas are as specified in Chapter 24.25 TCC.

"Riparian habitat areas, marine" means areas adjacent to marine waters containing elements of both marine and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the marine ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. For the purposes of these regulations, riparian habitat areas are as specified in Chapter 24.25 TCC.

"Riparian management zone" means an area established along the outer boundary of freshwater and marine riparian habitat areas, as specified in this title. Uses and activities within riparian management zones shall be conducted in a manner and/or restricted as necessary to minimize adverse impacts to riparian, freshwater and/or marine habitat.

"Salmonid" means a member of the fish family salmonidae. In Thurston County these include chinook, coho, chum, sockeye and pink salmon, rainbow, steelhead, cutthroat trout, brown trout, bull trout (char), Brook trout (char), Dolly Varden char, kokanee and whitefish.

"Seismic hazard areas" means the following:

A. Those areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, surface faulting, settlement or soil liquefaction, such as artificial fill areas, and areas underlain by glaciolacustrine deposits and/or glacial outwash; or

B. Those areas mapped as having a liquefaction susceptibility of high, moderate to high, or low to moderate on the Liquefaction Susceptibility Map of Thurston County, Washington, published by Washington Department of Natural Resource (September 2004).

"Sewage system" means a system designed to transport, process and/or treat urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places. For the purposes of this title, "sewage" is generally synonymous with domestic wastewater.

"Sewage system, on-site" means an integrated system of components located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site sewage system also refers to a holding tank sewage system or other system that does not have a soil dispersal component.

"Sewage system, large on-site" means an on-site sewage system as defined in chapter 246-272B WAC as a large on-site sewage system or LOSS. This is an on-site sewage system with design flows of three thousand five hundred gallons per day up to and including one hundred thousand gallons per day.

"Site plan review" means a development review permit described in Chapter 20.37 TCC.

"Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial processing, manufacturing, or wastewater treatment plant, water supply treatment plant, or air pollution control facility, excluding the treated effluent from a wastewater treatment plant.

"Solid waste" means all rotting or decaying (putrescible) and non-rotting or non-decaying (nonputrescible) solid, semisolid, and liquid wastes, including, but not limited to, garbage, rubbish, yard debris, ashes, industrial wastes, contaminated soils, dredge spoils, swill, demolition and construction wastes, abandoned vehicles or parts thereof, wood waste, sludge, dangerous waste, moderate risk waste, recyclable materials, and discarded commodities.

"Special management areas" means those geographic areas of Thurston County which contain a unique combination of physical features and require a special set of management techniques specifically designed for that area, or where the uniqueness of the area demands an even greater degree of environmental protection.

"Species of local importance" means those species that may not be endangered or threatened from a statewide perspective, but are of local concern due to their population status or their sensitivity to habitat manipulation and have been designated as such. Also see "habitats of local importance."

"Species, point location" means generally, but not limited to, an individual occurrence, breeding location, communal roost or marine mammal haul out site for a state priority species.

"Species of concern" includes, but is not limited to, species listed under the federal Endangered Species Act as threatened or endangered, candidate species for federal listing, priority species identified on the WDFW Priority Habitats and Species List, anadromous fish, and species of local importance.

"Stair tower" means a structure twelve feet or taller in height, typically consisting of one or more flights of stairs, usually with landings to pass from one level to another.

"Stairway" means one or more flights of stairs, usually with landings to pass from one level to another.

"Stand (of trees)" means a group of more than three trees in closed-canopy configuration, considered a homogenous unit for management purposes.

"State" means the state of Washington.

"State designated endangered, threatened, and sensitive species" are those fish, wildlife, and plant species native to the state of Washington identified by the state department of fish and wildlife, and the state department of natural resources, that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. State designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered species), and WAC 232-12-011 (state threatened and sensitive species), as amended. Vulnerable plant species are recorded by the department of natural resources' Natural Heritage Program, per chapter 352-28 WAC, and the state department of fish and wildlife maintains the most current fish and wildlife listings. These agencies should be consulted as necessary for current listing status.

"Steep slope" see the definition for "landslide hazard area."

"Storage tank, hazardous materials" means above- or underground tanks and vaults for the storage of hazardous materials, animal wastes, fertilizers, or hazardous/dangerous waste, as defined in chapter 173-303 WAC.

"Storage tank, nonhazardous materials" means above- or underground tanks and vaults for the storage of materials not referenced in "storage tank, hazardous materials."

"Stormwater" means water originating from rainfall and other precipitation that is found in drainage facilities, rivers, streams, springs, seeps, ponds, lakes, and wetlands as well as shallow ground water.

"Stormwater, private retention/detention facility" means a type of drainage facility designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration and/or infiltration into the ground; or to hold runoff for a short period of time and then release it to the surface and stormwater management system.

"Stormwater, regional retention/detention facility" means a surface water control structure constructed by Thurston County to correct excess surface water runoff problems of a basin or sub-basin. The area downstream of the facility must have been identified by the director of the water and waste management

department previously as having significant, regional basin flooding and/or water quality problems. The facility must be listed as a Thurston County capital improvement project.

"Stormwater, temporary sediment control pond" means a pond used to improve water quality by allowing sediments to settle out of stormwater prior to discharge to a stream, wetland or other conveyance.

"Stream segment" means that portion of a stream which lies between road crossings of a public right-of-way.

"Streams" means those areas of Thurston County where surface waters flow sufficiently to produce a defined channel or bed. A "defined channel or bed" is an area which demonstrates clear evidence of the passage of water and includes but is not limited to bedrock channels, gravel beds, sand and silt beds and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses unless they are used by salmon or used to convey streams naturally occurring prior to construction.

"Stream and water body types" means as follows:

1. Type S waters include all aquatic areas inventoried as "shorelines of the state," in accordance with Chapter 90.58 RCW, including segments of streams where the mean annual flow is more than twenty cubic feet per second, marine shorelines and lakes twenty acres in size or greater.

2. Type F waters include all segments of aquatic areas that are not type S waters and that contain fish or fish habitat including waters diverted for use by a federal, state or tribal fish hatchery from the point of diversion for one thousand five-hundred feet or the entire tributary if the tributary is highly significant for protection of downstream water quality.

3. Type N waters include all segments of aquatic areas that are not type S or F waters and that are physically connected by an above-ground channel system, stream or wetland to type S or F waters.

"Structural mitigation plan" means a design for any site structures or building engineering submitted specifically to mitigate the influence of a landslide. An engineer licensed to practice in the State of Washington shall prepare the plan. Said engineer will be designated the design professional in responsible charge as per International Building Code 106.3.4. The design professional in responsible charge shall conduct special inspections and provide written reports to the building official on the installation of those engineered elements.

"Structure" means that which is built or constructed. The term "structure" shall be construed as though followed by the words "or parts thereof."

"Structure, threatened" means a structure to be protected from streambank, slope or bluff erosion and where through a geotechnical report it has been determined that the documented erosion rates over the past thirty—fifty years show that a structure will be harmed within a three-year timeframe. An additional hazard assessment process by the geotechnical expert may be included to ensure that the structure is not exposed to landslide hazards potentially not captured in the erosion rate methodology. If the erosion rate and additional hazard assessment suggest that harm will likely occur to the structure within a three-year timeframe then the property is deemed "threatened."

"Structures to be protected" means structures considered for protection from erosion or failing slopes, including: primary parcel structures (includes commercial, industrial or residential), accessory dwelling

units, septic systems, public roads, public infrastructure such as pipes or utilities, and private driveways/roads where relocation is not feasible. Structures not protected are: stairs, trails to the beach, bathhouses, detached deck/patios, fences, sheds, trees, landscaping, and any structures threatened by self-created hardship.

"Submerged lands" means those areas below the ordinary high-water mark of marine waters or rivers and which are defined as a "shoreline of the state" by Chapter 90.58 RCW (Shoreline Management Act).

"Substantial development permit" or "shoreline substantial development permit" means a permit issued subject to the provisions of the Shoreline Master Program for the Thurston Region, as amended, and Chapter 19.04.

"Sub-watershed" means the areas within a watershed draining to one or more major tributaries of the mainstem stream, such as the Deschutes or Nisqually River.

"TCC" means Thurston County Code.

"Thermobaric" means deeper, older waters stored at depth. They are warmer and higher in dissolved solids due to longer water-rock contact times and geothermal gradient.

"Title" means the "Thurston County Critical Areas Ordinance" unless otherwise specified in the text.

"Toe of slope" means a distinct topographic break in slope at the lower-most limit of the landslide or marine bluff hazard area. The following areas qualify as toe of slope:

A. A distinct topographic break in slope which separates slopes inclined less than forty percent from slopes equal to or greater than forty percent. Where no distinct break exists, this point shall be the lower most limit of the area where the ground surface drops ten feet or more vertically within a horizontal distance of twenty-five feet;

B. A distinct topographic break in slope which separates slopes inclined less than fifteen percent from slopes equal to fifteen to thirty-nine percent, when the slope also meets the criteria found in subsection (A) of the landslide hazard area definition in this chapter; or

C. For marine bluffs, the toe means the ordinary high water mark except where there has been a landslide of upland materials which now rests on the beach. In this case, the toe shall be the point on the undisturbed slope which would be defined as the ordinary high water mark if not for the landslide.

D. A distinct topographic break in slope, as determined by the geotechnical assessment.

"Top of slope" means a distinct topographic break in slope at the upper most limit of the landslide or marine bluff hazard area. The following areas qualify as top of slope:

A. A distinct topographic break in slope which separates slopes inclined less than forty percent from slopes equal to or greater than forty percent. Where no distinct break exists, this point shall be the upper most limit of the area where the ground surface drops ten feet or more vertically within a horizontal distance of twenty-five feet;

B. A distinct topographic break in slope which separates slopes inclined less than fifteen percent from slopes equal to fifteen to thirty-nine percent, when the slope also meets the criteria found in subsection (A) of the landslide hazard area definition in this chapter; or

C. A distinct topographic break in slope, as determined by the geotechnical assessment.

"Underground injection well, Class II" means a well used to inject fluids:

A. Brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production. It may be mixed with wastewaters from gas plants that are an integral part of production operations, unless those waters are classified as hazardous wastes at the time of injection;

B. For enhanced recovery of oil or natural gas; or

C. For storage of hydrocarbons that are liquid at standard temperature and pressure. Reference Chapter 173-218 WAC, as amended.

"Unstable (U)" means slopes that are generally steep and considered unstable because the geology, groundwater, or wave erosion factors are critical and/or the slopes show evidence of present or past landsliding. Unstable areas include landslides and talus too small or obscure to be individually mapped (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980)).

"Unstable old slide (Uos)" means post-glacial but prehistoric landslide areas (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980)).

"Unstable recent landslide (Urs)" means recent or historically active landslide areas. [Note that Urs designation is based on investigations carried out in the late 1970s; subsequent landsliding is not reflected on the Coastal Zone Atlas maps] (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980)).

"Use area" means the portion of property physically occupied or used by the land use activity.

"Use, permitted or allowed" means any authorized use allowed alone or in conjunction with other uses by this title in a specified critical area or its buffer and subject to the regulations of the specified critical area or its buffer. Nothing in this definition shall be construed to relieve any person of the obligation to obtain other permits required by other applicable regulations or laws.

"Utilities" means enterprises or facilities serving the public by means of an integrated system of collection, transmission, distribution, and processing facilities through more or less permanent physical connections between the plant of the serving entity and the premises of the customer. Included are systems for the delivery of natural gas, electricity, telecommunications services, and water and for the disposal of sewage.

"Utility" means water, electric and natural gas distribution, sewer and stormwater collection, cable communications, telephone utility, and related activities.

"Utility corridor" means rights-of-way or easements for utility lines on either publicly or privately owned property.

"Utility line" means pipe, conduit, cable, or other similar facility by which services are conveyed to the public or individual recipients. Such services shall include but are not limited to water supply, electric power, gas, communications, and sanitary sewers.

"Vadose zone" means the zone between land surface and the capillary fringe within which the moisture content is less than saturation and pressure is less than atmospheric. Soil pore spaces also typically contain air or other gases. The capillary fringe is not included in the unsaturated zone.

"Vegetation, hydrophytic" or "hydrophytic vegetation" means macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. The

presence of hydrophytic vegetation shall be determined following the methods described in the Corps of Engineers Wetlands Delineation Manual (1987) with "Washington Regional Guidance on the 1987 Wetland Delineation Manual" (1994).

"Vegetation management-aquatic weeds" means the removal or control of submerged or floating-leaved plants in lakes, ponds or rivers which are regulated by any state agency, including but not limited to: aquatic herbicide applications regulated under Chapter 90.48 RCW (Chapter 173-201 WAC, Short-Term Modifications to Water Quality Standards); mechanical or physical control measures such as mechanical harvesting or bottom barriers regulated under the Hydraulic Code (RCW 77.55.100 and 77.55.110); grass carp planting regulated under Chapter 232-12 WAC; and dredging or other; mechanical means of removing aquatic plants regulated under Chapter 90.58 RCW (Shoreline Master Act), the Shoreline Master Program, as amended, and other regulations.

"Vegetated filter strip" means a section of vegetation, typically thirty—fifty feet in width, that contains plants that form a rough surface capable of filtering sediment, pollutants, and nutrients.

"Vegetation, native" or "native vegetative" means vegetation or plant species which are indigenous to the area or habitat in question.

"Volcanic hazard areas" means those areas subject to pyroclastic flows, lava flows and inundation by debris flows, mud flows or related flooding resulting from geologic or volcanic events of Mount Rainier, as mapped by United States Geological Survey Open File Report 98-428. The boundaries on these maps are approximately located, and areas outside of the boundaries should not be regarded as hazard-free.

"Volume equivalent" means the number of unit volumes of sewage that will be discharged to the ground from on-site sewage systems per day, where a unit volume of sewage is the daily flow of sewage from a single-family residence or mobile home park site. A volume equivalent is equal to four hundred fifty gallons of sewage per day for other types of development

"Wellhead protection area, designated" means the surface and subsurface area surrounding a water well or well field, through which contaminants are reasonably likely to move toward and reach such well or well field within one, five and ten years, respectively. Wellhead protection areas are critical aquifer recharge areas, and subject to the requirements of this title. For Group A water systems, the wellhead protection area shall be the wellhead protection area identified in the approved water system plan, prepared according to the requirements of chapter 246-290 WAC, or an equivalent area accepted by the health officer. For Group B (3-14 service connections) and smaller water systems, the wellhead protection area shall be the well sanitary control area or other designated area approved by the health officer.

"WAC" means Washington Administrative Code.

"Water body types." See "stream and water body types."

"Wetland" or "wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, and other areas meeting the definition of wetland under RCW 36.70A.030, as amended. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a

road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas in order to mitigate conversion of natural wetlands. Areas below the ordinary high water mark (OHWM) of a water body, including but not limited to marine waters, lakes, ponds, streams, and rivers, may also qualify as wetlands if they meet the criteria of the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the 2008 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.

"Wetland edge" or "wetland boundary" means the line delineating the outer edge of a wetland established consistent with the provisions of this title.

"Wetland Rating System for Western Washington" means the most recently approved version of the Washington State Department of Ecology's Wetland Rating System for Western Washington.

"Wetland specialist" or "wetland scientist" means a person with experience and training in wetland issues and with experience in performing delineations, analyzing wetland functions and values, analyzing wetland impacts, and recommending wetland mitigation and restoration. Qualifications include: (1) Bachelor of Science or Bachelor of Arts or equivalent degree in biology, botany, environmental studies, fisheries, soil science, wildlife, agriculture, or related field, and two years of related work experience, including a minimum of one year experience delineating wetlands using Army Corps of Engineers methodology and preparing wetland reports and mitigation plans. Additional education may substitute for one year of related work experience; or (2) four years of related work experience and training, with a minimum of two years experience delineating wetlands using the Unified Federal Manual and preparing wetland reports and mitigation plans. The person should be familiar with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, Corps of Engineers Wetlands Delineation Manual 1987 edition and corresponding guidance letters, March 1997 Washington State Wetlands Identification and Delineation Manual, Washington State Wetlands Rating System for Western Washington, as amended.

"Wildlife blind" means a structure no larger than fifty square feet used for the observation or hunting of wildlife.

"Wood products preserving and treating" means the application of chemicals to wood products to increase their durability and resistance to destruction by insects, fungus and/or decay. This shall not include typical residential applications.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14785, § 1, 8-28-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

E.4 Administrative Procedures (24.05 TCC)

24.05.005 General purposes.

It is the policy of Thurston County to accomplish the following:

A. To review developments which lie within a critical area, which includes its buffer;

B. To minimize the delays associated with multiple development reviews; and

C. To assist property owners in developing their property consistent with this title by promoting the use of innovative land use techniques to protect critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.010 Application types and classification.

[Not incorporated]

24.05.020 Application review procedures and public notice requirements.

[Not incorporated]

24.05.022 Third party review.

A. The purposes of third party review are to protect critical areas, maintain public safety, protect public health and property, and to ensure that the nature and extent of critical areas and any associated buffers are correctly determined.

B. The county shall attempt to resolve any issues with the original author(s) or applicant before requiring third party review.

C. The approval authority may, at the applicant's expense, require a third party review of any submission if there is reason to determine that:

1. The submission contains factual errors, omissions, or incomplete analysis; or

2. Inconsistencies exist between the submitted materials and observable data, and/or accepted scientific or technical criteria; or

3. The submission contains faulty analysis, faulty analytical procedures, substantive differences of interpretation of submitted data or analysis, or other findings made through the review of the proposal that support commissioning third party review; or

4. Specialized expertise is required for adequate review of a proposal.

D. The approval authority shall select the third party reviewer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.025 Critical area approval authority and review processes.

[Not incorporated]

24.05.027 Critical area review process.

The sequence of review related to critical areas and associated buffers generally is as follows:

A. County Site Visit. When a critical area screening tool or other source of information indicate the possible presence of a critical area or associated buffer on a subject property, the director shall visit the site to verify what critical areas or associated buffers may exist on site. Depending on the type of critical area being evaluated, the size of the parcel, the nature of surrounding development, and the level of degradation or development already existing on site, the director may be able to determine that no

jurisdictional critical area exists on the subject property, or that the proposed activity will not impact the functions of any critical areas or associated buffers on site.

B. Professional Survey. If the director determines that a critical area may exist, or are unsure of the nature or condition of a critical area on site, the applicant may be required by the county to hire a professional to determine the nature and extent of critical areas and associated buffers on the property. Critical area buffer requirements are specified in each individual critical area chapter of this title. Specific requirements for special reports, and criteria for determining who is qualified to prepare them, are located in Chapter 24.35 TCC.

C. Critical Area Report. The director, upon review of a critical area delineation or survey, may require the applicant to submit a critical area report that outlines what impacts will occur and how any impacts will be mitigated. The critical area report must demonstrate that impacts are unavoidable, pursuant to TCC 24.01.037 and 24.35.015. Critical area reports that pertain to important habitats and species may also be referred to as habitat management plans.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.030 Coordination with other application reviews.

[Not incorporated]

Table 24.05-1. Critical Area Review Authority and Review Processes

[Not incorporated]

24.05.040 Presubmission conference.

[Not incorporated]

24.05.050 Appeals.

[Not incorporated]

24.05.060 Code interpretations.

Any person may request in writing an interpretation of any provision of this title. The department shall issue a written determination to the person requesting the interpretation in accordance with Type I procedures in TCC 20.60.020(1). The letter of request shall serve as the Type I application for code interpretations. A fee may be assessed for code interpretations consistent with TCC 24.05.110.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.070 Critical area determinations.

A. Determining if Critical Areas are Present. Any person seeking to determine whether a proposed activity or an area is subject to this chapter may request a Critical Area Determination (CAD) on an application provided by the department.

B. The CAD shall be processed as a Type I application.

C. Submission Requirements. Applicants for a CAD shall submit all of the information requested on the application form provided by the department. Based on the quality and detail of information provided, the complexity of the site, or the potential of the proposed use to impact critical areas or buffers, the

approval authority may request additional information as necessary to make a determination regarding the site.

D. Director Findings. The director shall review the information submitted by the applicant and other relevant, available information and perform an on-site inspection to determine if a critical area, which includes the associated buffer, is located on the property. If the director cannot determine, based on available information or due to access limitations, whether the proposed development would encroach upon a critical area, the applicant shall be advised as to what is needed to make the determination. This may include full delineation and analysis of the critical area by a qualified professional at the applicant's expense.

E. The critical area determination shall be valid for three years.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15901 , § 2(Att. A), 6-2-2020)

24.05.080 Submittal requirements—Critical area review permit.

[Not incorporated]

24.05.090 Submittal requirements—Reasonable use exception.

[Not incorporated]

24.05.100 Recordation—Critical areas on property—Notice.

For a development proposal that does not involve the division of land where critical areas have been identified, the owner of a lot with a critical area and/or buffer shall record a notice and map on the title with the Thurston County Auditor that identifies the critical area location. This notice and map is not required if a preexisting notice has already been recorded that identifies the critical area in the same location. The applicant shall submit proof that any required notice and map have been filed for recording as a prerequisite to permit approval. The notice and map shall be approved by the director prior to recordation, and, shall at a minimum, include a map and legal description of the critical area, and a notice substantially similar to the following:

"Prior to and during the course of any grading, building construction or other development activity on this property containing or abutting a critical area, the area of development activity must be fenced or otherwise marked to the satisfaction of Thurston County. The critical area shall be maintained in its existing condition, except as provided for by Title 24 of the Thurston County Code, the Critical Areas Ordinance. Yard waste, debris, fill, equipment, vehicles, and materials shall not be placed in the critical area."

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.05.110 Fees.

Applicants for permits or other approvals pursuant to this title shall pay applicable fee identified on the county fee schedule.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.5 Critical Aquifer Recharge Areas (Chapter 24.10 TCC)

24.10.005 Purposes.

The purposes of this section are to:

A. Protect the public health and welfare by safeguarding critical aquifer recharge areas (CARA) and vital groundwater resources that serve as the county's primary potable water source. This includes avoiding or, where that is not possible, minimizing the risks of ground water contamination from new, existing, expanded and altered land uses and activities, consistent with state water quality standards.

B. Identify and protect aquifer recharge areas and vital groundwater resources based on their physical susceptibility to contamination, the potential for contamination from existing and allowed uses, the number of people or uses that rely on the aquifer as a potable water source, the presence of wellhead protection areas and whether there is an alternative water source.

C. Recognize and maintain the delicate balance and connection between surface water and ground water in order to preserve essential biological, physical, and geochemical functions. This includes avoidance of saltwater intrusion, avoidance of pumping deep saline thermobaric water that could contaminate the upper aquifer(s), avoidance of groundwater withdrawals and interruptions that would diminish stream flows and temperatures sustaining anadromous fish or alter the quantity and timing of water sustaining wetlands and associated plants and wildlife.

D. Ensure sufficient infiltration of water at the land's surface to sustain aquifers used as a potable water source, to maintain base flows in streams supporting anadromous fish, and maintain water levels in wetlands.

E. Be consistent with RCW 36.70A.170 and 36.70A.172; public water systems penalties and compliance, Chapters 70-119A RCW; Washington State Wellhead Protection Program and the Public Water Supplies, Chapter 246-290 WAC; dangerous waste regulations, Chapter 173-303 WAC; the Water Quality Standards for Groundwater of the State of Washington, Chapter 173-200 WAC; Articles III, IV, and VI of the Thurston County Sanitary Code; County adopted water resource inventory area watershed management plans; and County adopted water system plans and wellhead protection plans.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.010 Applicability.

This chapter applies to proposals for new development and alteration and expansion of existing uses listed in Table 24.10-1 that are located in an area defined as a critical aquifer recharge area in this title. These regulations also apply to the one-, five- and ten-year time of travel zones of wellhead protection areas meeting the criteria in this chapter. See the map entitled "wellhead protection areas." These maps shall be on file at the Thurston County Resource Stewardship Department.

A. "Category I, extreme aquifer sensitivity" includes:

1. Those areas which provide very rapid recharge with little protection, contain coarse soil textures and soil materials, and are derived from glacial outwash materials. The predominant soil series and types are those listed as Category I in Table 24.10-4 at the end of this chapter; and

2. Wellhead protection areas as defined by Chapter 24.03 TCC, including their one-, five-, and ten-year time of travel zones.

3. Aquifers in subsurface geologic formations that are extremely vulnerable to contamination, as listed in Table 24.10-3 at the end of this chapter.

B. "Category II, high aquifer sensitivity" includes:

1. Those areas which provide slightly lower recharge, also provide little protection, and contain materials from glacial deposit. The predominant soil series and types are those listed as Category II in Table 24.10-4 at the end of this chapter.

2. Aquifers in subsurface geologic formations that are highly vulnerable to contamination, as listed in Table 24.10-3 at the end of this chapter.

C. "Category III, moderate aquifer sensitivity" includes:

1. Those areas with aquifers present but which have a surface soil material that encourages run-off and slows water entry into the ground. The predominant soil series and types are those listed as Category III Table 24.10-4 at the end of this chapter.

2. Aquifers in subsurface geologic formations that are moderately vulnerable to contamination, as listed in Table 24.10-3 at the end of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.020 Standards and restricted and prohibited uses.

Table 24.10-1 identifies the new, expanded, and altered land uses and activities that are restricted or prohibited in the CARA depicted on the critical aquifer recharge areas map. These restricted and prohibited uses and activities are subject to the applicable standards in TCC 24.10.030-250 and all other applicable regulations. (See Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies; Article IV, Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage; and Article VI, Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Pollution).

The general standards listed in TCC 24.10.030 apply to all uses in Table 24.10-1. Standards provided in TCC 24.10.040-250 apply to specific uses in CARAs, and are in addition to other requirements of this title. Table 24.10-1 contains the primary section references for each activity covered by this chapter.

Table 24.10-1. Prohibited and Restricted Uses and Activities Within Critical Aquifer Recharge Areas

RESTRICTED USES AND ACTIVITIES	AQUIFER RECHARGE AREA CATEGORY				
	I			II	III
	Wellhead Protection Areas		Other CARA I		
	1-year time of travel zone	5- and 10-year time of travel zones			
Abandoned wells (decommissioning of wells) (TCC 24.10.040)	A	A	A	A	A
Agricultural activities that do not use hazardous materials or generate hazardous waste	A	A	A	A	A
Agricultural activities that use or generate less than two hundred twenty pounds of hazardous waste or materials per month as described in WAC 173-303 (TCC 24.10.100)	P	P	P	P	P
Asphalt plants/cement and concrete plants (TCC 24.10.070)	X	X	X	P	P
Boat refinishing	P	P	P	P	P
Cemeteries (TCC 24.10.090)	X	P	P	P	P
Chemical manufacturing/processing, mixing and remanufacturing (TCC 24.10.100)	X	X	X	P	P
Chemical storage facilities (not including fuel) (TCC 24.10.100)	X	P	P	P	P
Chemical/hazardous waste reprocessing and disposal (TCC 24.10.100; 140)	X	X	X	X	X
Commercial uses that do not use hazardous materials or generate hazardous waste	P	P	P	P	P
Commercial uses that use or generate less than two hundred twenty pounds of hazardous waste or materials per month as	X/P	P	P	P	P

described in WAC 173-303; including but not limited to; furniture staining, furniture stripping, repair, and refinishing; hardware, lumber, and parts stores; medical/dental/veterinary offices; photo processing/printing; printing and publishing (TCC 24.10.100)					
Commercial uses that use or generate more than two hundred twenty pounds of hazardous waste or materials per month as described in WAC 173-303; including but not limited to; furniture staining, furniture stripping, repair, and refinishing; hardware, lumber, and parts stores; medical/dental/veterinary offices; photo processing/printing; printing and publishing (TCC 24.10.100)	X	X	X	P	P
Composting facilities, except home composting (TCC 24.10.103)	X	P	P	P	P
Dry cleaner facilities (TCC 24.10.105)	X	X	X	P	P
Electroplating, metal plating (TCC 24.10.145)	X	X	X	P	P
Fuel dispensing, including gas stations (TCC 24.10.110)	X	P	P	P	P
Funeral facilities (except crematory facilities) (TCC 24.10.100)	X	X	X	P	P
Golf courses, parks, athletic fields, playgrounds Campgrounds/RV Parks/landscaping more than one acre (TCC 24.10.130)	P	P	P	P	P
Greenhouse - commercial/nursery - wholesale/retail (TCC 24.10.135)	X	P	P	P	P
(New) hazardous waste transfer and storage facilities including radioactive wastes as defined in Chapter 43.200 RCW (TCC 24.10.100; 140)	X	X	X	P	P

Industrial uses that do not use hazardous materials or generate hazardous waste (TCC 24.10.100)	P	P	P	P	P
Industrial uses - other, including but not limited to battery processing, reprocessing, and storage, food processing facilities, tanning, textile dying, wood/pulp/paper processing, and metal finishing which generate less than two hundred twenty pounds of hazardous waste per month as described in WAC 173-303 (TCC 24.10.100)	X	P	P	P	P
Industrial uses - other, including but not limited to battery processing, reprocessing, and storage, food processing facilities, tanning, textile dying, wood/pulp/paper processing, and metal finishing which generate more than two hundred twenty pounds of hazardous waste per month as described in WAC 173-303 (TCC 24.10.100)	X	X	X	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates) *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW). (TCC 24.10.190)	X*	X*	X*	X*	X*
Injection wells-Class II (Chapter 173-218 WAC)	X	X	X	X	X
Kennels -with more than ten animals (TCC 24.10.100)	P	P	P	P	P
Land spreading irrigation with reclaimed water at agronomic rates (TCC 24.10.190)	A	A	A	A	A

Landfill—demolition (inert), municipal sanitary waste, solid waste, wood waste, hazardous waste (TCC 24.10.100)	X	X	X	X	X
Machine shops, fabricating, metal processing with etchers and chemicals (TCC 24.10.100)	X	P	P	P	P
Maintenance/fueling facilities - municipal, county, state, school district, transit, airports, railroads, buses (TCC 24.10.110, 230)	X	P	P	P	P
Manufacturing-electrical/electronic (TCC 24.10.100)	X	P	P	P	P
Mining-coal and minerals	X	P	P	P	P
Mining—gravel and sand (TCC 24.10.150)	X	X	P	P	P
Pesticide/fertilizer storage facilities (TCC 24.10.100; 140)	X	P	P	P	P
Petroleum products refining and reprocessing (TCC 24.10.100)	X	X	X	P	P
Pier foundations (TCC 24.10.170)	P	P	P	P	P
Pipelines- liquid petroleum products or other hazardous liquid transmission (TCC 24.10.180)	X	P	P	P	P
Railroad yards-cargo transfer areas (TCC 24.10.100)	X	P	P	P	P
Research laboratories/facilities-chemical or biological (TCC 24.10.100)	X	P	P	P	P
Residential use/subdivisions, short plats, and large lots (TCC 24.10.195)	P	P	P	P	P
Sawmills (TCC 24.10.200)	P	P	P	P	P
Sewage disposal - on-site (TCC 24.10.160)	P	P	P	P	P
Sewage disposal, large on-site (LOSS Chapter 246-272B WAC)	X	P	P	P	P
Sewage lift stations (TCC 24.10.100)	X	P	P	P	P

Solid waste processing/handling/transferring/recycling (TCC 24.10.205)	X	P	P	P	P
Storage tanks-above ground (hazardous materials) (TCC 24.10.050)	X	P	P	P	P
Storage tanks-underground (hazardous materials) (TCC 24.10.220)	X	P	P	P	P
Storage tanks, residential (e.g. propane and oil tanks not to exceed one thousand gallons) (TCC 24.10.195)	P	P	P	P	P
Stormwater facilities/discharges, not including injection wells (TCC 24.10.210)	P	P	P	P	P
Taxidermy (TCC 24.10.100)	P	P	P	P	P
Unattended gas powered portable generators (TCC 24.10.120)	P	P	P	P	P
Utility substations (TCC 24.10.100)	P	P	P	P	P
Vehicle wrecking/junk/scrap/salvage yards (TCC 24.10.240)	X	P	P	P	P
Vehicle and boat repair/service garages/body shops (TCC 24.10.230)	X	P	P	P	P
Wastewater treatment or reuse facilities/recycling satellite plant, not including injection/infiltration of reclaimed water (TCC 24.10.100)	X	P	P	P	P
Wood and wood products preserving/treating (TCC 24.10.250)	X	X	X	X	X
All other activities involving the use and handling of hazardous materials or generating hazardous materials by their activities or actions in quantities exceeding the thresholds listed in TCC 24.10.140.	X	X	X	P	P
Other new and existing uses identified by the County as posing a risk to ground water quality	P	P	P	P	P

LEGEND:

A = Allowed without a critical area permit, subject to requirements of this title

P = Permitted, subject to critical area permit and requirements of this title

X = Prohibited

X/P = As determined by the approval authority, small scale uses or those using nonhazardous materials may be permitted when the quantity, nature of materials processed and mitigation methods are determined to contain no significant risk to groundwater.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.030 General standards.

The following requirements apply, as applicable, to all uses and activities in Table 24.10-1 that are not prohibited.

A. Differences in regulations because of the overlap of two or more critical areas are governed by Chapter 24.01 TCC.

B. The approval authority, in consultation with a qualified hydrogeologist, shall evaluate hydrogeological reports required pursuant to this chapter to determine the proposed project's potential impacts to ground water and surface water. This evaluation shall include, if applicable, evaluation of the project's potential impact on base flows of streams regulated under Chapter 24.25 TCC, and the quantity and timing of ground water flows sustaining wetlands regulated under Chapter 24.30 TCC.

C. The uses and activities listed in Table 24.10-1 shall not be allowed in a CARA if the approval authority determines, in consultation with others having expertise or jurisdiction, that the proposed use poses a risk to ground water quality, consistent with the provisions of this chapter.

D. Best Management Practices. If warranted to protect ground water, the approval authority shall require applicants for new, expanded and altered uses listed in Table 24.10-1 that require a county permit to use best management practices (BMPs), including all known, available, reasonable treatments, to ensure the highest degree of aquifer protection. In this case, the applicant shall submit a report identifying the appropriate BMPs and describing how they will be employed to prevent degradation of ground water quality. The report shall be prepared by or under the direction of a qualified person with demonstrated expertise in the industry or field. The report shall include all necessary technical data, drawings, calculations, and other information to describe the proposed application of BMPs. If necessary, the approval authority will review the report with technical experts at the applicant's expense.

E. Mitigation of Impacts.

1. The approval authority may condition the approval of a proposed use or activity if it is determined to be warranted in order to protect ground water quality, maintain stream flows and temperatures sufficient to sustain anadromous and native fish, and maintain the volume and timing of ground water flows sustaining wetlands and dependent plants and wildlife (see Chapters 24.25 and 24.30 TCC).

2. The approval authority may deny proposed wells or require mitigative measures (e.g., methods of prevention and control) for any use as necessary to preserve adequate ground water quality and quantity for existing users of the aquifer that do not have an alternative water source, particularly in areas subject

to saltwater intrusion. This subsection shall not affect any right to use or appropriate water under state or federal law.

F. New Uses in Category I CARA. Applicants for uses proposed to be located within a Category I CARA that involve use, storage, handling or disposal of hazardous materials in excess of the quantity thresholds listed in TCC 24.10.140 shall submit to the County a BMP report, consistent with subsection (D) above, documenting that BMPs will be used to prevent ground water degradation.

The approval authority, in consultation with the water purveyor serving the area and, if necessary, a third party consultant at the applicant's expense, will review the report to determine whether the proposed activity can be conducted without degrading the water quality of the affected aquifer. The county shall provide the applicant with a cost estimate and obtain their approval prior to consulting with the third party consultant. The application shall be closed if the applicant chooses not to bear the cost of the evaluation. The approval authority may approve, condition, or deny the project as they deem warranted in order to ensure adequate ground water protection. The applicant shall implement the approved report.

G. Existing Uses in Category I CARA. The approval authority may require the owner of any existing use within a Category I CARA which involves the use, storage, handling or disposal of hazardous materials above the minimum quantity thresholds listed in TCC 24.10.140 to submit a hazardous materials management plan (see TCC 24.35.045) that will ensure adequate protection of ground water. The approval authority, in consultation with the appropriate water purveyor and, if warranted, others with expertise, shall review this plan and determine whether to approve the plan as proposed or approve it subject to conditions in order to ensure adequate ground water protection.

H. Decommissioning Underground Tanks. Underground storage tanks storing hazardous materials in the one-year time of travel zone for Category I CARA that do not meet current state and county standards (see Chapter 173-360 WAC, Chapter 14.32 TCC, International Fire Code, and TCC 24.10.220) shall be decommissioned or removed consistent with applicable regulations within one year of being notified by the approval authority, unless specified otherwise.

I. Expansion of Prohibited Uses in CARAs.

1. Uses prohibited by Table 24.10-1 in Category I-III CARA shall not be expanded unless the applicant demonstrates that all equipment/facilities involving hazardous materials will be brought into compliance with current standards and therefore pose less risk of ground water contamination than the existing use.

2. Applicants for any proposed expansion of an existing use in Category I CARA that is listed as an allowable use in Table 24.10-1 under Category I which uses, stores, handles or disposes of hazardous materials above the minimum quantities referenced in TCC 24.10.140 shall submit a BMP report, consistent with subsection (D) above, for county review and approval, and a hazardous materials management plan consistent with TCC 24.35.045. The approval authority will review the submitted materials and determine whether the proposed expansion shall be approved, denied, or approved with conditions as necessary to ensure adequate ground water protection.

J. A development proposal will be considered unacceptable if a hydrogeological report indicates that a ground water maximum contaminant level will be violated due to proposed development.

K. A development proposal will be considered unacceptable if a hydrogeological report concludes that it will reduce the assimilative capacity of the aquifer by more than ten percent for a contaminant of concern.

L. Known spills, leakage, or other release of hazardous materials shall be remediated as determined by the approval authority. Unless otherwise specified, remediation activities shall begin within ninety days of discovery of release.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.040 Abandoned wells.

Wells that cease to be used as a water source or are used, unmaintained, or in such disrepair as to be unusable shall be decommissioned, consistent with WAC 173-160 and Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies, to prevent ground water contamination and remove any public safety hazards.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.050 Above ground tanks and distribution systems.

Above ground tanks and associated distribution systems for the storage or conveyance of hazardous materials, sewage sludge, fertilizers, or other chemical or biological substances defined as hazardous or dangerous waste in Chapter 173-303 WAC are subject to the following:

A. Compliance with State and County Requirements. New above ground tanks and distribution systems must comply with Chapters 173-303 WAC and 173-360 WAC, Chapter 14.32 TCC, International Fire Code, and Article VI of the Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Source Pollution.

B. Secondary Containment. New above ground tanks and distribution systems that will contain a hazardous material shall either be double walled or have a separate, impervious secondary containment system constructed around and under the tank/distribution system. The containment system shall be covered or otherwise designed so it does not collect precipitation or stormwater runoff. Secondary containment systems shall be sized to hold at least one hundred ten percent of the largest tank's capacity and shall be designed and constructed with materials that are compatible with the substance to be stored in the tank.

C. Leak Detection. Leak detection devices shall be required for all double walled tanks and, when possible, for other tanks.

D. Waiver. The approval authority may grant a waiver from one or more of the above requirements upon finding that the proposed above ground storage facility would not create a risk to ground water quality.

E. Residential above ground storage tanks and vaults are regulated by the International Fire Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.070 Asphalt plants/concrete plants.

A. Applicants for asphalt plants or concrete plants shall submit, in addition to other material required by this chapter, the following: the location of wells and wellhead protection areas within one mile down

gradient of the proposed site or the two-day time of travel, if known, whichever is greater; and a characterization of the proposed activity including a description of the industrial process, storage of materials, and discharge of water.

B. All process water from production, pouring, and equipment cleaning activities shall be discharged to a sump or a recycling system. Process water treatment or materials shall use the least toxic products and raw materials available.

C. The applicant shall submit a hazardous waste management plan consistent with TCC 24.35.045.

D. The approval authority may require monitoring wells to the extent necessary to determine if pollution associated with the permitted activity is occurring, periodic monitoring, and remedial action if the monitoring reveals that ground water contamination is occurring. Also see Chapter 24.70 TCC regarding sureties.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.080 Biosolid application.

Biosolid application and uses shall be regulated by the Washington Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and the memorandum of understanding, or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.090 Cemeteries.

Applicants for a cemetery shall submit a hydrogeological report evaluating the risk the proposed cemetery poses to groundwater and surface water. The approval authority may condition the project as necessary to protect ground water quality. The approval authority shall deny the proposed cemetery if it is determined that it would likely contaminate potable ground water supplies.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.100 Agricultural, commercial and industrial uses—General standards.

Agricultural, commercial and industrial uses and activities are allowed in CARAs as specified in Table 24.10-1, subject to Article VI of the Thurston County Sanitary Code, as amended, and the following standards, as applicable:

A. Where floor drains are allowed, any floor drains in areas where hazardous materials are used, stored or otherwise present shall have a removable lip or barrier that will prevent spilled hazardous material from entering the drain, consistent with Chapter 14.28 TCC, Uniform Plumbing Code. The approval authority may require that a sump or other device be used to ensure that hazardous material does not drain to the soil, sewage disposal system, or a water body.

B. Areas where hazardous materials are used or stored shall not drain to the soil, a stormwater system, water body, or a sewage disposal system. The approval authority may require that a sump or other device, as appropriate to address the contaminants of concern, be used to ensure protection of ground water quality.

C. All vehicle and equipment washing must be done in a self contained area (e.g., with recycling system) designed to ensure that hazardous materials do not reach the soil, a water body or a sewage disposal system. This does not apply to discharges to a sewer that were approved by the sewer utility, consistent with Chapter 14.28 TCC. Water used in wash down areas shall be treated to remove contaminants prior to discharge. (See Chapter 173-216 WAC and the BMPs for Vehicle and Equipment Discharges, Department of Ecology WQR 95-56, as amended).

D. An integrated pest management plan shall be drafted to be consistent with the integrated pest management policies approved by the health officer. The plan shall be implemented upon approval by the department. The county may periodically verify compliance with the approved plan.

E. All new agricultural, commercial and industrial land uses that involve the use, handling, storage, disposal, or transportation of hazardous materials or dangerous/extremely dangerous wastes, as defined in Chapter 173-303 WAC, shall be required to prevent contact between the aforementioned materials and stormwater. This may not apply to materials applied in an outdoor setting as part of an approved activity's landscaping maintenance plan. This includes, but is not limited to, gas stations, fuel distributors, car/truck washes, trucking companies, asphalt plants and paint shops. The generation of hazardous materials or dangerous waste is separated into two categories:

1. A small quantity generator can generate up to two hundred twenty pounds of dangerous waste, or up to 2.2 pounds of certain pesticides or poisons, each month. Small quantity generators can accumulate up to two thousand two hundred pounds of dangerous waste, or 2.2 pounds of certain pesticides or poisons, at their site before sending the waste off-site for proper disposal or recycling.

2. Businesses that generate more than two hundred twenty pounds of hazardous wastes during any month must comply with the Washington State Dangerous Waste Regulations, Chapter 173-303 WAC.

F. The applicant shall demonstrate that the proposed use or activity will not cause degradation of ground water quality exceeding the standards described in Chapter 173-200 WAC (Water Quality Standards of the State of Washington) and comply with all other applicable local, state, and federal regulations.

G. The approval authority may require that the applicant install monitoring wells, to the extent necessary to determine if pollution is occurring, periodic monitoring at specified intervals, and remedial action if the monitoring reveals that ground water contamination is occurring. (See Chapter 24.70 TCC regarding surety.)

H. The approval authority may require additional protective measures if necessary to protect surface and ground water quality, including but not limited to BMPs, devices or methods to provide a high level of nutrient removal from stormwater, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.103 Composting facilities.

A. Composting shall be conducted in compliance with WAC 173-350-220, when applicable, and the requirements of Article V of the Thurston County Sanitary Code. Composting facilities required to obtain a permit from the health officer shall establish financial assurance in accordance with Article V, Section 9 of the Thurston County Sanitary Code.

B. Home composting shall be exempt from the requirements of this title and Article V of the Thurston County Sanitary Code if conducted in a manner such that there is no evidence of vectors that affect neighboring property.

C. Composting facilities shall adhere to standards established in Chapter 20.54 TCC for composting facilities, and TCC 24.10.100, where applicable.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.105 Dry cleaner facilities.

When permitted by the approval authority, dry cleaner facilities shall be consistent with standards established in TCC 24.10.100 and 24.10.140 and shall follow best management practices and control technologies for pollution prevention as described by the Washington State Department of Ecology, the U.S. Environmental Protection Agency, or as otherwise required by state or federal law.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.110 Fuel dispensing.

Sites where fuel is dispensed shall be designed to contain fuel spills on site without contaminating stormwater systems, sewage disposal systems, soil or water. This can be accomplished, for example, by installing a roof structure that shields the fueling area from precipitation and sloping the area surrounding the fuel pumps toward a sump with capacity for at least one hundred gallons of fuel or by surrounding the covered fueling area with a shallow curb that provides capacity for at least one hundred gallons of fuel. The storage capacity for the containment method may be adjusted by the approval authority, depending on the scale of the fuel dispensing facility.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.120 (Unattended) gasoline and diesel powered generators.

Gasoline and diesel powered backup generators in a CARA shall be placed in a secondary containment device, consistent with TCC 24.10.050(B), such that a fuel spill or leak will not reach the soil or a water body unless the site where the generator will be operated contains a full time residence or is occupied a minimum of eight hours per day, five days a week by trained employees associated with the facility.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.130 Golf courses, parks, playgrounds, athletic fields, and landscaped areas exceeding one acre in size.

Fertilizer, herbicide and pesticide management practices for golf courses, parks, playgrounds, athletic fields and other public facilities and institutions with landscaped areas exceeding one acre in size shall comply with integrated pest management standards established in TCC 24.10.100.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.135 Greenhouse/nursery.

Wholesale and retail greenhouses and nurseries shall comply with integrated pest management standards established in TCC 24.10.100. Any fertilizers shall be applied at an agronomic rate in accordance with the

timing and amount of crop demand for nitrate, unless the approval authority determines that a lower rate of application is appropriate to protect surface and groundwater quality.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.140 Hazardous materials.

A. Hazardous materials shall be used, handled, stored, and disposed of in accordance with the standards contained in this section, Chapter 14.32 TCC, International Fire Code, Article VI of the Thurston County Sanitary Code, and applicable state law (see RCW 70.105, Chapter 173-303 WAC).

B. Operators of new and existing uses and activities that involve the use, handling, storage or generation of hazardous materials exceeding thresholds specified in the International Fire Code (2009), as amended, shall submit for county review and approval a hazardous materials management plan that demonstrates that the use or activity will not have an adverse impact on ground water quality. Notwithstanding the requirements of the International Fire Code, if the approval authority determines that the proposed use or activity poses a risk to ground water, they shall require submission of a hazardous materials management plan to protect ground water quality. Approved hazardous materials management plans shall be implemented. Hazardous materials management plans shall include, at a minimum, the information listed in TCC 24.35.045.

C. Persons that possess liquid, soluble, or leachable hazardous materials shall contain such materials and the entire distribution system in a secondary containment device or system that will effectively prevent discharge on-site. Secondary containment may be achieved in a variety of ways, including, but not limited to, use of sloping floors that provide capacity to contain spills or installation of a curb around the perimeter of the structure. (See Article VI of the Thurston County Sanitary Code, the Rules and Regulations Governing Nonpoint Source Pollution. Also see Chapters 15.54 and 17.21 RCW regarding pesticide storage. Refer to Chapter 14.32 TCC, International Fire Code, regarding seismic standards.)

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.145 Metal plating.

When permitted by the approval authority, metal plating operations shall be consistent with standards established in TCC 24.10.100 and 24.10.140 and shall follow best management practices and control technologies for pollution prevention as described by the Washington State Department of Ecology, the U.S. Environmental Protection Agency, or as otherwise required by state or federal law.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.150 Mineral extraction—Gravel and sand.

See Chapter 17.20 TCC and Title 332 WAC.

A. In addition to other stormwater mitigation requirements, stormwater from the portion of the site where hazardous materials are stored and/or where fueling of equipment occurs shall be directed away from the pit.

B. Gravel mining shall not occur in locations where the approval authority determines, based on a hydrogeologic report, that proposed mining would likely diminish the volume of water in springs or shallow wells such that it would no longer meet the needs of dependent users, or influence water's quality, quantity, temperature, or turbidity such that it would no longer be suitable for drinking. As an alternative

to project denial, the applicant may, with the consent of the affected property owner, mitigate such impacts by providing the affected residents with a deeper well or a connection to an alternative water system. Also see Chapter 17.20 TCC.

C. Mines shall be prohibited in areas with existing contamination that, if it were disturbed or exposed, could impair water quality, including water temperature, unless the applicant demonstrates that the proposed mining operation would be conducted in a manner that would not jeopardize ground and surface water quality. The approval authority may require a hydrogeologic report and soil testing and down gradient water testing for suspected toxic chemicals on the site.

D. Fueling. See TCC 17.20.050.

E. Monitoring. See TCC 17.20.160(B).

F. Mining is not allowed in the one-, five- and ten-year time of travel zone of wellhead protection areas. In CARA I, II and III soils, the mine operator shall maintain a buffer of unsaturated material five feet in depth between the bottom of the pit and the seasonal high groundwater table. The approval authority may adjust the depth of the buffer based a hydrogeologic report as warranted to protect ground water quality.

G. Redevelopment. The approval authority shall give protection of ground water the highest priority when considering proposed land uses at former gravel mine sites. The approval authority shall require, at the time of mine approval, that a note be filed with the title of the subject property indicating that use of the property subsequent to mine closure will be limited as the county determines necessary to protect ground water quality, consistent with the provisions of this section. In addition, gates and fencing shall be required at mine access points along public and private roads to prevent dumping.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.160 On-site sewage disposal.

On-site sewage disposal systems may be allowed subject to compliance with applicable county and state regulations (See Article IV of the Thurston County Sanitary Code; Chapters 246-272A and 246-272B WAC (large on-site sewage systems), the On-Site Sewage Regulations of the Washington State Board of Health; and Chapter 173-200 WAC, the Water Quality Standards for Ground water of the State of Washington) and the following:

A. Applicants for large on-site sewage systems, or sewage disposal facilities with capacity for more than three thousand five hundred gallons shall submit a hydrogeologic report demonstrating that the system will not degrade ground water quality, consistent with this section. The project must comply with the health department's current assimilative capacity policy, and in no case shall the project increase the nitrate concentration in the aquifer by more than ten percent above existing conditions. The approval authority shall condition or deny the project as necessary to maintain ground water quality.

B. Nitrate levels at the applicable monitoring well or down-gradient property line of proposed subdivisions, short subdivisions, or binding site plans in a Category I CARA and areas identified as having elevated nitrate levels on the map entitled Known Area of Soil or Groundwater Concern, dated April 2004, as amended, shall conform with the current adopted Thurston County Health Department Assimilative Capacity Policy, as amended. A hydrogeological report may be required as determined by the director. The report must be prepared by a licensed hydrogeologist.

C. Lots less than one acre in size shall not be created by subdivisions, short subdivisions, or binding site plans if they would use on-site sewage disposal systems in a Category I CARA, regardless of the proposed source of potable water, unless the applicant demonstrates, consistent with Article IV of the Thurston County Sanitary Code, that due to the proposed system design, vertical separation from ground water, and the existing soils, ground water quality will not be degraded. (Also see Article IV of the Thurston County Sanitary Code, Section 22, and Areas of Special Concern).

D. Monitoring. See Article IV of the Thurston County Sanitary Code.

E. Hydrogeologic reports shall be required pursuant to Table 24.10-2 below. The report shall be prepared by a licensed hydrogeologist.

F. The Washington State Department of Health is the permit authority for larger on-site sewage systems (LOSS) through Chapter 246-272B WAC.

Table 24.10-2. Report Requirements for Subdivisions, Short Subdivisions, Multifamily Residential and Nonresidential Projects Proposed to Use On-Site Sewage Disposal

Dwelling Unit Density and Volume Equivalent*	Report Requirements by Aquifer Category		
	I	II	III
One Unit or Less per 5.0 Acres	N/A	N/A	N/A
One Unit per Acre to One Unit per 5.0 Acres	HWD	HWD	HWD
One to Two Units Per Acre	H	H	H
2.0 Units per Acre or More	H	H	H
3.5 Units per Acre, or more than 1,575 Gallons per Day of Sewage	X	X	X
Large On-Site Sewage Systems (LOSS) with capacity for 3,500 gallons or more per day	H	H	H

* Hydrogeologic reports are required for new/expanding development that create more than two new lots or generate/add one thousand gallons of sewage per day or more.

Legend:

X= Prohibited

H = Hydrogeological report required

HWD = Hydrogeological report required in areas of known water quality degradation

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.170 Pier foundations.

Pier foundations that would extend more than twenty feet below the ground's surface that are proposed to be located within two hundred feet of a well in a CARA shall be subject to review and approval by the approval authority. In the event the approval authority determines that the proposed foundation will pose

a risk to the affected well's water quality, they may require that the proposed foundation be relocated, replaced with a shallow mat foundation, if feasible, or require other mitigation measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.180 Pipelines.

Applicants for pipelines that carry oil, gas, diesel, kerosene or any other liquid hazardous material shall identify spill prevention measures and submit a spill response plan that prioritizes response based on the susceptibility of the aquifer to contamination and its importance as a potable water supply, consistent with federal and state law. The approval authority shall require mitigative measures as necessary to minimize the risk of ground water contamination.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.190 Reclaimed water.

A. Irrigation with Class A reclaimed water at agronomic rates is permitted in all CARAs, subject to TCC 24.10.030.

B. Infiltration of reclaimed water (application to the land's surface above agronomic rates) Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.195 Residential uses—General.

Residential and appurtenant structures, and typical residential-scale activities are allowed subject to applicable sections of the Thurston County Code and Thurston County Sanitary Code. On-site septic systems, including those associated with residential uses, are addressed in TCC 24.10.160.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.200 Sawmills.

See Chapters 173-303 and 173-350 WAC and the best management practices to Prevent Stormwater Pollution at Log Yards, Washington Department of Ecology 95-53, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.205 Solid waste.

The processing, handling, transferring, and recycling of solid waste shall be consistent with applicable provisions of Chapter 173-350 WAC, Article V of the Thurston County Sanitary Code, TCC 24.10.100, and other applicable provisions of the Thurston County Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.210 Stormwater.

See 24.10.100(F) TCC regarding stormwater management for commercial and industrial sites. Also see the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), the Northern Thurston County Ground water Management Plan (1991), the Illicit Discharge

Detection and Elimination Ordinance (Chapter 15.07 TCC), and Article VI of the Thurston County Sanitary Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.220 Underground storage tanks and vaults.

A. Residential underground storage tanks and vaults are regulated by the International Fire Code.

B. Underground tanks and vaults for the storage of hazardous materials, fertilizers, or hazardous/dangerous waste, as defined in Chapter 173-303 WAC, are allowed in a CARA only if they are designed and constructed consistent with state regulations (see Chapter 173-360 WAC), Chapter 14.32 TCC, International Fire Code, and Article VI, Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Source Pollution, so as to:

1. Prevent releases to the ground, ground water, and surface water due to corrosion, structural failure, or seismic activity for the operational life of the tank or vault. (See Chapter 14.32 TCC, International Fire Code);

2. Be protected against corrosion, constructed of non-corrosive material, or steel clad with a noncorrosive material, or contained in a secondary containment system to prevent the release of any stored substance;

3. Be composed of or lined with material that is compatible with the substance to be stored;

4. Prevent releases to the ground, ground water, and surface water due to spillage. The opening for filling the tank shall be surrounded with impermeable material designed and sized to prevent spilled hazardous material from reaching the soil, groundwater, or surface water; and

5. Provide for leak detection meeting state standards.

C. The applicant shall submit design and as built drawings of the facilities and keep records of required testing consistent with state law.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.230 Vehicle repair and servicing/body shops.

A. Vehicle repair/servicing shall be performed over an impermeable surface under cover from the weather.

B. Dry wells shall not be permitted in conjunction with such uses.

C. Use and storage of hazardous materials shall be consistent with standards established in TCC 24.10.100 and Article V of the Thurston County Sanitary Code.

D. The approval authority shall require that new hydraulic hoists be located in a vault to ensure that any leaks from such equipment are contained.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.240 Vehicle wrecking yards.

A. Vehicle wrecking yards shall conduct operations consistent with TCC 24.10.100.

B. The approval authority may require submission and implementation of a monitoring program to ensure that the operation is in compliance with Article VI of the Thurston County Sanitary Code and any other conditions of county approval.

C. The approval authority may require monitoring wells, to the extent necessary to determine if pollution is occurring, periodic monitoring, and remedial action if the monitoring reveals that ground water contamination is occurring.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.250 Wood products preserving and treating.

Wood products preserving and treating shall comply with TCC 24.10.100 and 24.10.140, and the following:

A. Wood products preserving, treating, drying, and storage shall be conducted on an impermeable surface, consistent with the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq.

B. The approval authority shall require submittal of a monitoring plan for commercial/industrial wood products preserving and treating operations to ensure that the operation is in compliance with all applicable local, state and federal regulations pertaining to groundwater protection and any conditions of approval applied by the county. Remedial action shall be required if the monitoring reveals that ground water contamination is occurring.

Table 24.10-3. Critical Aquifer Recharge Areas Geologic Features (geologic units derived from WA Department of Natural Resources)

Category I Geologic Map Symbols	Geologic Interpretation
Qgyo3, Qgyo4 series	Sandy to Coarse Deposits
	Qgokb - Vashon kettle bottom (silt, peat with some gravel bottoms)
	Qgok - Coarse kettle walls
	Qgon3 - Vashon recessional outwash gravels, Train 3 (sand and gravel)
	Very Coarse Deposits - Municipal Water Supplies, Drinking Water Aquifers
	Qgyo4 - Vashon recessional outwash (loose sand and gravel)
	Qgyo3 - Vashon recessional outwash (cobbles, boulders, gravel and sand)
	Qga - Vashon advance outwash (sand, gravel, "drinking water aquifer")
	Qgas - Vashon advance outwash (sandy outwash)
	Qa - Alluvium (sand and gravel)
	Qgm - Glacial moraine deposits

Category II Geologic Map Symbols	Geologic Interpretation
Qga, Qgo series	Finer Sediments: Silty Sands and Thin Surficial Deposits Above Till
	Qga - Vashon recessional outwash (surficial unit above till - 10 to 20 feet thick)
	Qgo, Qgos, Qgosr - Vashon recessional outwash (sand, silty sand and gravel, silt)
	Qgp - Pre-Vashon glacial outwash
	Qgd - Glacial drift - Fraser Age
Category III Geologic Map Symbols	Geologic Interpretation
Qgt - series E-series (Bedrock)	Till Units
	Qgto2 - Vashon till
	Qgtdi - Vashon till - Dead ice (associated with eskers and kettles)
	Qgt - Vashon till - Drumlin ground moraine (clay, silt, sand)
	Tertiary Igneous Rocks - Bedrock
	Evcn - Northcraft Formation (Volcanic breccias, volcanic-lithic sandstones)
	Eig - Gabbros (minor exposure/occurrence in Thurston County)
	Emm - McIntosh Formation (marine sandstone and volcanic-lithic siltstones)
	Evc - Crescent basalt

Table 24.10-4. Critical Aquifer Recharge Area Soil Series

CATEGORY I SOIL SERIES	
Series Name	*SCS Map Symbol #*
Baldhill	5, 6, 7, 8
Cagey	20
Everett	32, 33, 34, 35
Grove	42
Indianola	46, 47, 48

Newberg	71, 72
Nisqually	73, 74
Pilchuck	84
Pits, gravel	85
Puyallup	89
Spanaway	110, 111, 112, 113, 114
Sultan	115
Tenino	117, 118, 119
CATEGORY II SOIL SERIES	
Series Name	*SCS Map Symbol #*
Alderwood	1, 2, 3, 4
Chehalis	26
Delphi	27, 28
Eld	31
Giles	38, 39, 40
Maytown	64
Spana	109
Yelm	126, 127, 128
CATEGORY III SOIL SERIES	
Series Name	*SCS Map Symbol #*
Bellingham	14
Dupont	29
Everson	36
Galvin	37
Godfrey	41
Hoogdal	43, 44
Kapowsin	50, 51, 52, 53, 54, 55

Mashel	62, 63
McKenna	65
Mukilteo	69, 70
Norma	75, 76
Puget	88
Scammen	100, 101
Semiamoo	104
Shalkar	105
Shalkar Variant	106
Skipopa	107, 108
Tacoma	116
Tisch	120

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.6 Geologic Hazard Areas (Chapter 24.15 TCC)

24.15.005 General purposes.

The purposes of this chapter are to:

A. Protect public health and safety;

B. Avoid and minimize damage to property due to landslide, or other naturally occurring events;

C. Avoid and minimize impacts of erosion and landslide hazards on wetlands and important wildlife habitats and species; and

D. Identify and map geologic hazard areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.010 Applicability.

A. The provisions of this chapter apply to the following types of geologically hazardous areas:

1. Erosion hazard areas;

2. Landslide hazard areas; and

3. Marine bluff hazard areas.

B. The provisions of this chapter do not apply to the following types of geologically hazardous areas:

1. Seismic hazard areas;

2. Volcanic hazard areas; and

3. Mine hazard areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.015 Standard buffer for landslide hazard areas and marine bluff hazard areas.

Development in a landslide and marine bluff hazard areas requires an undisturbed buffer of approved vegetation, except as otherwise provided for in this chapter. The required buffer shall be the greater amount of the following:

A. Fifty feet from toe and top of slope; or

B. A distance measured as follows:

1. Landslide Hazard Areas. A buffer from the toe and top of slope equal to the following: The distance measured from the toe of slope upward at a slope of 2:1 (horizontal to vertical) to a point that intersects with the existing topography of the site; or

2. Marine Bluff Hazard Areas. A distance from the ordinary high water mark landward at a slope of 2:1 (horizontal to vertical) which intersects with the existing topography of the site; or

C. The minimum distance recommended by the geotechnical professional in the geological assessment, based on review of the extent of unstable landform and definition of the potential hazard area from each site investigation, as measured outward from the toe and top of slope.

D. Buffers for marine bluff hazard areas shall also comply with TCC 24.25.045—24.25.055, and all applicable sections of the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.020 Nisqually hillside overlay district.

The Nisqually hillside overlay district is generally located on the bluff to the west of the Nisqually River, and is characterized as a special landslide hazard area in Thurston County due to past unstable slope conditions.

A. This area is depicted on the map entitled "Nisqually Land Use Categories and Zoning Districts," a copy of which shall be on file with the Thurston County Resource Stewardship Department.

B. This overlay district shall extend from the toe of McAllister Bluff to a point two hundred feet westerly of the top of McAllister Bluff, except as provided for in Section 24.15.021, below. The

top of McAllister Bluff is as noted on the aforementioned map as "bluff line" as lies to the west of McAllister Creek. The actual bluff line is subject to field verification.

C. The criteria to field locate the top of McAllister Bluff is a distinct topographic break in the slope less than thirty percent and at least fifteen feet wide which is verified by the Thurston County Resource Stewardship Department.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.021 Nisqually hillside overlay district—Standards.

Any development permit within the aforementioned area shall be subject to the following standards:

A. Residential development within this overlay district is prohibited, however, the number of dwelling units, as calculated by the underlying residential zone (one unit per five acres), may be clustered on that portion of the parcel not within this overlay district or transferred to an adjacent parcel. Cluster development in the Nisqually hillside overlay district shall be developed consistent with the underlying zoning district and associated development requirements in Chapters 20.30 or 20.30A TCC. No fractional units will be created in this calculation unless the parcel size is less than five acres.

B. The western two hundred feet of the Nisqually Hillside Overlay District is a buffer measured from the top of McAllister Bluff, except that portion of the bluff between I-5 and Martin Way which shall be fifty feet.

C. Some flexibility from subsection (B) above will be provided for areas of preexisting development along the bluff. These areas include lots less than one acre in size, undeveloped lots in a subdivision, and the portion of the slope between Martin Way and I-5. In those locations the buffer from McAllister Bluff shall be at least fifty feet wide, with the exact location on the bluff determined on a case by case basis through an administrative site plan review process. This buffer width must protect the stability of the bluff and maintain the visual integrity of the hillside.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.025 Standards and allowable uses and activities within geologic hazard areas and associated buffers.

A. Those uses and activities listed in Table 24.15-1 are only allowed in geologic hazard areas or their buffers as set forth in that table, subject to the performance standards set forth in TCC 24.15.030-240;

B. All other land uses and activities not allowed pursuant to Table 24.15-1, or not mentioned in Table 24.15-1, are prohibited, unless determined otherwise pursuant to TCC 24.01.030(B);

C. Differences in regulations because of the overlap of two or more critical areas are governed by Chapter 24.01 TCC.

The general standards listed in TCC 24.15.030 apply to all uses in Table 24.15-1. The standards provided in TCC 24.15.040—24.15.240 apply only to those uses and activities in Table 24.15-1 when carried out within a geologic hazard area (i.e., landslide, marine bluff, erosion) or buffer. Where no specific performance standards are specified for the uses and activities in Table 24.15-1, the approval authority

shall review projects based upon the purposes and provisions of this chapter. Table 24.15-1 contains the primary section references for each activity covered by this chapter.

Table 24.15-1. Restricted Uses and Activities in Geologic Hazard Areas and Associated Buffers

RESTRICTED USES AND ACTIVITIES	Landslide Hazards	Marine Bluff Hazards	Erosion Hazards
Agricultural activity, new	P	X	P
Agricultural equipment and facility	X	X	X
Antenna support structures regulated by Chapter 20.33 TCC	X	X	X
Asphalt batch plants	X	X	X
Boat ramp or marine railway and associated vehicle access TCC 24.15.050	P	P	P
Bridges and culverts - Maintenance or repair TCC 24.15.060	P	P	P
Bridges and culverts - Replacement or expansion TCC 24.15.070	P	P	P
Bridges and culverts - New construction TCC 24.15.080	P	P	P
Cemeteries	X	X	X
Clearing and grading/timber harvest in conjunction with an approved development project TCC 24.15.090	P	P	P
Creation of ponds TCC 24.15.030 <1 acre	X	X	X
Creation of a ski lake	X	X	X
Critical facilities—see Table 24.15-2	X	X	X
Drainage ditch maintenance TCC 24.15.030	P	P	P
Drilling and testing for required report or engineering study TCC 24.15.030	A	A	A

Emergency response	SEE CHAPTER 24.90 TCC		
Existing lots approved prior to July 24, 2012 - Construction of primary structures and associated, decks, garages, and appurtenant structures.	SEE CHAPTER 24.50 TCC		
Fences (see Chapter 24.60 TCC)	A	P	A
Gardening for personal consumption - Existing TCC 24.15.030	A	A	A
Habitat restoration/enhancement TCC 24.15.030	P	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates* *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).	X	X	X
Lawfully established existing uses (see Chapter 24.50 TCC)	A	A	A
Lawns, landscaping, golf courses, and cemeteries - Maintenance TCC 24.15.030	A	A	A
Mineral extraction (Also see Chapter 20.54 special uses, Chapter 20.30B, and Chapter 17.20 TCC - mineral extraction code) TCC 24.15.030	P	X	P
Mitigation required by the county TCC 24.15.030	A	A	A
Nonconforming structures/uses - Maintenance, repair, alteration, expansion, replacement, or relocation	SEE CHAPTER 24.50 TCC		

On-site sewage disposal system - Repair and replacement TCC 24.15.100	P	P	P
On-site sewage disposal system - New construction TCC 24.15.100	X	X	P
Open space (e.g., critical area tract) TCC 24.15.030	A	A	A
Piers - Construction TCC 24.15.110	P	P	P
Public park facilities, trails and developed recreation areas - Maintenance TCC 24.15.120; 24.15.130	A	A	A
Public project of significant importance TCC 24.15.030	P	P	P
Recreation activities (outdoors) - Passive and low impact outdoor recreation activities (e.g., bird watching, boating, bicycling, canoeing, fishing, hiking, hunting, jogging, photography, swimming, and similar activities).	A	A	A
Recreation facilities (Passive), trails/paths, elevated walkways, and associated facilities - New TCC 24.15.130	P	P	P
Recreation facilities - Active (e.g., public and private parks, day camps and camping sites. This does not include clearing or structures). TCC 24.15.120	P	P	P
Recreation facilities - Active - New golf courses, swimming pools, athletic fields, and other similar structures TCC 24.15.120	X	X	X
Research (e.g., education, scientific, and site investigation) TCC 24.15.030	A	A	A

Roads - Repair and maintenance TCC 24.15.145	A	A	A
Roads - Replacement of lawfully established roads within maintained, improved (paved or railroad tracks) rights-of-way or easements TCC 24.15.145	P	P	P
Roads - Expansion TCC 24.15.140	P	P	P
Roads - New construction TCC 24.15.140	P	X	P
Slope/shoreline stabilization - New TCC 24.15.150	P	P	P
Slope/shoreline stabilization - Repair and maintenance TCC 24.15.15	P	P	P
Signs (e.g., interpretation, critical area tract, and survey markers,)	SEE CHAPTER 24.60 TCC		
Stair tower, stairway or mechanical lift TCC 24.15.160	P	P	P
Stormwater conveyance system or detention/treatment facility - Maintenance/repair TCC 24.15.175	P	P	P
Stormwater retention/treatment facility - Construction	X	X	X
Stormwater - Temporary sediment control ponds - Construction	X	X	X
Stormwater - Surface water conveyance system - Construction	P	X	P
Stormwater facilities on existing residential lots - New TCC 24.15.170	P	P	P
Structures - All other not addressed by this chapter	X	X	P
Subdivisions	SEE CHAPTER 24.55 TCC		

Utilities - Maintenance, repair, or replacement TCC 24.15.030	A	A	A
Utility facility TCC 24.15.178	X	X	P
Utility transmission lines, utility corridors, outside of existing improved roads and utility corridors - New construction TCC 24.15.178	P	P	P
Utility lines and facilities in improved roads and utility corridors - New installation TCC 24.15.030 and TCC 24.15.178	P	P	P
Utility service lines - Installation TCC 24.15.030	P	P	P
Vegetation removal - Forest practices permit-Class IV. COHPs TCC 24.15.190	X	X	P
Vegetation removal - Noxious weeds TCC 24.15.210	A	A	A
Vegetation removal - Invasive vegetation TCC 24.15.220	P	P	P
Vegetation removal - Removal of hazard trees TCC 24.15.200	P	P	P
Vegetation removal - Other TCC 24.15.230	P	P	P
Wells - New and replacement TCC 24.15.240	P	P	P
Wildlife blind or nesting structure	A	A	A
Uses allowed in the applicable zoning district/shoreline master program not listed elsewhere in this table	SEE TCC 24.15.030		

LEGEND:

A = Allowed without a critical area review permit, subject to requirements of this title

P = >Permitted, subject to critical area review permit and requirements of this title

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.030 General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.15-1.

A. Regulatory Differences. See Chapter 24.01 TCC.

B. Geologic Assessments. Applications for all uses listed in Table 24.15-1 that require a development permit, with the exception of emergency responses provided for in Chapter 24.90 TCC, shall submit a geologic assessment as specified in Chapter 24.35 TCC.

C. Applications. Applications to undertake a use or activity within a geologic hazard area shall contain all information necessary to evaluate the proposed activity, its impacts, and its compliance with the provisions of this chapter.

D. Public Health and Safety. All development in geologic hazard areas shall be designed to protect public health and safety.

E. Avoid Increased Threat to Adjacent Properties. Development in geologic hazard areas shall be designed so it does not increase the threat of the geologic hazard to other properties that would likely be affected in the event of a slope failure, based on the professional opinion of a geotechnical professional.

F. Avoidance of impacts. All allowed uses and activities shall be designed and constructed to avoid or, where that is not possible, minimize negative impacts to geologic hazard areas and associated buffers. Applicants must first demonstrate an inability to avoid or reduce impacts, prior to the approval authority considering restoration and mitigation of impacts.

G. Avoid the Need for Shoreline Stabilization. The approval authority shall deny proposed developments and uses, including subdivisions, if it is determined that the development or use would require structural shoreline stabilization measures at the time of construction/implementation or over the life of the development. Developments and uses that would require such structural shoreline stabilization must be approved through the reasonable use exception process (see Chapter 24.45 TCC).

H. Surety. Applicants for proposals involving restoration or enhancement of degraded geologic hazard areas as a condition of permit approval shall submit to the county a surety consistent with Chapter 24.70 TCC.

I. Mitigation. Adverse impacts to geologic hazard areas and associated buffers shall be fully mitigated.

J. Any application of the chapter to an existing use or structure assumes that such use or structure was legally established. A proposal to apply this Chapter to a use or structure that has not been legally established is prohibited.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.050 Boat ramp, or marine railway and associated vehicle access.

Refer to the Shoreline Master Program for the Thurston Region, as amended, and TCC 24.25.110. Hand launching sites are not considered boat ramps under this section and are subject to the general standards in TCC 24.15.030.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.060 Bridges and culverts—Maintenance and repair.

A. Existing bridges and culverts can be maintained and repaired within the existing road bed/footprint provided best management practices are employed to avoid increasing the potential for a hazard area to fail, and to prevent erosion. Bridges and culverts must also be consistent with TCC 24.25.280—24.25.290, fish and wildlife habitat conservation areas.

B. Clearing of culverts does not require a permit. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.070 Bridges and culverts—Expansion or replacement.

Expansion or replacement of a bridge or culvert is allowed if necessary to conform to current county or state standards and if:

A. The existing bridge or culvert was lawfully established; and

B. There is not another alternative available that has less adverse impact on the geologic hazard area or associated buffer; and

C. The bridge or culvert is designed to avoid or, if not possible, minimize impacts to the geologic hazard area and it is in compliance with the standards for new crossings contained in TCC 24.25.280.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.080 Bridges and culverts—New.

New bridges and road culverts are allowed if:

A. There is not another alternative access available outside of the geologic hazard area(s) or associated buffer(s);

B. The bridge or culvert shall be designed and located in a manner that presents the lowest risk of exacerbating an existing geologic hazard or impacting the associated buffer; and

C. The bridge or culvert is designed in compliance with the standards for new crossings contained in TCC 24.25.280.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.090 Clearing and grading.

Clearing and grading within landslide, marine bluff, and erosion hazard areas shall be limited to the area approved for development and shall not be allowed during the wet season (October 1 through May 1) unless the approval authority determines that adequate provisions for wet season erosion have been identified in the geological assessment. All such erosion control measures shall be implemented as a condition of wet-season clearing and grading. The approval authority may require monitoring to ensure that the erosion control is functioning properly. The county may further restrict grading between May 1 and October 1 and also require wet season erosion control provisions if the site is particularly susceptible to erosion and sedimentation that could create unstable conditions or jeopardize a wetland or important habitat. Also see Chapter 14.20 TCC regarding grading requirements and the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.100 On-site sewage systems—New and replacement.

A. New Sewage Systems. New on-site sewage systems shall be prohibited within geologic hazard areas and associated buffers.

B. Replacement. Failing on-site sewage disposal systems shall be remedied through a method that results in the least impact to the hazard area and associated buffer. Replacement sewage disposal systems shall not be allowed within geologic hazard areas or the associated buffers unless there is no alternative site available outside of such areas to accommodate the facilities. This may require systems that provide a higher level of sewage treatment. The approval authority may deny the request to replace a failing on-site sewage system if it is determined, in consultation with a geotechnical professional, that it poses a risk to public safety. Clearing of existing vegetation to remedy the failing system shall be limited to the minimum extent practicable.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.110 Piers.

Refer to the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.115 Reclaimed water.

Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.120 Recreation—Active.

The approval authority may allow active recreation facilities, such as, but not limited to, public and private parks and campgrounds within geologic hazard areas and associated buffers subject to the

following criteria and exceptions. Also see TCC 24.15.130, 24.15.180—24.15.230, 24.25.270, and 24.30.260:

A. Active recreation facilities and access to them shall be designed and located to minimize disturbance to the geologic hazard area and associated buffers.

B. Uses such as athletic fields, golf courses, operation of motorized recreational vehicles (ORVs), and related structures, restrooms and parking areas shall not be located in geologic hazard areas or associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.125 Recreation facilities, trails, and trail-related facilities—Exemptions.

The following uses are exempt from the need for a critical area permit:

A. Construction and/or maintenance of a private ground trail using hand tools in the geologic hazard area, provided that the trail is three feet or less in width, not impervious (e.g. gravel, rocked, paved), and constructed with minimal vegetation removal and minimal pervious material such as wood chips. Construction of the trail shall not cause a public safety risk.

B. Passive recreation activities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.130 Recreation facilities (passive), trails/paths, elevated walkways, and associated facilities—New.

Trails and trail related passive recreation facilities shall only be authorized within geologic hazard areas subject to the following criteria (also see TCC 24.15.180-230, 24.25.270, and 24.30.260).

A. Trails and related passive recreation facilities shall be placed on existing levees, dikes, road grades, utility corridors, or any other previously disturbed areas to the maximum extent practicable, as determined by the director;

B. The width of trails extending through a geologic hazard area and/or buffer shall be minimized. Access paths extending through the geologic hazard area and buffer shall be no more than four feet in width unless they are designated for public access and designed to accommodate handicapped persons. In that case, the trail and associated clearing shall comply with the Americans with Disabilities Act (ADA) guidance for trail construction.

C. Clearing shall be done with hand tools unless the approval authority determines that the scale of the project necessitates mechanized equipment and its use will not increase the hazard associated with the geologic hazard area or buffer within and beyond the trail corridor;

D. Trails and related passive recreation facilities shall be planned to minimize vegetation removal;

E. Viewing platforms, interpretive signs, picnic areas, benches and access to them shall be designed and located to minimize disturbance;

F. Trails and related passive recreation facilities shall provide water quality protection measures to assure that runoff from them does not create channels or otherwise directly adversely affect the stability of the landslide hazard area or marine bluff;

G. Native vegetation disturbed by trail construction shall be made available for salvage.

H. The removal or disturbance of vegetation, clearing or grading shall be prohibited:

1. During the wet season (November 1 to May 1); or

2. During other wet time periods where clearing and grading may result in a public safety risk, as determined by the director;

I. The proposed trail shall not adversely affect existing slope conditions within the geologic hazard area, or any required buffer; and

J. Parking areas, structures, and restrooms shall be located outside the geologic hazard area and associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.15.140 Roads/streets/driveways—New and expanded.

New roads, streets, driveways and private access roads are prohibited in marine bluff hazard areas and associated buffers. Proposed road crossings or encroachments into other geologic hazard areas or associated buffers shall follow all applicable local, state, and federal laws and the requirements listed below. These requirements also apply, as applicable, to road expansion within existing rights-of-way, footbridges, private access roads, and driveways.

A. Road alignments shall avoid landslide hazard areas and associated buffers, except where there is no alternative and safeguards will be employed to minimize the risk of slope failure and potential habitat degradation, consistent with a geological assessment. (See Chapter 24.35 TCC). In deciding on the placement of roadway alignments, the placement of the road alignment shall adhere to mitigation sequencing as specified in Section 24.01.037 TCC, and the review authority shall make findings for each of the mitigation sequencing steps on why they do not apply to the proposed activity.

B. Mitigation measures shall be provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from active erosion or seismically-induced ground deformation.

C. Expansion of roads in marine bluff hazard areas shall be prohibited unless it is needed for public safety. Expansion shall not result in an increase in road capacity and shall not exacerbate or create risks to public safety associated with the geologic hazard.

D. There may be other requirements in the Thurston County Code that prohibit the placement of a road in a landslide hazard area.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.15.145 Roads/streets—Maintenance/repair/replacement.

Roads, streets, highways, rights-of-way and other existing facilities, equipment, and appurtenances within approved rights-of-way may be maintained, repaired, resurfaced, replaced, installed, or constructed by the county or the holder of a current right-of-way use permit consistent with all applicable local, state, and federal laws. Such maintenance that involves road expansion, physical, or capacity, shall be subject to the requirements of TCC 24.15.140. Also see requirements in Chapters 24.25 and 24.30 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.150 Slope stabilization—New.

The approval authority may authorize stabilization of a steep slope or marine bluff only where they determine it to be necessary to protect lawfully established threatened existing structures as defined in this title and by the Shoreline Master Program for the Thurston Region (1990) as amended and applicable, and that cannot be relocated with less impact to geologic hazard areas or other critical areas. Stabilization of marine shorelines is subject to standards within the Shoreline Master Program for the Thurston Region, as amended, TCC 24.25, and consistent with this section. Any proposal for slope/bluff stabilization must be supported by a geological assessment from a qualified geotechnical professional and a biologist and shall adhere to the following preferential order:

A. Nonstructural Shoreline Protective Techniques. When stabilization methods are deemed necessary by the director, nonstructural shoreline protective techniques are preferred to concrete bulkheads or other types of shoreline armoring. Nonstructural techniques may include but are not limited to: beach nourishment, coarse beach fill, gravel berms, vegetation plantings and bioengineering. Best available science shall be used to evaluate the best techniques for protection as determined by the director. Refer to the Washington Department of Ecology publications "Slope Stabilization and Erosion Control Using Vegetation" (1993, Publication 93-30), and "Marine Shoreline Armoring and Puget Sound" (2010, Publication 10-06-003).

B. Bioengineering. If necessary, stabilization of slopes and marine bluffs shall be accomplished with bioengineering or similar "soft" stabilization techniques unless the applicant's qualified engineer and biologist demonstrate that such techniques are not sufficient to protect structures and facilities listed above from erosion and slope failure. The stabilization shall be designed and installed to minimize adverse impacts on the habitat's functions.

C. Combination of Bioengineering and Hard Armoring. If the applicant's qualified engineer and/or biologist demonstrates to the approval authority that bioengineering alone will not be sufficient to protect structures and facilities listed above, the approval authority may authorize a combination of bioengineering and structural solutions that is least damaging to the habitat. The stabilization shall be designed and installed to minimize any adverse impacts on habitat functions. The structural stabilization solutions shall comply with subsection (D) below.

D. Structural Techniques (e.g., Bulkhead, Gabion, Riprap, Revetments, or Wall). If the applicant's qualified engineer and biologist demonstrates to the approval authority's satisfaction that the techniques provided above are not possible or will not be sufficient to protect structures and facilities listed above from erosion and slope failure, they may, in consultation with a biologist and qualified engineer at the applicant's expense, approve a structural stabilization solution consistent with the following:

1. Hard armoring, such as rip-rap and bulkheads may only be allowed when the applicant demonstrates to the approval authority that a public facility, public road, utility (not individual service lines that can be relocated), sole access road, or occupied structure cannot be safely and practically maintained without such measures. The armoring shall be the minimum length necessary to protect the structure.

2. Structural techniques shall only be allowed along the toe of a marine bluff when:

a. It is to protect a legally permitted threatened structure; and

b. The residence and normal appurtenances are located within the 2:1 slope measured from the toe of the bluff or within the fifty-foot top of slope buffer, whichever is greater; and

c. Only if a marine bluff geotechnical assessment completed per Chapter 24.35 TCC finds that the structure to be protected will be threatened based on the long-term erosion rate (thirty—fifty year average) within the next three years if toe protection is not provided.

3. Hard armoring shall not be allowed along Type F and S waters in salmonid rearing areas unless it is necessary to protect critical public facilities, human life, or threatened dwellings.

E. Retaining Wall (Not a Bulkhead). The approval authority may allow retaining walls to provide protection for a threatened existing legally established single-family residence or public road where other nonstructural or bioengineering techniques have not been successful or would not be appropriate. Design, placement and mitigation shall be established by a geotechnical assessment and revegetation plan as described in Chapter 24.35 TCC.

F. Designed by Engineer. A professional engineer licensed in the State of Washington with demonstrated expertise regarding hydraulic actions along shorelines shall design stabilization projects along streams and marine shorelines in consultation with a qualified biologist.

G. Avoid Intrusion into the Important Habitat Area of a Geologic Hazard Area. Any new or replaced shoreline protective structures shall be placed as close to the existing bank as possible and parallel to the natural shoreline. In areas where dry land has been previously created by fill behind the bulkhead, the replacement structure should be designed to remove the fill and place the new structure as close to the historical OHWM as possible.

H. Nontoxic Materials. Approved stabilization shall only use materials that do not pose a risk to water quality, consistent with best available science.

I. Slope Stabilization. Slope stabilization is only allowed in geologic hazards, if consistent with Chapter 24.25 TCC, Fish and Wildlife Habitat Conservation Areas and Chapter 24.20 TCC, Frequently Flooded Areas, and only where erosion or landsliding threatens a use listed in this section. Bioengineering shall be used where possible.

J. A mitigation plan for impacts to geologic hazard areas including the shoreline ecological functions as a result of the armoring shall be prepared by a qualified biologist and implemented immediately following construction. Mitigation measures may include temporary or perpetual beach feeding with appropriate substrate, additional woody debris, revegetation of the adjacent upland area, or other measures designed to minimize the impacts to the nearshore environment from armoring.

K. Prior to any approval of shoreline armoring, the applicant shall demonstrate that other measures have been taken to address the erosion or other threats to the structure. This includes improving or installing a functioning drainage system, minimizing impervious areas, restoration of trees and other native vegetation on the adjacent buffer slope or bluff, possible relocation of structures, or other measures that would improve stabilization and reduce the threat to the structure.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.155 Shoreline stabilization—Repair, maintenance, or renovation.

Repair, maintenance, or renovation of lawfully established shoreline stabilization structures is permitted consistent with state and federal regulations and the Shoreline Master Program for the Thurston Region, as amended, provided that the facilities are not increased in height or length or expanded waterward. Replacement of existing shoreline stabilization structures shall be considered a new use subject to the requirements of 24.15.150 TCC, and the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.160 Stair tower, stairway, and mechanical lift.

A. Stair towers, stairways, and mechanical lifts may be permitted consistent with the Shoreline Master Program for the Thurston Region (1990), as amended, and TCC 24.25.110.

B. Stair towers, stairways, and mechanical lifts shall be designed and constructed to avoid adverse impacts to existing slope conditions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.170 Stormwater facilities on existing lots—New.

New stormwater facilities and swales proposed to store, treat and/or convey stormwater for single-family residential development on existing lots may be constructed within geologic hazard areas and associated buffers consistent with the Drainage Design and Erosion Control Manual, as amended (Chapter 15.05 TCC) under the following conditions:

A. No Alternative. The applicant shall demonstrate that there is no alternative for accommodating stormwater with less impact to the hazard area and/or buffer due to topography or other physical constraint. The facilities shall be designed and located to minimize impacts on the geologic hazard area and associated buffer.

B. Geologic Hazard Areas and Associated Buffers. If there is no alternative with less impact, stormwater facilities shall be constructed as follows:

1. Surface drainage down the face of the slope must be avoided and must be consistent with the Drainage Design and Erosion Control Manual for Thurston County 15.05 TCC, as amended. If drainage must be discharged, it shall be collected upland of the top of the slope and conveyed by tight line drain through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior. The pipe shall be located on the surface of the ground and properly anchored so that it will continue to function in the event of an underlying slide or active erosion conditions. The stormwater shall be treated prior to release by a method

that meets clean water standards and poses the least risk of destabilizing the slope (e.g. a compost filter).

2. If drainage must be discharged to a water body below the landslide or erosion hazard area, the conveyance system described in paragraph (1) above shall include an energy dissipating device at the edge of the water body and must comply with 15.05 TCC.

3. Surface drainage not discharged per paragraphs (1) or (2) above, must be directed away from the slope and collected in a tight line or other approved method for discharge to an acceptable natural drainage. The tight line drain should terminate at the drainage course rather than at a point upslope within the natural drainage course to avoid erosion or destabilization.

4. A maintenance and monitoring plan shall be developed for approved tight line drainages.

5. If tight lining is not possible, stormwater retention and detention systems, such as dry wells and infiltration systems (including those utilizing buried pipe, French drains, or swales), within a landslide or erosion hazard area or associated buffers shall require approval of a Reasonable Use Exception, in compliance with Chapter 24.45 TCC and 15.05 TCC. Any such system receiving approval of a Reasonable Use Exception shall be designed by a licensed civil engineer and shall include a geological assessment indicating that such a system will not affect the stability of the slope. A monitoring plan shall be required through one wet season, at a minimum, for a proposed infiltration system and the results included in the geotechnical assessment.

6. Proposals in geologic hazard areas and associated buffers located within jurisdiction of the Shoreline Management Act shall comply with the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Repair and maintenance of existing stormwater retention, treatment and conveyance systems within a geologic hazard area or associated buffers is permitted subject to review.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.178 Utility transmission lines and facilities—New.

Installation of utility lines and facilities is permitted in existing rights-of-way and utility corridors consistent with applicable regulations (see Title 13, TCC). The alignment of underground utility transmission lines outside of existing rights-of-way shall avoid geologic hazard areas to the greatest extent possible. The approval authority may allow underground utility lines within these areas when it is determined that there are no practicable alternatives or if the utility lines will be consolidated with a road crossing or parallel to an existing utility crossing at the minimum separation distances established by the county for such uses.

A. Utility Corridors. Utility corridor alignment, construction, restoration, and maintenance shall adhere to the following standards:

1. Utility corridor alignment shall fall outside of geologic hazard areas and associated buffers to the maximum extent possible where it would have the least impact on the functions of the geologic hazard area and associated buffers. The approval authority may require submission of a feasibility

study that demonstrates that alternative routing with less impact on the geologic hazard is not possible.

2. The utility corridor shall have the minimum width practicable.

3. The utility corridor alignment and utility installation shall not cause an increased risk of landslide or significant erosion that would impact other critical areas or cause public safety issue.

4. Clearing shall be limited to the minimum necessary to locate the utility. Cutting of conifer trees greater than twelve inches in diameter (at four and one-half feet above the ground on the uphill side of the tree) shall be avoided to the maximum extent possible, consistent with the preservation of important habitats within or adjacent to the geologic hazard area.

5. The utility corridor shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables.

6. Utility corridors shall be revegetated with appropriate native vegetation, compatible with the utility facility and, whenever possible, equivalent to preconstruction densities. Restoration shall occur immediately upon completion of construction or soon thereafter under seasonal constraints or work windows established pursuant to this chapter. The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that such vegetation survives or is replaced.

7. Staging areas. Staging areas for equipment and materials shall be located outside of the geologic hazard area and associated buffers.

8. Maintenance plan. Applicants shall submit a maintenance plan for the corridor for approval by the county consistent with the provisions of this chapter.

B. Individual Utility Service Lines. Overhead lines or cables serving an individual use are permitted if no alternative is available, they meet state and federal requirements and do not impair the functions of the geologic hazard area or associated important habitat area. Poles supporting such lines shall be located outside of the geologic hazard area when feasible. If a pole is necessary within the geologic hazard area, it shall be located where it would be least damaging to the geologic hazard area, as determined by the approval authority.

Buried service lines serving an individual uses are permitted upon demonstration that they will not have an adverse impact on the geologic hazard area The site shall be restored upon completion of the utility installation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.180 Vegetation removal—General.

Vegetation removal is prohibited in geologic hazard areas and associated buffers except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.190 Vegetation removal—Forest practices permit.

A. Class IV Forest Practices Permits and Conversion Option Harvest Plans (COHPs) are subject to the standards of this chapter.

B. The harvesting of trees with an approved Class II or Class III forest practices permit is subject to review and approval by Washington Department of Natural Resources and shall not be subject to the standards of this chapter.

C. Harvesting of trees within erosion hazard areas that do not meet the definition of landslide hazard or marine bluff hazard areas may be permitted. Removal of trees within an erosion hazard area shall not result in impacts to soil stability. This may require additional soils or geotechnical reports to evaluate impacts and/or identify mitigation measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.200 Vegetation removal—Hazard trees.

The approval authority may authorize the limbing, thinning or removal of hazard trees located within a geologic hazard area or buffer provided that:

A. The approval authority may require the applicant to submit a report from an appropriate professional(s) (certified arborist, geotechnical engineer, professional forester, etc.) that documents the hazard. The professional arborist may recommend suitable replacement trees for any trees removed pursuant to this subsection.

B. Tree cutting is limited to limbing or crown thinning in compliance with National Arborist Association pruning standards, unless the tree has a disease that would jeopardize the survival of other trees, or felling the tree is otherwise justified by the landowner/expert to eliminate hazard trees or to otherwise protect the integrity of the bluff or slope.

C. Trees subject to wind throw that may increase slope instability if they blow down may be removed, subject to a report from the appropriate professional(s) (e.g., certified arborist, geotechnical engineer, professional forester, etc.) to confirm that there is a risk of wind throw and that removal of the tree(s) will not decrease slope stability.

D. The landowner shall replace any tree that is taken down in the buffer. Replacement trees shall be native, field grown, fifteen-gallon pot size, a height of four feet, and be three years old. Larger trees may be required when there are insufficient remaining trees in the buffer to ensure slope stability and prevent the creation of more hazard trees, as determined by the approval authority.

E. To ensure survival of replacement trees, replacement shall be at a ratio of 3:1 for each tree removed. The approval authority may require that the trees be planted from October to February and that watering, maintenance, and/or monitoring plans be submitted to ensure their survival. Demarcation and protection of planted trees may be required to ensure tree survival.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.210 Vegetation removal—Noxious weeds.

Removal of noxious weeds, as defined by Chapter 16-750 WAC, under the direction of the Thurston County Noxious Weed Control Board, is permitted in geologic hazard areas and associated buffers consistent with a county approved integrated pest management plan, applicable county and state

regulations, any applicable approved farm plan, and this section. Prior to requiring removal of noxious weeds within a landslide or marine bluff hazard area or associated buffer that would involve the use of motorized equipment or broadcast spraying of herbicides, the noxious weed control board staff shall consult with the resource stewardship department to evaluate alternative methods of weed removal and the associated risks to the stability of the landslide or marine bluff hazard area and buffer.

A. Plant removal shall be performed with hand labor, including the use of hand held non-motorized tools, unless the approval authority determines that the scale of the project warrants use of small scale motorized equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide in accordance with state and federal law by a licensed applicator) and use of the equipment/method does not pose a significant risk to untargeted areas, slope stability, or habitat functions.

B. Plant removal that would expose more than five hundred square feet of soil within a landslide or marine bluff hazard area or buffer shall require submission of a plan for county approval that identifies the proposed plant removal and site restoration consistent with the provisions of this section.

C. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with the Chapter 15.05 TCC. If the area of exposed soil lies within the landslide or marine bluff hazard area or the buffer, the exposed area shall be planted with appropriate plant species present in the area at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing slope stability or habitat functions.

D. Vegetation removal shall be the minimum extent necessary; and shall not create a public safety risk.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.220 Vegetation removal—Invasive plants.

Removal of invasive plants is permitted subject to all of the following:

A. Plant removal shall be performed such that it will not increase the likelihood of erosion or slope instability within marine bluff or landslide hazard areas and associated buffers, significantly damage untargeted vegetation, or impair any habitat functions.

B. Plant removal shall be performed with hand labor, including the use of hand held, non-motorized tools, unless the approval authority determines that the scale of the project warrants use of small scale motorized equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide in accordance with state and federal law by a licensed applicator) and use of the equipment/method does not pose a significant risk to untargeted areas, slope stability, or habitat functions.

C. Plant removal that would expose more than five hundred square feet of soil in a contiguous area within a landslide or marine bluff hazard area or buffer shall require submission of a plan for county approval that identifies the proposed plant removal and site restoration consistent with the provisions of this section.

D. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with the Chapter 15.05 TCC. If the area of exposed soil lies within the landslide or marine bluff hazard area or the buffer, the exposed area shall be planted with appropriate plant species present in the area at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing slope stability or habitat functions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.230 Vegetation removal—Other.

Other vegetation may be removed from the hazard area and associated buffer, as follows:

A. Removal of vegetation to the minimum extent necessary for surveying or testing purposes is allowed, as determined by the approval authority.

B. Marine Bluff or Landslide Hazard Area. The approval authority may allow the trimming or limited removal of vegetation to the minimum extent necessary to provide a view corridor, provided that view corridors are limited to a maximum width of twenty feet. The trimming of limbs on individual trees is preferred to the removal of trees. Trimming shall be limited to limbing or crown thinning in compliance with National Arborist Association pruning standards. Trimming shall not include felling, topping, or removal of trees, or jeopardizing the tree's survival. Prior to tree removal, the approval authority shall require the applicant to submit a report from the appropriate professional(s) (e.g., arborist, geotechnical engineer, professional forester, etc) to confirm that removal of the tree(s) will not increase the hazard.

C. Erosion Hazard Areas. The applicant shall comply with TCC 24.15.090 when removing vegetation within an erosion hazard area.

D. Other vegetation may be managed by the periodic mowing of previously cleared areas to maintain pasture vegetation or other vegetation management designed to stabilize the slope or bluff.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.240 Wells—New and replacement.

New or replacement wells serving an approved individual use are allowed within geologic hazard areas and associated buffers, as specified in Table 24.15-1, provided that:

A. There is not minimally sufficient area on the property outside the hazard area and/or buffer to accommodate the well, as determined by the approval authority; and

B. New on-site wells shall be consistent with the applicable provisions of Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies; and

C. If a landslide or marine bluff hazard area is present on the site, the approval authority may require the applicant to demonstrate that the drilling will not destabilize the slope; and

D. Vegetation removal shall be consistent with this chapter; and

E. Pumphouses, wellhouses and any associated structures shall be located outside of geologic hazard areas and their associated buffers.

Table 24.15-2. Critical Facilities for Thurston County

Occupancy Category	Nature of Occupancy
IV. Essential	Hospitals and other medical facilities having surgery and emergency treatment areas
	Fire, rescue and police stations and other emergency vehicle garages
	Water treatment facilities required to maintain water pressure for fire suppression
	Designated earthquake, hurricane or other emergency shelters
	Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response
	Power-generating stations and other public utility facilities required as emergency backup facilities for essential facilities
	Aviation control towers, air traffic control centers, and emergency aircraft hangars
	Structures containing sufficient quantities of toxic materials or explosive substances to be dangerous to the safety of the general public if released
	Buildings and other structures having critical national defense functions
III. Hazardous	Buildings and other structures where more than 300 people congregate in one area
	Buildings and other structures with elementary school, secondary school, or day care facilities with an occupant load > 250
	Buildings and others structures with an occupant load greater > 500 for colleges or adult education facilities
	Health care facilities with an occupant load of 50 or more resident patients but not having surgery or emergency treatment facilities
	Jails and detention facilities
	All structures with occupancy load > 5,000
	Power-generating stations, water treatment for potable water, waste water treatment facilities and other public utility facilities not included as an essential facility, above

	Buildings and other structures not included as an Essential Facility, above, containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released

Table 24.15-3. Erosion Soils of Thurston County

Soil Survey of Thurston County, 1990			
Map Symbol	Soil Name	Percent Slope	Water Erosion Hazard
4	Alderwood gravelly sandy loam	30—50%	severe
8	Baldhill very stony sandy loam	30—50%	severe
10	Baumgard loam	40—65%	severe
12	Baumgard-Pheeney complex	40—65%	severe
13	Baumgard-Rock outcrop complex	40—65%	severe
30	Dystric Xerochrepts	60—90%	severe
35	Everett very gravelly sandy loam	30—50%	severe
49	Jonas silt loam	30—65%	severe
53	Kapowsin silt loam	30—50%	severe
61	Mal clay loam	30—65%	severe
63	Mashel loam	30—65%	severe
80	Pheeney gravelly loam	30—65%	severe
81	Pheeney-Baumgard complex	30—65%	severe
82	Pheeney-Rock outcrop complex	40—65%	severe
83	Pheeney-Rock outcrop complex	65—90%	severe
91	Rainier clay loam	30—65%	severe
96	Rock outcrop-Pheeney complex	40—90%	severe
119	Tenino silt loam	30—60%	high
122	Vailton silt loam	30—65%	severe

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.7 Frequently Flooded Areas (Chapter 24.20 TCC)

24.20.005 Frequently flooded areas—Purposes.

The purposes of this section are to:

A. Augment development standards in Chapter 14.38 TCC regarding development in flood hazard areas.

B. Identify areas affected by natural flooding and stream channel migration and minimize the amount of development at risk in such areas in order to protect human life and safety; minimize damage to homes and places of business; minimize business interruptions; avoid or minimize damage to public facilities and utilities including, but not limited to, water and gas mains, electric, telephone and sewer lines, roads and bridges; and to minimize the expenditure of public funds for flood control projects, rescue and relief efforts and repair of flood damage.

C. Preserve natural flood control by retaining the capacity of floodways to pass floodwaters and associated debris and by retaining the capacity of floodplains to store flood waters.

D. Restrict structures, facilities, flood loss reduction measures (including, but not limited to, hard armoring and stream channelization), grading, dredging, filling and other development in areas subject to flooding that could displace flood carrying capacity or increase flood heights or velocities.

E. Protect the quality and quantity of water sustaining humans, fish, shellfish and wildlife by avoiding or minimizing siltation and pollution associated with flooding. This includes, but is not limited to, prohibiting or restricting uses in flood prone areas that pose significant risks to water quality when they are inundated.

F. Minimize disruption of stream channel migration that forms fish and wildlife habitat by minimizing streambank stabilization and construction of new structures that would be affected by stream channel migration.

G. Maintain the linkages of the stream to the nutrient reserves in its floodplains.

H. Regulate frequently flooded areas as a critical area, pursuant to RCW 36.70A.030.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.010 Frequently flooded areas—Applicability.

The provisions of this chapter apply to frequently flooded areas and one-hundred-year channel migration hazard areas as defined in Chapter 24.03 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.015 High ground water flood hazard areas—Base flood elevation.

The base flood elevation (BFE) for high ground water flood hazard areas corresponds to the elevation of the outer edge of the high ground water flood hazard area. The map entitled "High Ground Water Flood Hazard Areas" depicts the approximate location of the high groundwater flood hazard area. The actual

location of the outer edge of the flood hazard area shall be determined consistent with TCC 24.20.030 and 24.20.035, as applicable.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.020 High groundwater flood hazard areas—No development zone.

The no development zone (NDZ) is an area extending fifty feet, measured on a horizontal plane, from the outer edge of the high ground water hazard area or extending to a ground elevation two feet (vertically) above the base flood elevation, whichever is less. Development is prohibited in the no development zone.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.025 High groundwater flood hazard areas—Restricted development zone.

In situations where the no development zone is based on elevation, there may not be a restricted development zone (see Figure 24.20-1). The restricted development zone (RDZ) extends from the outer edge of the no development zone to a ground elevation two feet (vertically) above the base flood elevation, except:

A. The approval authority may exclude areas less than two feet in elevation above the base flood elevation from the restricted development zone if the applicant's registered professional civil engineer licensed in the State of Washington demonstrates that due to drainage patterns (including the location and size of any existing culverts and ditches), topography, physical barriers, geologic conditions, hydrology, distance from the high groundwater flood hazard area or other relevant factors that the area proposed to be removed from the restricted development zone and adjacent properties will not flood. The approval authority may consult with an engineering geologist, hydrogeologist, professional engineer, or other qualified professional as necessary, at the applicant's expense, to evaluate the flooding potential of the area proposed to be removed from the restricted development zone. The county shall provide the applicant with a cost estimate and obtain their approval prior to consulting with the experts. The application may be closed if the applicant chooses not to bear the cost of the evaluation; or

B. On sloping parcels where the topography does not reach two feet in elevation above the BFE before it falls in elevation below the base flood elevation, the approval authority shall set the outer boundary of the restricted development zone at the highest point above the base flood elevation (see Figure 24.20-2), if the applicant's registered professional engineer licensed in the State of Washington demonstrates that the area beyond has no or negligible risk of flooding. The approval authority may consult with an engineering geologist, hydrogeologist, professional engineer, or other qualified professional as necessary, at the applicant's expense, to evaluate the flooding potential of the area proposed to be removed from the restricted development zone. The county shall provide the applicant with a cost estimate and obtain their approval prior to consulting with the experts. The application may be closed if the applicant chooses not to bear the cost of the evaluation; or

C. All new construction proposed in the restricted development zone shall comply with the provisions of this section and TCC 14.38.050.

Figure 24.20-1

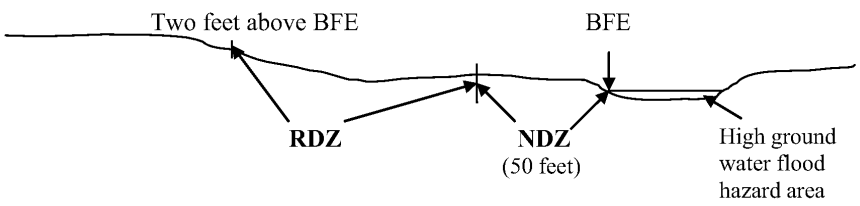
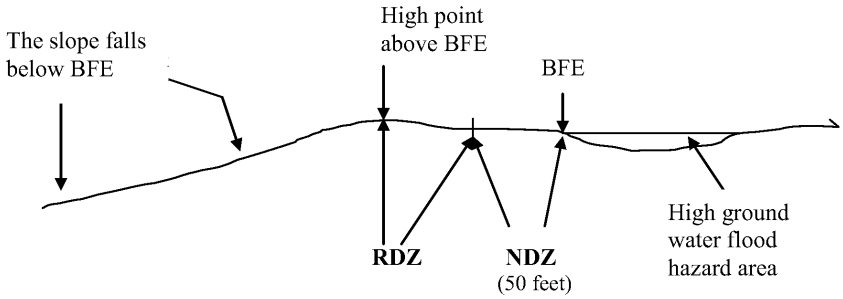


Figure 24.20-2



LEGEND FOR FIGURES 24.20-1 & 24.20-2

BFE =	Base Flood Elevation
RDZ =	Restricted Development Zone
NDZ =	No Development Zone

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.030 High groundwater flood hazard area—Delineation.

A. High groundwater flood hazard areas shall be delineated through a critical area review permit.

B. Applicants for development of an existing lot shall submit the base flood elevation, prepared by a licensed land surveyor, for review and approval of the director, consistent with TCC 14.38.040, as follows:

1. The applicant's surveyor, in consultation with the director, shall stake and flag the recommended high ground water edge in the field based on the high ground water flood hazard areas map, topography, aerial photographs of flood events and other relevant factors.

2. After the director accepts the staked and flagged high ground water edge, the surveyor shall depict the BFE, NDZ, and RDZ on the site plan submitted to the director for review and approval.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.035 High groundwater flood hazard area—Map amendments.

A. The high groundwater flood hazard area map shall be amended consistent with the review process and requirements specified in Chapters 24.05 and 24.91 TCC.

B. All required hydrological studies shall be prepared by an engineering geologist or professional engineer licensed in the State of Washington with demonstrated experience, as appropriate, in hydrologic, hydrogeologic and hydraulic analysis.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.040 River, marine, lake, and coastal flood hazard areas—Map amendments.

Map amendments of maps for frequently flooded areas that are identified on the flood insurance rate maps prepared by the Federal Insurance Administration, as supplemented by "The Flood Insurance Study for Thurston County," dated November 17, 1980 shall follow the amendment procedure in TCC 14.38.090, Map correction procedures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.045 Channel migration hazard areas—Map.

The 100-year channel migration hazard areas are generally depicted on the map entitled "channel migration hazard areas" on file with the department in the permit assistance center.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.050 Channel migration hazard areas—Map amendments.

A. Maps of channel migration hazards areas shall be amended consistent with the review process and requirements specified in Chapters 24.05 and 24.91 TCC.

B. The department shall periodically update the map as the county delineates or accepts delineations of 100-year channel migration hazard areas pursuant to this chapter.

1. The required data must be prepared by a qualified professional proficient in fluvial geomorphology (i.e., a person who possesses a graduate degree in geology or physical geography with specialization in fluvial geomorphology and has at least two years of relevant professional experience).

2. Any third party review shall be performed by a qualified professional proficient in fluvial geomorphology. Based on this evaluation, the approval authority will modify the channel migration hazard areas map if warranted.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.055 Channel migration hazards areas—Delineation—Unmapped hazard areas.

If the approval authority determines that a proposed use along a Type S or F stream is within a historic channel migration zone, based on field conditions, historic information, LIDAR imagery or aerial photography, and the one-hundred-year channel migration hazard area has not been mapped, the approval

authority shall require the applicant to determine if a one-hundred-year channel migration hazard area is present on the site and, if so, delineate its location and extent.

A. The determination as to whether the one-hundred-year channel migration hazard area affects the subject property shall be based on the findings of a qualified professional proficient in fluvial geomorphology using a reliable methodology to determine channel migration accepted by the department (e.g., as described in the Washington Department of Natural Resources' Forest Practices Board Manual, Standard Methods for identifying Channel Migration Zones and Bankfull Channel Features, dated 8/2001, as amended; or in "A Framework for Delineating Channel Migration Zones," Washington Department of Ecology, 2003, as amended). Maps delineating the one-hundred-year channel migration hazard area shall be of a scale and format specified by the department.

B. The following areas shall be considered outside of the one-hundred-year channel migration hazard area:

1. Areas separated from the stream channel by a legally established structure that the approval authority, in consultation with a qualified professional, determines will block channel migration. This may include, but is not limited to, dikes, levees and public roads that extend above the one-hundred-year flood elevation that are constructed to remain intact through a one-hundred-year flood. Constraints to channel migration that do not extend above the one-hundred-year flood elevation shall not be considered to limit channel migration unless demonstrated otherwise based on technical information; and

2. Areas separated from the stream channel by a geologic feature, such as a rock outcrop, that the approval authority determines, in consultation with a qualified professional, will stop channel migration.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.060 Frequently flooded areas—Building setbacks—Coastal flood hazard areas.

A. Coastal Flood Hazard Areas. Uses in coastal flood hazard areas are allowed landward of the reach of mean high tide, subject to the provisions of Chapter 14.38 TCC. New construction, additions affixed to the side of an existing structure, and substantial improvement of any structure with a crawl space may only be located landward of a line three feet above the regulatory tidal base flood elevation, consistent with Chapter 24.25 TCC and the Shoreline Master Program for Thurston Region.

B. Refer to Chapter 14.38 TCC regarding crawl spaces.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.065 Floodways—Development and uses.

Encroachments, including new construction, substantial improvements, fill and other development, are prohibited within designated floodways, unless otherwise authorized by this chapter.

A. In addition to the requirements of Chapter 24.45 TCC, a reasonable use exception for development in a floodway shall be required to demonstrate the following:

1. Hydrologic and hydraulic analyses performed by a registered professional engineer licensed in the State of Washington, that demonstrate, in accordance with standard engineering practices, that the proposed project will not result in an increase in flood levels during discharge of the base flood.

2. New construction and substantial improvements, as defined in TCC 14.38.020 shall comply with all applicable flood hazard reduction provisions in Chapter 14.38 TCC.

B. Recreational Vehicles.

1. Recreational vehicles parked in the floodway shall not be left unattended for more than twenty-four consecutive hours during the flood season, between November 1 and March 15; and

2. Travel trailers parked in the floodway shall have the wheels and tongue attached for ease and rapidity of evacuation. Only quick disconnect utilities may be used. Permanent additions to travel trailers parked in the floodway are prohibited.

C. Temporary structures and hazardous materials shall be removed from the floodway during flood season (i.e., November 1 to March 15). If the approval authority determines that flooding is imminent and the owner is not present, they may, at the owner's expense, move the structure(s), its contents, and any vehicles to higher ground.

D. For any approved development in the floodway, a notice shall be recorded on the property title indicating that its use is subject to Title 24 TCC and Chapter 14.38 TCC.

E. Projects specifically designed to protect, create or restore anadromous/native fish habitat may be allowed in or along Type S and F streams without the hydrologic and hydraulic engineering analysis, if the approval authority determines that the project will not significantly obstruct flood flows or increase flood elevations. If the effect of the proposed project on flooding is in doubt, the approval authority may require that a qualified professional in the field of hydraulics review the proposed project consistent with paragraph (A)(1) above, at the applicant's expense, in order to determine if it will exacerbate flooding.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.070 Frequently flooded areas—Standards and allowable uses and activities.

Table 24.20-1 identifies the land uses and activities that are allowable in frequently flooded areas (i.e., one-hundred-year floodplains, one-hundred-year flood zone (one percent flood zone), floodways, high ground water hazard areas/restricted development zones, channel migration hazard areas, and coastal flood hazard areas) and one-hundred-year channel migration hazard areas. All land uses and activities not allowed by or not mentioned in Table 24.20-1, except water dependent uses allowed under the Shoreline Master Program for Thurston Region, are prohibited within the flood and channel migration hazard areas regulated by this section, except as otherwise provided in Chapter 24.01 TCC. In addition to this chapter, these allowable uses and activities may be subject to the following:

A. Other applicable provisions of this title and requirements of the applicable zoning district;

B. The provisions of Chapter 14.38 TCC, Development in Flood Hazard Areas;

C. The Shoreline Master Program for the Thurston Region;

D. The Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC); and

E. All other applicable county, state, and federal regulations.

Table 24.20-1. Allowable Uses and Activities in Flood and Channel Migration Hazard Areas

Uses and Activities	Floodways	Frequently Flooded Areas (except floodways and high groundwater hazard areas)	Channel Migration Hazard Areas	High Ground Water Hazard Areas/RDZ	Coastal Flood Hazard Areas
Accessory structures - Construction TCC 24.20.080	X	P	P	P	P
Agricultural activity, new	P	A	A	A	P
Agricultural equipment and facility	X	P	P	P	X
Antenna support structures regulated by Chapter 20.33 TCC TCC 24.20.080	X	P	P	P	X
Asphalt plants	X	X	X	X	X
Boat ramp and associated vehicle access TCC 24.20.080	P	P	P	P	P
Boat site, hand launch - Construction TCC 24.20.080	P	P	P	N/A	P
Bridges and culverts - Maintenance or repair TCC 24.20.080; 24.20.140	P	P	P	A	A
Bridges and culverts - Replacement or expansion TCC 24.20.145	P	P	P	A	P

Bridges and culverts - New construction TCC 24.20.140	P	P	P	P	P
Cemeteries TCC 24.20.080	X	X	X	X	X
Clearing and grading/timber harvest in conjunction with a development project TCC 24.20.090	P	P	P	P	P
Critical facilities TCC 24.20.080	X	X	X	X	X
Drainage ditch maintenance TCC 24.20.080	A	A	A	A	A
Drilling and testing for required report or engineering study TCC 24.20.080	A	A	A	A	A
Emergency response	SEE CHAPTER 24.90 TCC				
Existing lots approved prior to the effective of the ordinance from which this title derives - Construction of primary structures and associated, decks, garages, and appurtenant structures	X	P	P	P	P
Fences	X	A	A	A	A
Fill - Associated with a permitted use TCC 24.20.100 TCC 14.38	X	P	P	P	X
Fish hatchery construction and maintenance TCC 24.20.080	P	P	P	P	P
Floats (e.g., a floating dock, mooring buoy, navigational aid, and swimming float) -	P	X	X	N/A	A

Installation TCC 24.20.080					
Flood protection facilities - New construction TCC 24.20.080	P	P	P	P	X
Flow control facilities/dams - New construction TCC 24.20.080	P	P	P	P	X
Forestry - Conversion Class IV forest practice TCC 24.20.080	P	P	P	P	P
Gardens for personal consumption - New and expanded TCC 24.20.080	A	A	A	A	A
Golf courses TCC 24.20.080	X	P	P	P	P
Habitat restoration/enhancement TCC 24.20.080	P	P	P	P	P
Hazardous substances TCC 24.20.120	X	X	P	X	X
Hazardous substances - Residential Scale TCC 24.20.120	P	P	P	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates)* TCC 24.20.132 *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and	X	X	X	X	X

information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).					
Instream structures - Maintenance or repair TCC 24.20.080	A	A	N/A	A	A
Instream structures not addressed above - New construction TCC 24.20.080	P	N/A	N/A	P	N/A
Lawfully established existing uses	A	A	A	A	A
Lawns, landscaping, golf courses, and cemeteries - Maintenance TCC 24.20.080	A	A	A	A	A
Marine railway TCC 24.20.080	X	P	P	N/A	P
Mineral extraction TCC 24.20.080	X	X	X	P	X
Mitigation required by the County TCC 24.20.080	P	P	P	P	P
Nonconforming structure/use - Maintenance, repair, alteration, expansion, intensification, or replacement	SEE CHAPTER 24.50 TCC				
On-site sewage disposal system - New TCC 24.20.130	X	X	P	X	X
On-site sewage disposal system, drainfield, or well/pump - Maintenance or repair TCC 24.20.130	P	P	A	A	A

Open space (e.g., critical area tract)	A	A	A	A	A
Piers - Construction TCC 24.20.080	P	P	X	N/A	A
Ponds - New creation <1 acre TCC 24.20.080	X	P	P	P	X
Public facility TCC 24.20.080	X	X	X	X	X
Public park facilities, trails and developed recreation areas - Maintenance TCC 24.20.080	A	A	A	A	A
Public project of significant importance TCC 24.20.080	X	X	X	X	X
Recreation (outdoors) - Passive and low impact activities (e.g., bird watching, boating, bicycling, canoeing, fishing, hiking, horseback riding, hunting, jogging, photography, swimming, and similar activities)	A	A	A	A	A
(Active) Recreation facilities (e.g., swimming access, public and private parks, day camps and camping sites not including structures) TCC 24.20.080	X	P	P	P	P
Research (e.g., education, scientific, and site investigation) TCC 24.20.080	A	A	A	A	A
Residential - Single-family home, new TCC 24.20.135	X	X	P	P	X

Roads/railroads - Repair and maintenance TCC 24.20.080	A	A	A	A	A
Roads/railroads - Replacement of lawfully established roads/railroads within maintained, improved (paved or railroad tracks) road rights-of-way or easements, or railroad prism TCC 24.20.145	P	P	P	A	A
Roads - Expansion TCC 24.20.080	P	P	P	P	P
Roads - New construction, including private access TCC 24.20.140	P	P	P	P	P
Scientific sampling TCC 24.20.080	A	A	A	A	A
Shoreline protective structures/armoring (e.g., bulkhead, gabion, riprap, or wall) TCC 24.20.080	P	P	P	P	P
Signs (e.g., interpretation, critical area tract, and survey markers,)	A	A	A	A	A
Ski lake - Creation TCC 24.20.080	X	P	P	A	A
Slope stabilization or retaining wall (not a bulkhead) TCC 24.20.080	P	P	P	P	P
Stabilization techniques (nonstructural)/bioengineering TCC 24.20.080	P	P	P	P	P
Stair lower, stairway or mechanical lift TCC 24.20.080	X	P	X	P	P

Stormwater conveyance system or detention/treatment facility - Maintenance or repair TCC 24.20.150	P	A	A	A	A
Stormwater retention/treatment facility - Construction TCC 24.20.150	X	P	P	P	X
Stormwater - Sediment control ponds (temporary) - Construction TCC 24.20.150	X	P	P	P	P
Stormwater - Surface water conveyance system - Construction TCC 24.20.150	P	P	P	P	P
Stream flow and elevation gages - Installation	A	A	A	A	A
Stream relocation (see Chapter 24.25 TCC)	P	P	P	P	P
Subdivisions (see Chapter 24.55 TCC)	P	P	P	P	P
Trails/paths, elevated walkways, and associated facilities - New construction (interpretative site and viewing platform) TCC 24.20.080	P	P	P	P	P
Utility facilities and lines - Maintenance or repair TCC 24.20.080	A	A	A	A	A
Utilities - Replacement TCC 24.20.080	P	P	P	P	P
Utility transmission lines - New construction outside of existing improved roads and utility corridors and new utility	P	P	P	P	P

corridors TCC 24.20.165					
Utility lines in improved roads and utility corridors and easements - New installation or replacement TCC 24.20.165	P	A	P	A	A
Utility service lines - Installation TCC 24.20.165	P	A	A	A	A
Utility facility - New facilities such as lift stations, substations and utility poles TCC 24.20.165	X	P	X	P	P
Vegetation removal - Enhancement projects TCC24.20.170	P	A	P	A	A
Vegetation removal - Noxious weeds TCC 24.20.170	A	A	A	A	A
Vegetation removal - Invasive vegetation TCC 24.20.170	P	P	A	A	A
Vegetation removal - Hazard trees TCC 24.20.170	P	P	P	P	P
Vegetation removal - Aquatic weeds TCC 24.20.170	P	N/A	N/A	N/A	N/A
Wells - New construction TCC 24.20.180	X	P	P	P	X
Wildlife blind or nesting structure	A	A	A	A	A
Uses allowed in the applicable zoning district/shoreline	X	X	X	P	A

master program not listed elsewhere in this table					

LEGEND:

A = Allowed, subject to applicable standards

P = Allowed, subject to applicable standards and Critical Areas Review Permit

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, §§ 2(Att. B), 5(Att. E), 12-17-2013)

24.20.080 Frequently flooded areas—General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.20-1.

A. Applications to undertake a use or activity within frequently flooded areas or a 100-year channel migration hazard area shall contain all information necessary to evaluate the proposed activity, its impacts, its compliance with the applicable provisions of this chapter and Chapter 14.38 TCC, Development in Flood Hazard Areas.

B. All development in frequently flooded areas and one-hundred-year channel migration hazard areas shall be designed to avoid habitat degradation, consistent with Chapter 24.25 TCC, Fish and Wildlife Habitat Conservation Areas.

C. Development in frequently flooded areas shall be designed so it does not increase flood hazards, except as provided for in this section and Chapter 14.38 TCC.

D. The approval authority shall deny proposed developments and uses if it is determined that they would require structural flood hazard reduction measures including, but not limited to, channeling the floodway or creating a new impact upstream or downstream at the time of construction/implementation or anytime thereafter, except as provided for in Chapter 24.25 TCC.

E. Excavation and development shall be prohibited in the one-hundred-year floodplain of Type S and F streams if the approval authority determines that it would cause significant dewatering of the hyporheic zone (the saturated zone located beneath and adjacent to streams with subsurface flow between surface water and the water table), block ground water flow or significantly inhibit recharge of the hyporheic zone. The approval authority may require the applicant to submit data as necessary to determine if excavation, soil compaction, or impervious surfaces associated with the project would cause significant, detrimental disruption to the ground water system.

F. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside of frequently flooded areas or usages permitted within such areas will not be subject to flooding or flood damage. This chapter shall not create liability on the part of Thurston County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.085 Biosolid application.

Biosolid application and uses shall be regulated by the Washington Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and be consistent with a memorandum of agreement (MOA), or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.090 Frequently flooded areas—Clearing and grading.

Clearing and grading within frequently flooded areas, channel migration hazard areas, and in the restricted development zone associated with high groundwater flood hazard areas is only allowed in conjunction with a use permitted pursuant to this chapter if it complies with all of the following:

A. Clearing and grading are the minimum necessary to accommodate the permitted use, as determined by the approval authority.

B. The soil duff layer shall remain undisturbed to the maximum extent practicable. In areas that are disturbed during construction but will not be covered by impervious surfaces, the moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction, by amending the soil with compost (consistent with TCC 24.20.100) or by stripping, stockpiling and reapplying the topsoil. Where feasible and appropriate, as determined by the approval authority, graded soil shall be redistributed to disturbed areas on the project site, provided it does not increase the flood elevation and complies with other applicable provisions of this chapter and Chapter 14.38 TCC.

C. The clearing limits shall be marked with a temporary fence authorized by the County.

D. Clearing and grading shall only occur between May 1 and September 30. The County may temporarily suspend grading during this period if excessive rainfall could cause erosion and sedimentation that would affect a wetland or water body. The County may allow clearing and grading outside of this period if all drainage will flow away from all potentially affected wetlands and water bodies, remain on site and the site is stabilized per Chapter 15.05 TCC.

E. Clearing in channel migration hazard areas. See Chapter 24.25 TCC regarding clearing restrictions in riparian management zones.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.100 Frequently flooded areas—Fill.

A. High Ground Water Flood Hazard Areas.

1. No fill may be placed within a designated high groundwater flood hazard area or no development zone, except to the minimum extent necessary, as determined by the approval authority, to elevate existing access roads serving existing, developed lots to the base flood elevation. Any such fill material shall be stabilized consistent with TCC Section 14.38.050(A)(5).

2. Fill may be used in the restricted development zone as follows:

a. The approval authority may approve balanced cut and fill to the minimum extent necessary for construction of an approved use listed in Table 24.20-1, if a professional civil engineer licensed in the State of Washington demonstrates that the fill or grading will not block natural drainage or increase flood hazards on or offsite.

b. Fill may be used to the minimum extent necessary, as determined by the approval authority, to construct a road to access essential public facilities or primary structures if no less damaging or hazardous alternative location exists for the access road outside of the restricted development zone. The access road's surface shall be constructed to an elevation equal to the base flood elevation.

c. The approval authority may allow the road to be elevated up to two feet above the base flood elevation provided arched, bottomless culverts will be installed to allow passage of water and the applicant's professional civil engineer licensed in the State of Washington demonstrates that flooding will not be increased offsite or inundate structures.

d. Fill material authorized pursuant to this section and any subsequent stabilization shall be such that the fill is stable during flooding, consistent with TCC Section 14.38.050(A)(5).

B. Floodplain. The approval authority may only approve balanced cut and fill with compensatory flood storage within the 100-year floodplain, landward of the floodway, to the minimum extent necessary for construction of an approved use listed in Table 24.20-1 or to provide access to essential public facilities, if a qualified professional engineer licensed in the State of Washington and a qualified wildlife habitat biologist demonstrate that there is no other alternative method for constructing the proposed use and that such grading and filling will not block stream side channels, increase flood hazards, inhibit channel migration or degrade important habitats (see Chapter 24.25 TCC), and that the proposal meets the requirements of Chapter 14.38 TCC. Applications for balanced cut and fill with compensatory flood storage shall include a winter water study.

C. Coastal Flood Hazard Areas. Fill for structural support of buildings is prohibited in coastal high hazard areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.20.110 Frequently flooded areas—Flood hazard reduction.

Proposals for flood hazard reduction shall be consistent with Chapter 24.25 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.120 Frequently flooded areas—Hazardous facilities and materials.

A. Storage of hazardous materials, sewage sludge, fertilizers, pesticides, herbicides, or chemical or biological substances defined as a hazardous/dangerous waste in Chapter 173-303 WAC, or any other substances, solids or liquids in quantities regulated by TCC 24.10.140, shall be stored out of floodways and above the one-hundred-year flood elevation consistent with Chapter 14.38 TCC where they are at least risk of being inundated with floodwater, consistent with Chapters 173-303 WAC and 173-360 WAC, Chapter 14.32 TCC, International Fire Code, and Article VI of the

Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Source Pollution.

B. The director may require removal of temporary staging areas or stockpiles of equipment, materials or substances in the floodway and/or floodplain between November 1 and March 15 if it is determined that such use or activity is hazardous to the public health, safety or welfare.

C. Use and storage of hazardous materials at typical residential scale are allowed for legally approved residential uses, subject to applicable sections of the Thurston County Code and Thurston County Sanitary Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.130 Frequently flooded areas—New on-site sewage disposal systems.

A. New on-site sewage disposal systems shall be located outside the one-hundred-year floodplain, floodway, coastal high hazard areas, and high ground water flood hazard areas, including the no development and restricted development zones. This may require systems that provide a higher level of sewage treatment. The sewage disposal system shall be located as far from the frequently flooded area as possible. Also see Article IV, the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, and WAC 173-160-171.

B. New on-site sewage disposal systems shall be located outside the one-hundred-year channel migration hazard area, except as provided in Chapter 24.50 TCC. This may require systems that provide a higher level of sewage treatment. The sewage disposal system shall be located as far from the frequently flooded area as possible. Also see Article IV, the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, and WAC 173-160-171.

C. Failing on-site sewage disposal systems shall be immediately remedied consistent with the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, Chapter 14.38 TCC, and, if applicable, Chapter 24.25 TCC. The approval authority may require the applicant to demonstrate that due to physical constraints (e.g., topography, soil conditions or the configuration of the site), another site configuration would not allow the development to occur without intrusion or with less intrusion into the hazard area than the proposal.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.132 Frequently flooded areas—Reclaimed water.

Section reserved for future critical area reclaimed water regulations. Critical area regulations will be proposed when more information is available to Thurston County from the regional groundwater recharge scientific study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.135 Frequently flooded areas—Residential—Single-family homes.

A. Residential and accessory structures, and typical residential-scale activities are prohibited, except as allowed under Chapters 24.50 and 24.55 TCC, this chapter, and other applicable sections of the Thurston County Code and Thurston County Sanitary Code. Onsite septic systems, including

those associated with residential uses, are addressed in TCC Section 24.20.130. Gardens for personal consumption are permitted as consistent with Table 24.20-1.

B. Use and storage of hazardous materials at typical residential scale are allowed for legally approved residential uses, subject to applicable sections of the Thurston County Code and Thurston County Sanitary Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.20.140 Frequently flooded areas—Roads, bridges and culverts.

A. New roads, bridges, and culverts shall be designed to minimize interruption of the downstream movement of wood and gravel, minimize fill, and allow passage of one-hundred-year flood flows and associated debris. Bridge piers and abutments shall not be placed in either the floodway or between the stream's ordinary high water marks unless there is no alternative placement, the placement results in zero increase in the backwater elevation or increase in downstream hazards during the one-hundred-year flood, and the placement minimizes habitat degradation. (See Chapter 24.25 TCC regarding road alignments in riparian habitat areas.)

B. Clearing of culverts does not require a critical area permit, though state and federal permits may still be required. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.145 Frequently flooded areas—Roads, bridges and culverts—Replacement.

Replacement of a road, bridge or culvert is allowed if necessary to conform to current standards and if:

A. It was lawfully established;

B. There is not another alternative available that has less adverse impact on the frequently flooded area;

C. The bridge or culvert is designed to avoid or, where that is not possible, minimize impacts to the frequently flooded area and it is in compliance with Chapter 14.38 TCC.

D. The replacement is consistent with the provisions of TCC 24.25.130.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.150 Frequently flooded areas—Stormwater retention, treatment, and conveyance facilities.

A. Maintenance and repair of existing stormwater retention, detention, treatment, and conveyance systems is permitted.

B. New stormwater facilities and swales proposed to store, treat and/or convey stormwater may be constructed consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and Chapter 24.25 TCC.

C. Temporary sediment ponds are allowed in the RDZ associated with high ground water hazard areas between March 16 and October 31. Temporary ponds may be located in other flood and channel migration hazard areas during this same time period if they comply with Chapter 24.25 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.160 Frequently flooded areas—Timber harvest.

The approval authority may authorize the cutting of hazard trees in floodways, one-hundred-year floodplain, coastal high hazard areas, and one-hundred-year channel migration hazard areas consistent with Chapters 24.25 and 14.38 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.165 Frequently flooded areas—Utilities.

A. New Utility Lines and Facilities in Rights-of-Way. Installation of utility lines and facilities is permitted in existing rights-of-way within frequently flooded areas, channel migration hazard areas and associated buffers, consistent with applicable regulations (see Title 13 and 14, TCC) and the provisions of this chapter. When possible, given physical and technical constraints, utility installation shall occur on the side of the utility corridor or road furthest from the hazard area. In the event that other critical areas are present, the approval authority, in consultation with others with expertise, shall determine where the proposed facilities would have the least impact on the critical areas and associated buffers. Mitigation of any impacts may be required consistent with the provisions of this title.

B. Individual Service Lines.

1. Overhead lines and cables serving an individual use are permitted in frequently flooded areas, channel migration hazard areas, and their associated buffers if:

a. They meet state and federal requirements;

b. The alignment has the least impact on the critical area and buffer;

c. They do not adversely impact anadromous fish; and

d. The alignment meets the requirement of Chapter 14.38 TCC.

2. Buried service lines serving an individual use are permitted in frequently flooded areas and associated buffers, with the exception of floodways, consistent with this chapter. The construction of utility service lines shall not have more than a temporary adverse impact. The site shall be restored upon completion of the installation.

C. New Transmission Lines/Utility Corridors.

1. Where possible, new transmission and distribution lines, and cables crossing frequently flooded areas or buffers shall be contained within an existing roadbed, railroad bed, bridge, elevated walkway, conduit, or other disturbed area where they would have the least adverse impact. If the utility lines will be consolidated with or parallel to an existing utility crossing, they shall be

located at the minimum separation distances established by the county for such uses, so long as the minimum distances so established also meet the applicable industry, state and national gas and electric safety standards.

2. The approval authority shall not authorize a new utility corridor within a frequently flooded area or channel migration hazard area unless the applicant demonstrates that there is no alternative available outside the critical area. When proposing to cross frequently flooded areas and channel migration hazard areas, the applicant shall demonstrate to the approval authority's satisfaction that the crossing is essential and there is no alternative alignment or crossing method. This shall include identification of the alternative alignments, crossing methods (including boring), their feasibility, and potential impacts.

3. When it is necessary to cross a frequently flooded area or channel migration hazard area, the corridor shall be in compliance with the following standards:

a. The corridor shall be aligned where it would have the least impact. Where crossing is permitted, the least damaging alternative method and alignment shall be used, including the minimum width practical.

b. The utility corridor shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables in the future when feasible.

c. If the approval authority determines that overhead lines or lines buried in trenches would be detrimental to dependent fish or wildlife, the proposed crossings shall, when physically feasible, be accomplished by boring beneath the critical area. Entrance and exit portals shall be located outside of the critical area, if possible. Bore pits shall be restored upon project completion.

i. If trenching or boring is proposed to be used to accommodate utility lines, the applicant shall evaluate its effect on the flow of groundwater. As determined by the review authority, the applicant may be required to submit a hydrological study to determine whether ground water flows would likely be altered to the detriment of the frequently flooded area. The approval authority may call upon technical experts as needed, at the applicant's expense, to evaluate the report.

ii. Trenching and boring shall not be required/allowed if it would interrupt the ground water connection to the extent that the stream or dependent wildlife would be damaged.

d. Utility corridors shall be revegetated with appropriate native vegetation, at not less than preconstruction densities. Restoration shall occur immediately upon completion of construction or as soon thereafter as possible due to seasonal constraints or work windows established pursuant to this chapter. The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that the planted vegetation survives or is replaced.

e. Staging areas for equipment and materials shall be located outside of the critical area and buffer.

f. Applicants shall submit a maintenance plan for approval by the county consistent with the provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.170 Frequently flooded areas—Vegetation removal.

Harvesting of plants and plant materials is permitted in flood hazard and channel migration hazard areas consistent with Chapters 24.25 and 24.30 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.180 Frequently flooded areas—Wells.

New wells shall be located outside the one-hundred-year floodplain, floodway, coastal high hazard areas, high ground water flood hazard areas, and the high ground water flood hazard area no development zone. Within one-hundred-year channel migration hazard areas, new wells are permitted, subject to Chapter 24.50 TCC. Wellheads shall be located a minimum of two feet above base flood elevation. The well and all approved appurtenances shall be located as far from the frequently flooded area as possible. Also see WAC 173-160-171.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.8 Fish and Wildlife Habitat Conservation Areas (Chapter 24.25 TCC)

24.25.005 Purposes.

The purposes of this section are to:

A. Protect habitat and healthy functioning ecosystems to support viable populations of priority and locally important fish, wildlife, and plants in Thurston County.

B. Preserve the functions and values of locally important habitat.

C. Protect the functions and values of priority habitats such as, but not limited to, prairies, Oregon white oak, and riparian areas along streams and marine waters.

D. Protect the function and values of marine habitats, including shellfish beds harvested for commercial use or personal consumption.

E. Provide for connectivity among fish and wildlife habitats.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.010 Applicability.

All property within unincorporated Thurston County containing fish and wildlife habitat conservation areas as defined and provided for in Chapter 24.03 TCC and/or associated buffers and additional areas identified by this chapter are subject to this title. Fish and wildlife habitat conservation areas are typically identified either by known point locations of specific species or by habitat areas or both. The presence of a fish and wildlife habitat conservation area and/or buffer on a parcel triggers the requirements of this chapter, regardless of whether or not the habitat conservation area has been mapped.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.015 Riparian habitat areas.

Riparian habitat areas shall be established along all streams pursuant to this section. TCC 24.25.020 specifies the standard freshwater riparian habitat area widths. These standard widths may be reduced pursuant to TCC 24.25.025, increased pursuant to TCC 24.25.030, or reconfigured pursuant to TCC 24.25.035. Riparian habitat areas shall be retained in their existing condition except as explicitly authorized by this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.020 Standard freshwater riparian habitat area width.

Table 24.25-1 identifies the standard riparian habitat area widths.

A. Measurement. Riparian habitat area widths are measured on a horizontal plane, outward from the ordinary high water mark (OHWM) on each side of the stream (see Figure 24.25-1).

Figure 24.25-1

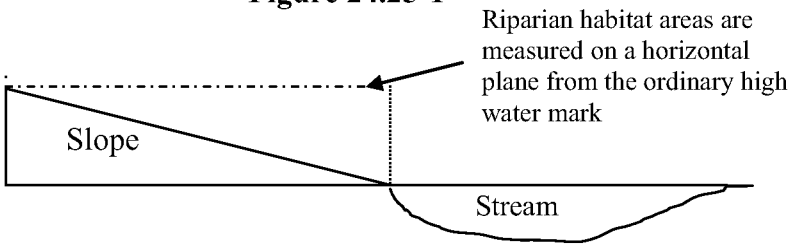


Table 24.25-1. Standard Freshwater Riparian Habitat Area Widths

STREAM TYPE	STANDARD RIPARIAN HABITAT AREA WIDTH
Type S streams	250'
Type F streams greater than 20 feet in width (for all stream types, width is defined as bankfull width)	250'
Type F streams from 5—20 feet wide	200'
Type F streams less than 5 feet wide	150'
Type Np and Ns streams draining to Type S or F streams or directly to Puget Sound	150'
Type Np and Ns streams with high mass wasting potential	225'
Other streams not listed above, including streams without a surface connection to other waters	100'

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.025 Reduced riparian habitat area width.

Except when inconsistent with TCC Section 24.25.030 below, the approval authority, in consultation with the Washington Department of Fish and Wildlife (WDFW) and others with expertise, may reduce the riparian habitat area width specified in Table 24.25-1. Riparian habitat areas may not be reduced for fish bearing streams or marine waters without the approval of a reasonable use exception except as otherwise allowed in this section and Chapter 24.50 TCC. The applicant shall provide the approval authority with sufficient information to enable a determination as to whether the subject area qualifies for a habitat area or buffer reduction under this section. The approval authority may require technical review by a qualified professional, at the applicant's expense, to evaluate and verify the information submitted by the applicant.

A. Type Np and Ns streams and other streams not listed above. The width of standard riparian habitat areas along Type Np and Ns streams more than one quarter mile upstream from confluence with a Type F or S stream, Puget Sound, a Category I-III wetland (see chapter 24.30 TCC), or a lake or pond protected by this chapter may be reduced up to a total of twenty-five percent for Np streams and fifty percent for Ns streams and other streams not listed above, if:

1. The land use abutting the riparian habitat area will not generate pollutants or sediment that would reach the stream, elevate water temperature, or increase peak stream flows; and
2. Best management practices (BMPs) or other mitigation measures will be employed as warranted to protect all of the riparian habitat functions and prevent pollutants and sediment from reaching the stream.
3. The approval authority determines that the proposed reduction in buffer width, coupled with any the proposed mitigation plan, would result in protection of the stream and stream functions or improved buffer functions than the standard buffer without such enhancement. The approval authority shall make this determination based on the applicant's proposed mitigation plan and a comparative analysis of all stream and buffer functions under existing and enhanced conditions (e.g., filtration of sediments, excess nutrients, and pollutants; flood storage; erosion control; moderation of stormwater impacts; and shading for water temperature moderation) prepared by the applicant, or applicant's consultant if appropriate.

Factors to be considered include, but are not limited to, the surface roughness of the buffer (e.g., the presence of fallen trees and other material that slow the flow of water and increase the buffer's ability to retain sediment and infiltrate stormwater); the composition and density of vegetation; the stream's position in the landscape; slope; and soils. The approval authority may consult with ecology, WDFW or others with expertise as necessary to evaluate the applicant's proposal.

B. Isolated riparian areas/buffers.

1. If topographic breaks (e.g., bluffs) or a road (not including logging roads), railroad or other lineal facility or barrier separates and functionally isolates a portion of the riparian habitat area or buffer, the approval authority, in consultation with the WDFW, may reduce the riparian habitat area or buffer width to the minimum extent necessary to exclude the isolated area if:

a. The barrier occurs naturally or the facility or barrier was legally established prior to July 24, 2012; and

b. The area proposed to be segregated from the riparian habitat area or buffer does not perform any biological, water quality, or hydrological functions related to the remainder of riparian habitat area, buffer, or adjacent waterbody.

C. Culvert and pipe removal. Applicants proposing to daylight or open up a stream by removing a pipe or culvert from a stream shall submit a critical area report (see Chapter 24.35 TCC) demonstrating that no net loss of habitat or reduction in water quality would occur as a result of such action, and what buffers are present to protect the stream functions. Water quality protection methods may include, but are not limited to, a combination of a berm and vegetation beside the stream, a stormwater treatment system; or dense, continuous vegetative ground cover at least one hundred feet in width. In order to protect water quality of the stream, a proposed buffer with a slope of five percent or more or has a channelized drainage path that would allow untreated stormwater to enter the stream, the approval authority may require that a device (e.g., a perforated pipe) be installed at the outer edge of the buffer or that the slope be graded to induce sheet flow of stormwater.

D. When evaluating the proposal, the approval authority shall consider the sensitivity of the stream onsite and downstream, the potential of adjoining uses to contaminate the stream; the ability of the existing and proposed vegetation to filter sediment and pollutants; slope; drainage patterns; the likelihood that proposed water treatment method(s) will be effective in maintaining water quality; and other relevant factors.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.25.030 Increased riparian habitat area width.

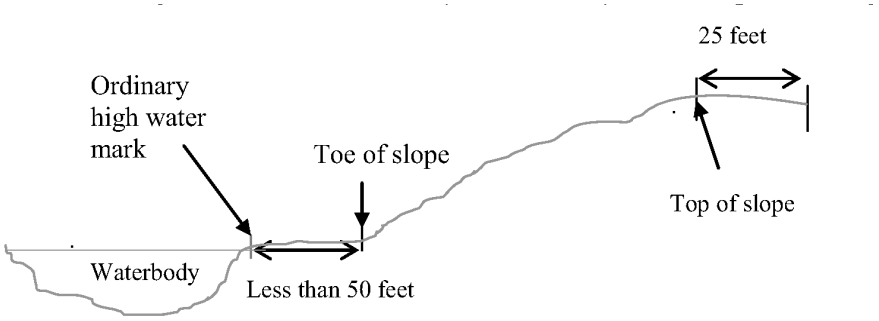
The approval authority shall require an increase in riparian habitat area, marine riparian habitat area, or buffer width beyond the distance specified in Table 24.25-1, TCC 24.25.050, or TCC 24.25.060(B) under the following circumstances:

A. Landslide Hazard Areas. When the riparian habitat area or buffer contains a landslide hazard area (see Chapter 24.15 TCC), the riparian habitat area or buffer width shall be the standard width or it shall coincide with the landslide hazard area buffer at the top of the slope, whichever is greater. This width cannot be reduced pursuant to TCC 24.25.025 or 24.25.035.

B. Steep Slopes Not Designated as Landslide Hazard Areas. When the ordinary high water mark of a stream, Puget Sound, pond or lake subject to this chapter lies within fifty feet of the toe of a slope of thirty percent or greater that is at least fifteen feet in height (which is not designated as a land slide hazard area), the riparian habitat area or buffer shall be sized to be the larger of the widths specified in this subsection. This width cannot be reduced pursuant to TCC 24.25.025 or 24.25.035:

1. The standard riparian habitat area or buffer width; or

2. Whichever is less of two hundred feet upslope from the toe of the slope, measured across the ground surface, or twenty-five feet beyond the top of the slope.



C. Inadequate vegetative cover to maintain water quality.

1. If the standard riparian habitat area specified in Table 24.25-1 or marine riparian habitat area, or pond buffer does not contain at least eighty-five percent live tree canopy and/or understory coverage consisting of dense, continuous vegetation at least one hundred feet in width (or, if applicable, the distance specified in subsections (A) or (B) above), the approval authority, in consultation with a qualified professional, may increase the standard riparian habitat area/buffer width up to twenty-five percent as needed to protect the stream from sedimentation and pollutants.

2. In lieu of increasing the riparian habitat area width, the approval authority may allow implementation of a planting plan. This planting plan shall provide for planting of all bare and sparsely vegetated areas of the habitat area/buffer on the subject site such that there will be continuous vegetation at least one hundred feet in width between the water body's ordinary high water mark and the outer edge of the habitat area/buffer. The plan shall provide for planting of native vegetation, including grasses, trees, and shrubs that are compatible with existing vegetation in the habitat area/buffer at densities that will effectively filter/absorb pollutants, excess nutrients, and filter sediment.

a. The applicant shall submit a surety consistent with Chapter 24.70 TCC and provide for monitoring and maintenance at appropriate intervals to ensure survival or replacement of the planted vegetation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.035 Reconfiguration of riparian habitat areas.
The approval authority may authorize or require reconfiguration of riparian habitat areas as follows:

A. Preservation of High Quality Habitat. If the riparian habitat area along a Type S or F stream contains variations in sensitivity or habitat quality or if the area adjacent to the riparian habitat area contains high quality habitat sustaining species listed under the federal Endangered Species Act (64 FR 14307), state priority wildlife species, or species of local importance (see TCC 24.25.065(C)), the approval authority may reconfigure the riparian habitat area boundaries to preserve the higher quality/sensitive habitat or to provide a connection to the adjacent habitat.

B. Minimum Dimensions. The reconfigured riparian habitat area shall be no less than one hundred feet wide at any point and shall contain the same square footage as the standard riparian habitat

area, as modified pursuant to TCC 24.25.025 and 24.25.030. The reconfigured riparian habitat area shall not exceed one hundred percent of square footage of the standard riparian habitat area, as modified pursuant to TCC 24.25.025 and 24.25.030, without the landowner's consent. The reconfiguration of the riparian habitat area shall be based on the recommendation of a qualified biologist or other qualified professional with consideration of the effects of the proposed reconfiguration on all riparian functions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

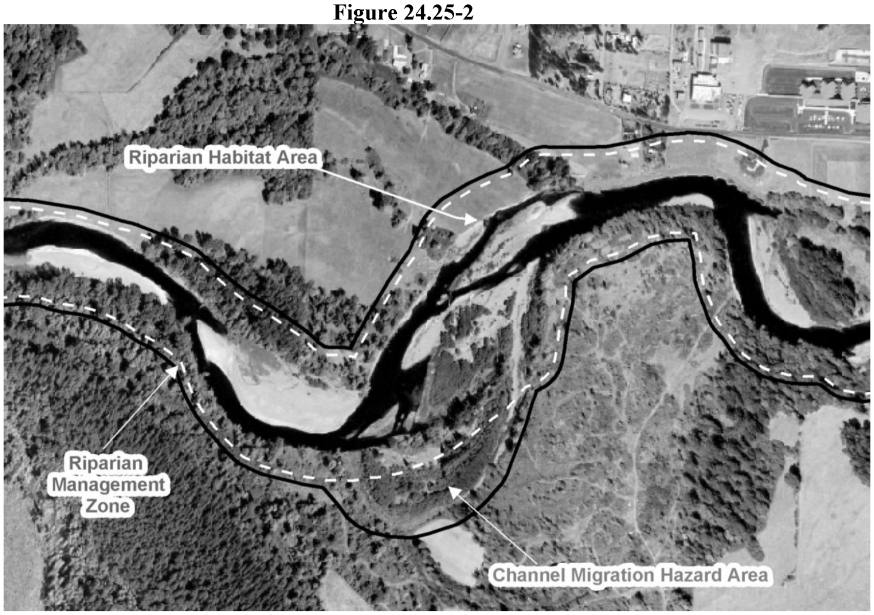
24.25.040 Riparian management zones.

Riparian management zones shall be established along the outer boundary of riparian habitat areas of Type S and F streams as specified in this section. Consistent with Table 24.25-3 and TCC 24.25.220, uses and activities within riparian management zones shall be conducted to prevent damage to the riparian and stream habitat. Riparian management zones include the following:

A. Fifty-foot Management Zone. The area extending landward from the outer boundary of the riparian habitat area for a distance of fifty feet, measured on the horizontal plane; and

B. Channel Migration Zones. Where a potential channel migration hazard exists within the riparian habitat area, (see TCC 24.20.045 and 24.20.055), the riparian management zone shall extend one hundred feet, measured on a horizontal plane, beyond the one-hundred-year channel migration hazard area. (See Figure 24.25-2).

Figure 24.25-2



The riparian management zone extends between the dashed white line (the outer boundary of the riparian habitat area) and the black line as depicted above.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.045 Important marine habitats.

[Not incorporated]

24.25.050 Marine riparian habitat.

[Not incorporated]

24.25.055 Marine riparian management zone.

[Not incorporated]

24.25.060 Ponds and lakes.

Note: Most ponds will contain lake fringe wetlands or be considered high groundwater hazard areas regulated under Chapters 24.20 and 24.30 TCC.

A. Applicability. This section applies to ponds between one thousand square feet and twenty acres in surface area and their submerged aquatic beds that provide fish or wildlife habitat. Lakes shall be regulated by the Shoreline Master Program for the Thurston Region (1990).

B. Pond buffers shall be one hundred feet. Buffer widths shall be measured on a horizontal plane, outward from the OHWM or, if the OHWM cannot be identified, from the top of the bank. These buffers shall be maintained in an existing native vegetated or natural condition, except as explicitly authorized by this chapter.

C. Buffer Reduction. The approval authority may allow the buffer width to be reduced to a minimum of seventy-five feet if the applicant demonstrates that the adjacent land use will not generate pollutants, sediment, or excess nutrients (e.g., nitrogen and phosphorus); elevate water temperature; or significantly alter the pH of the water body and that BMPs will be employed to prevent impairment of water quality in the lake or pond.

D. Increased Buffer. The width of the buffer shall be increased where there are steep slopes, landslide hazard areas, or inadequate vegetation to protect water quality as provided for in TCC 24.25.030.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.065 Important habitats and species.

Important animal and plant species, their habitats of primary association, and other important habitats protected under this chapter are:

A. Federally Listed Species and Associated Habitats. Animal and plant species listed under the federal Endangered Species Act (64 FR 14307) as endangered, threatened, or candidates for listing and their habitats of primary association. (Consult the U.S. Fish and Wildlife Service and National Marine Fisheries Service for current listings.)

B. State Listed Species and Associated Habitats.

1. Priority species and their habitats of primary association. Priority species identified on the WDFW Priority Habitats and Species (PHS) List and their habitats of primary association. (Consult the state department of fish and wildlife for the current PHS list).

2. Priority habitats. Priority habitats identified on the WDFW Priority Habitats and Species (PHS) List. (Consult the state department of fish and wildlife for the current PHS list).

3. Prairies meeting the following criteria are priority habitats:

a. Prairie habitat, as defined in Chapter 24.03 and Table 24.25-4 TCC;

b. Areas less than one acre in size with characteristics meeting the definition of prairie habitat which are functionally connected to another prairie habitat located within one-half mile of the subject area.

4. Oregon white oak (Quercus garryana) woodlands, stands, and individual trees meeting the following criteria are subject to this section:

a. Oak woodlands, as defined in Chapter 24.03 TCC.

b. Oak Savanna, as defined in Chapter 24.03 TCC.

c. Individual oak trees and stands of oak or oak conifer associations less than one acre in size that are located within one-half mile of a stand meeting the criteria in this subparagraph.

5. State listed plant species, such as those occurring on the Department of Natural Resources' List of Known Occurrences of Rare Plants.

C. Habitats and Species of Local Importance.

1. Habitats of Local Importance. Habitats of local importance in Thurston County are listed in Table 24.25-4 in Appendix 24.25-1.

2. Species of Local Importance. Wildlife species of local importance are listed in Table 24.25-5 in Appendix 24.25-1.

3. In addition to requirements of Chapter 24.91 TCC, adding or removing habitats and species of local importance is subject to the following:

a. Submission requirements. This chapter must be amended to add or remove a habitat or species of local importance. Any request to add or remove a habitat or species shall be submitted, in writing, to the resource stewardship department and must include the following information:

i. The nominator's name, address, and contact information;

ii. The common and scientific names of the nominated species or habitat;

iii. Reasons, supported by best available science, why the habitat or species should be added or removed for the list of locally important habitats or species.

iv. Maps or inventories of known occurrences of the nominated habitat or species within the county, dates of observation of the species and contact information for observers;

v. Habitat management recommendations, based upon best available science, including potential uses and restrictions of the habitat; seasonally sensitive areas and other measures necessary for the protection of dependent species; and

vi. Other supporting documentation that the approval authority determines is necessary to make a decision regarding the request.

b. The approval authority shall evaluate the request and supporting data, with consideration of this subsection, in consultation with a professional biologist knowledgeable regarding the subject species or habitat. Staff will forward their recommendation about the requested addition or removal to the board of county commissioners as part of the proposed docket of code amendments. The county evaluation of the request will, at a minimum, consider:

i. The scientific validity of the information submitted;

ii. The sufficiency of the habitat to sustain the species over time; and

iii. The versatility of the habitat to sustain species other than the one being nominated for designation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.070 Tree protection.

In order to protect the root systems of protected trees, trees within important habitat areas with drip lines that extend beyond the landward edge of the marine riparian habitat area, riparian habitat area, habitat areas for species of concern, or other habitats protected under this chapter shall be protected as follows.

A. A tree protection area extending a minimum of five feet beyond the dripline of conifer trees twelve inches or greater in diameter (at four and one-half feet above the ground), stands of trees, and Oregon white oak, shall be established and protected from disturbance during site development. The approval authority may require that the protection area be extended for oak trees if necessary to ensure the trees' survival, based upon a recommendation of an arborist or urban forester.

B. Tree protection areas shall be identified on all applicable site development and construction drawings submitted to the county.

C. Temporary fencing at least thirty inches tall shall be erected in areas of activity along the perimeter of the tree protection areas prior to the initiation of any clearing or grading. The fencing shall be posted with signage clearly identifying the tree protection area. If the perimeter of the tree protection area is more than 0.25 miles in length, the perimeter of the protection area may be staked and flagged rather than fenced. The fencing or stakes shall remain in place throughout site development.

D. Clearing, grading, filling or other development activities are prohibited within the tree protection area.

E. Vehicle travel, parking and storage of construction materials and fuel is prohibited in tree protection areas.

F. The county may approve the use of alternate tree protection techniques that provide an equal or greater level of protection.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.075 Important habitats and species—Identification and buffers.

A. Applications for uses and activities on sites containing a habitat or species subject to this section shall include a critical area report (see Chapter 24.35 TCC) prepared by a qualified professional that evaluates the potential impacts of the proposed use or activity on the habitat and/or species, as applicable. The process for determining whether critical area reports are required, and the extent of information required is outlined in Chapter 24.05.027 TCC. Critical area reports that pertain to important habitats and species may also be referred to as habitat management plans.

B. The approval authority shall establish buffers for the habitat or species on a case-by-case basis, in consultation with the WDFW or others with expertise, based on the critical area report and the WDFW management recommendations for Washington's priority habitats and species, if available. The buffers shall reflect the sensitivity of the specific habitat(s) and/or species to be protected.

C. No clearing, grading, or other activity shall occur prior to approval by the review authority.

D. Prairie Habitat. The approval authority, in consultation with the WDFW and DNR Natural Heritage Program, shall establish buffers for prairie habitat that extend outward from the outer boundary of the habitat the greater of fifty feet, measured on the horizontal plane, or the minimum distance recommended in the critical area report, whichever is greater. When setting the buffer width, the approval authority shall consider the recommendation and supporting rationale in the applicant's critical area report and the following:

1. The habitat functions and their sensitivity to disturbance, the risk that the adjacent proposed land use poses for those functions (e.g., from noise, light, stormwater runoff, introduction of invasive or non-native plant species, pesticides, herbicides, and domestic animals) and, if applicable,

2. The minimum buffer width necessary to protect adjacent properties from fire management practices on prairies. If fire is included within the critical area report as a management element for prairie habitat, the applicant shall:

a. Submit a fire management plan to the Thurston County Fire Marshal and the appropriate fire district for technical review and approval; and

b. Notify the Thurston County Fire Marshal and the appropriate fire district prior to setting fires as part of the fire management plan.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.080 Standards and approvable uses and activities within important habitats.

The land uses and activities listed in Table 24.25-3 are allowed in important habitats (i.e., streams; riparian habitat areas; lakes, ponds and associated buffers; priority habitats, habitats and species of local importance; priority species conservation areas, and important marine habitats) and associated buffers and management zones subject to the standards in TCC 24.25.090—24.25.420, the applicable zoning district

and the Shoreline Master Program for the Thurston Region. Water dependent uses allowed by the Shoreline Master Program are permitted subject to the requirements of that program and this chapter. All other land uses and activities not allowed by Table 24.25-3 are prohibited within the important habitats regulated by this chapter.

The general standards listed in TCC 24.25.090 apply to all uses in Table 24.25-3. Standards provided in TCC 24.25.100—24.25.420 apply to specific uses in areas where important habitats and species exist, and are in addition to other requirements of this title. Table 24.25-3 contains the primary section references for each activity covered by this chapter.

Table 24.25-3. Approvable Uses and Restrictions Within Fish and Wildlife Habitat Conservation Areas

Uses and Activities	Riparian Habitat Areas	Riparian and Marine Management Zones	Streams	Ponds and Buffers	Marine Habitat Areas and Buffers	Important Species and Habitats
Agricultural activity, new	A	A	A	A	A	A
Agricultural equipment and facility	P	P	P (BUFFER ONLY)	P	P	P
Asphalt plants (TCC 24.25.240)	X	P	X	X	X	X
Boat launch site (hand launch) - New construction (TCC 24.25.110)	P	N/A	P	P	P	X
Boat ramp, or marine railway and associated vehicle access (TCC 24.25.110)	P	N/A	P	P	P	X
Bridges and culverts - Maintenance and repair by a governmental agency (TCC 24.25.120)	A	A	A	A	A	A
Bridges and culverts - Maintenance and repair by a nongovernmental entity (TCC 24.25.120)	P	P	P	P	P	P
Bridges and culverts - Replacement and expansion (TCC 24.25.130)	P	P	P	P	P	P

Bridges and culverts - New construction	P	P	P	P	P	P
Clearing and grading in conjunction with an approved development project (TCC 24.25.140)	P	A	X	P	P	P
Critical facilities	P	P	X	P	P	P
Drainage ditch maintenance (TCC 24.25.150)	A	A	P	A	A	A
Drilling and testing for required report or engineering study - hand powered tools; scientific sampling, research and other low impact site investigation (TCC 24.25.160)	A	A	A	A	A	A
Drilling and testing for required report or engineering study - Mechanized equipment (TCC 24.25.160)	A	A	P	A	A	A
Emergency temporary authorization	SEE CHAPTER 24.90 TCC					
Enhancement/restoration - Streams (TCC 24.25.180)	P	N/A	P	N/A	N/A	P
Enhancement - Riparian habitat (TCC 24.25.180)	P	N/A	N/A	N/A	P	P
Enhancement - Priority upland habitat (TCC 24.25.180)	P	P	N/A	P	P	P
Existing lots vested prior to July 24, 2012 - Development	SEE CHAPTER 24.50 TCC					
Fences	SEE CHAPTER 24.60 TCC					

Fish hatchery construction and maintenance (TCC 24.25.190)	P	P	P	P	P	P
Floats, floating dock, mooring buoy, navigational aid - Installation (TCC 24.25.110)	X	N/A	P	P	P	X
Flood protection facilities - New construction (TCC 24.25.200)	P	N/A	P	N/A	P	P
Flow control facilities/dams - New construction (TCC 24.25.200)	P	N/A	P	N/A	N/A	P
Forestry - Class IV forest practices and COHP	X	P	X	X	X	X
Gardening for personal consumption (TCC 24.25.230)	A	A	X	A	A	A
Golf course, new (TCC 24.25.275)	X	P	X	X	X	X
Infiltration of reclaimed water (application to the land's surface above agronomic rates)* * Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW). (TCC 24.25.265)	X	X	X	X	X	X

Instream structures (e.g., stream flow control facilities/dams) - Maintenance or repair (TCC 24.25.210)	N/A	N/A	A	N/A	A	N/A
Instream structures or instream work not otherwise addressed - New construction (TCC 24.25.200)	P	N/A	P	N/A	P	P
Intensive uses (TCC 24.25.220)	P	P	P	P	P	P
Lawns, landscaping, golf courses, and cemeteries - Maintenance (TCC 24.25.230)	A	A	X	A	A	A
Mineral extraction (TCC 24.25.240)	X	P	X	X	X	X
Mitigation required by the county	A	A	A	A	A	A
Nonconforming structure/use - Maintenance, repair, alteration, expansion, replacement	SEE CHAPTER 24.50 TCC					
On-site sewage disposal system or drainfield, well/pump - Repair (TCC 24.25.260)	P	A	X	P	P	P
On-site sewage disposal system or drainfield - New/replacement (TCC 24.25.250; 260)	P	A	X	P	P	P
Open space (e.g., critical area tract)	A	A	A	A	A	A
Piers - Construction (TCC 24.25.110)	X	N/A	X	P	P	X
Public park facilities, trails and developed recreation areas -	A	A	A	A	A	A

Maintenance (TCC 24.25.230; 270)						
Public facilities	X	P	X	X	X	X
Public project of significant importance	P	P	X	X	P	P
Recreation, active (TCC 24.25.275)	X	P	X	P	P	X
Recreation, passive and low impact activities (e.g., bird watching, nonmotorized boating, bicycling, canoeing, fishing, hiking, hunting, jogging, photography, swimming, and similar activities) (TCC 24.25.270)	A	A	A	A	A	A
(Uses in) Riparian management zones	N/A	P	N/A	N/A	N/A	N/A
Roads - Replacement and minor expansion (TCC 24.25.290)	P	A	P	P	P	P
Roads/streets, railroads, and associated bridges and culverts - New and expanded (TCC 24.25.280)	P	P	P	P	P	P
Roads - Repair and maintenance	A	A	A	A	A	A
Shoreline protective structures/armoring (e.g., bulkhead, gabion, riprap, or wall) (TCC 24.25.300)	P	P	P	P	P	P
Signs (e.g., interpretation, critical area tract, and survey markers)	See Chapter 24.60 TCC					

Single-family residential, new (TCC 24.25.295)	P	P	X	P	P	P
Ski lake - Creation	X	P (Also see Chapter 24.20 TCC)	X	X	X	X
Slope stabilization or retaining wall (not a bulkhead) (TCC 24.25.300)	P	P	N/A	P	P	P
Stabilization techniques (nonstructural)/bioengineering (TCC 24.25.300)	P	P	P	P	P	P
Stair tower, stairway or mechanical lift (TCC 24.25.310)	P	P	X	P (BUFFER ONLY)	P	X
Stormwater conveyance system or detention/treatment facility - Maintenance or repair (TCC 24.25.325)	A	A	P	A	A	A
Stormwater retention/treatment facility - Construction (TCC 24.25.320)	P	A	X	P	X	X
Stormwater facilities - Surface water conveyance system - Construction (TCC 24.25.325)	P	P	P	P	P	P
Stormwater Facilities - Temporary sediment control ponds - Construction (TCC 24.25.320)	P	A	X	X	X	X
Stream flow and elevation gages - Installation	N/A	N/A	A	A	N/A	N/A
Stream relocation (TCC 24.25.330)	P	P	P	P	P	P
Subdivisions	See Chapter 24.55 TCC					

Trails/paths, elevated walkways, and associated facilities (interpretative site and viewing platform) - New construction (TCC 24.25.270)	P	P	P	P	P	P
Utilities - Maintenance, repair or replacement (TCC 24.25.340)	A	A	A	A	A	A
Utility lines, utility corridors, and other facilities outside of existing improved roads and utility corridors - New construction (TCC 24.25.340)	P	A	P	P	P	P
Utility lines and facilities in improved roads and utility corridors - New installation (TCC 24.25.340)	A	A	P	P	P	P
Utilities - Installation of individual service lines (TCC 24.25.340)	P	P	P	P	P	P
Vegetation removal - Enhancement projects (TCC 24.25.400)	P	A	X	P	P	P
Vegetation removal - Noxious weeds (TCC 24.25.380)	A	A	A	A	A	A
Vegetation removal - Invasive vegetation (TCC 24.25.380)	P	A	P	P	P	P
Vegetation removal - Removal/thinning of hazard trees (TCC 24.25.390)	P	A	P	P	P	P
Vegetation removal - Aquatic weeds	N/A	N/A	P	A	P	N/A

Wells - New (TCC 24.25.420)	P	A	X	P	P	P
Wildlife blind or nesting structure	A	A	X	A	A	A
Other lawfully established existing uses not addressed in this table	P	P	P	P	P	P

LEGEND:

A = Allowed without a Critical Area Review Permit, subject to requirements of this title

P = Permitted, subject to Critical Area Review Permit and requirements of this title

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.090 General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.25-3.

A. Regulatory Differences. Differences in regulations because of the overlap of two or more critical areas or the Shoreline Master Program for the Thurston Region are governed by Chapter 24.01 TCC. All uses and activities subject to this section shall meet the requirements that provide the most protection to the critical areas involved. Uses and activities located in the jurisdiction of the Shoreline Master Program for the Thurston Region are prohibited if they are inconsistent with the Shoreline Master Program.

B. Critical Area Reports. Applicants for uses listed in Table 24.25-3 that require county review and approval, with the exception of emergency responses provided for in Chapter 24.90 TCC, shall submit a critical area report consistent with Chapter 24.35 TCC.

C. Timing. Uses and activities authorized pursuant to this chapter shall be undertaken, constructed or installed during the time frame specified by the WDFW to minimize habitat impacts. This requirement does not apply to riparian and marine shoreline management zones that do not involve a priority or locally important habitat.

D. No Net Loss of Habitat Functions. Uses and activities carried out pursuant to this section shall result in equivalent or greater habitat functions, as determined by the approval authority consistent with best available science. All actions and uses shall be designed and constructed to avoid or, where that is not possible, minimize all adverse impacts to the important habitat area and associated buffers. Applicants must first demonstrate an inability to avoid or reduce impacts before impacts will be allowed. No activity or use shall be allowed that results in a net loss of important habitat area functions; destroys, damages, or disrupts habitat supporting priority species; adversely affects water quality; creates unstable earth conditions; or erosion.

E. Mitigation. Adverse impacts to important habitats and associated buffers shall be fully mitigated (see Chapter 24.35 TCC) using mitigation sequencing criteria established in Chapter 24.01 TCC.

F. Intertidal/Saltwater Submerged Lands. All uses and activities occurring in marine intertidal and submerged lands shall avoid impacts to eelgrass and kelp beds; commercial and recreational shellfish harvesting areas; and herring, surf smelt and sand lance spawning areas. If eelgrass or kelp is known or suspected to be present on the site proposed for development or where it would likely be affected by the proposed development, as determined by the approval authority in consultation with WDFW, the applicant shall submit an aquatic vegetation survey that identifies the location of the eelgrass and/or kelp. Applicants for uses that the approval authority determines could adversely impact kelp or eelgrass beds shall submit a critical area report identifying any unavoidable impacts to these beds and proposed mitigation measures for review and approval by Thurston County.

G. Surety. Applicants for proposals involving, as a condition of permit approval, mitigation of impacts, restoration or enhancement shall submit to the county a surety consistent with Chapter 24.70 TCC.

H. Temporary Field Marking. The perimeter of the habitat area and associated buffer and those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field and inspected by the approval authority prior to the commencement of permitted activities. This temporary marking shall be maintained throughout the duration of the development activity. Also see TCC 24.25.070 and 24.25.140.

I. Fencing and Signage. The approval authority may require that the perimeter of the important habitat area be fenced and that identification signage be installed as warranted to protect sensitive species and degradation of habitat, consistent with Chapter 24.60 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.100 Reserved.

Editor's note(s)—Ord. No. 14785, § 1Editor's note(s)—, adopted Aug. 28, 2012, repealed § 24.25.100Editor's note(s)— which pertained to agricultural activities and derived from Ord. No. 14773, § 3(Att. B), adopted July 24, 2012.

24.25.105 Biosolids application.

Biosolids application and uses shall be regulated by the Washington State Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and be consistent with a memorandum of agreement (MOA), or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.110 Boat launching ramps, piers, docks and floats.

Boat launching ramps, piers, docks and floats may only be permitted consistent with the Shoreline Master Program for the Thurston Region, as amended, applicable federal, state, and local laws, the requirements of this section, and other applicable provisions of this title. For the purposes of this section, "float" shall include, but is not limited to: floating docks, mooring buoys, navigational aids and swimming floats.

A. Boat Ramp Spacing Along Type S and F Streams. Public and private boat launching ramps along Type S or F streams shall not be located closer than five miles (measured along the river) from

another boat launching ramp along the stream that is accessible to the public. Boat launching ramps shall not be allowed in locations where the total number of existing boat ramps, road and surface utility corridor crossings, plus the proposed boat-launching ramp, would exceed two such encroachments per 0.6 mile (measured along the stream) in the affected stream segment. The approval authority may waive the spacing requirement if it is determined that the proposed location provides the least habitat impact of the available alternatives and that proposed mitigation measures will allow the project to occur without a net loss of riparian habitat area and stream functions.

B. Boat Ramps Along Marine Shorelines. Boat launching ramps may only be permitted along marine shorelines upon demonstration of the following:

1. Mitigation measures ensure that there is no net loss of the functions of intertidal habitat as a result of the proposed ramp, including no increased beach erosion or alteration of salmonid migration corridors;

2. The proposed ramp will not adversely impact important habitat areas;

3. The proposed ramp is not elevated and will be constructed to be flush with the elevation of the existing beach; and

4. The ramp's footprint is the minimum necessary to accommodate the proposed use.

C. Piers, Docks, and Floats. Piers, docks, mooring buoys, navigational aids and swimming floats are allowed subject to the following:

1. Overwater Structures. Overwater and floating structures and associated moorings in marine waters shall be located a minimum of ten feet from any eelgrass (Zostera spp.) and designed to avoid shading eelgrass.

2. Avoid Impacts to Spawning Beds and Eelgrass Beds. Docks, floats and rafts shall not ground on surf smelt, Pacific sand lance or herring spawning beds, or eelgrass (Zostera spp.). Flotation for the structure shall be fully contained to prevent the breakup or loss of the material.

3. Toxic Substances. Only inert material or non-toxic treated wood approved by the county for use in water bodies shall be used in the construction of piers, ramps and floats and other structures proposed to be placed in, over, or within one hundred feet of water.

4. Fill and Armoring. Fill and armoring shall not be used in the in the construction of piers, ramps, and floats.

5. Vegetation. Loss and disturbance of existing vegetation shall be minimized, consistent with TCC 24.25.350—24.25.400.

D. Impacts. The applicant shall demonstrate that the boat ramp, pier, dock, float and associated parking area and access, coupled with any proposed mitigation, will result in no net loss to salmonid spawning, rearing and migration areas or documented priority wildlife habitats.

E. Related Facilities. Parking areas, restrooms and other facilities related to boat launches, piers, floats, and docks shall be located outside of riparian habitat areas, pond buffers, and marine

riparian habitat areas. The facility shall be designed to minimize direct, untreated stormwater runoff from the site into the water body.

F. Maintenance. Maintenance or replacement of piers, docks, mooring buoys, navigational aids, and swimming floats is permitted provided that hazardous materials are not used, except as provided for through a county approved integrated pest management plan or upon demonstration that the material does not pose a risk to water quality; and it does not involve an increase in the number of pilings or the overall width or length of the dock or pier.

G. Replacement. Boat launching ramps, piers, floats, and docks may be replaced provided they are not increased in length or width and the construction materials comply with the requirements for new ramps, piers, floats, and docks, as applicable. If the facility is located in marine waters, the proposed deck surface area shall be reduced to the maximum extent practical from the existing deck surface in waters between three feet and thirteen feet deep at ordinary high water.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.120 Bridge and culvert maintenance or repair.

A. Maintenance and repair of bridges and culverts is permitted provided:

1. All maintenance and repair is consistent with the Regional Road Maintenance ESA Program Guidelines, 2002, as amended, and the provisions of this section;

2. The county may allow use of other maintenance BMPs if they will protect water quality and avoid detrimental impacts on fish and priority wildlife species;

3. Maintenance of culverts in streams used by salmonids or that convey water to a stream used by salmonids shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet and stabilization of the disturbed bank and channel immediately adjacent to the culvert and shall not involve the excavation of a new sediment trap adjacent to the inlet;

4. Such maintenance shall not involve the use of herbicides, sealants, liquid oily substances or other hazardous materials;

5. The bridge or culvert is not located within Shoreline Master Program jurisdiction;

6. It meets the conditions of any required Hydraulic Project Approval from the Washington Department of Fish and Wildlife, which shall be posted in a conspicuous location on site.

B. Clearing of culverts does not require a county permit, but may require review by state or federal agencies. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.130 Bridge and culvert replacement.

Replacement of a bridge or culvert is allowed if necessary to conform to current standards and if:

A. It was lawfully established;

B. There is not another alternative available that has less adverse impact on the important habitat or other critical areas;

C. The bridge or culvert is designed to avoid or, where that is not possible, minimize impacts to the important habitat and it is in compliance, to the greatest extent possible, with TCC 24.25.280;

D. In the case of culverts in a Type F or S stream, the culvert is made passable for fish in accordance with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended;

E. If the culvert involves a ditch, the ditch is not increased in width at the culvert site unless it is narrower at that point than the rest of the ditch and would otherwise impede the flow of water. In that case, it may be widened to the minimum extent the approval authority deems necessary; and

F. Flood hazards are avoided and the proposal is consistent with Chapter 24.20 TCC and other applicable regulations.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.140 Clearing and grading.

Also see Chapter 14.34 TCC regarding grading requirements and Chapter 15.05 TCC regarding stormwater and erosion control.

A. Important Habitats. Clearing and grading within fish and wildlife habitat conservation areas and associated buffers is only allowed to the minimum extent necessary for a use approved and permitted pursuant to this chapter, as determined by the approval authority.

Clearing and grading shall not occur within an area where a locally important or priority species has a primary association (e.g. nest sites and foraging and roosting areas), based on WDFW Management Recommendations and related information.

B. Clearing in Freshwater Riparian and Marine Riparian Management Zones. Clearing on lots in freshwater riparian management zones shall not exceed thirty-five percent of the portion of the lot or tract within the freshwater or marine riparian management zone. Priority shall be given to preserving forested areas contiguous to the marine riparian habitat area and riparian habitat areas.

C. Fencing the Clearing Limits. The clearing limits within the important habitat area shall be marked with temporary fencing. Signage shall be placed on the fence indicating that the area beyond is protected as a critical area. The fencing/signage is subject to inspection by the approval authority prior to the commencement of permitted activities. The temporary fencing/signage shall be maintained throughout construction and shall not be removed until permanent signs, if required pursuant to Chapter 24.60 TCC, are in place.

D. Timing. Clearing and grading in important wildlife habitats shall only occur between May 1 and October 1, except as provided for in TCC 24.25.090(C). The county may temporarily suspend grading during this period if excessive rainfall might cause erosion and sedimentation that could affect a stream or marine waters, or dependent fish or wildlife. The county may allow clearing and grading outside of this period if all drainage will flow away from streams, lakes, ponds, and marine waters.

E. Preservation of the Infiltration Capacity of the Site. The soil duff layer in the buffer shall remain undisturbed to the maximum extent practicable. The moisture-holding and infiltration capacity of the topsoil disturbed by permitted development shall be maintained in areas not approved for impervious surfaces by minimizing soil compaction or by stripping, stockpiling, and reapplying topsoil at predevelopment levels.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.150 Drainage ditches—Maintenance.

Lawfully established drainage ditches that flow to a Type F or S stream, Puget Sound, or a pond shall be maintained consistent with BMPs as follows:

A. Maintenance of lawfully established drainage ditches (e.g., agricultural drainage ditches) created prior to February 1, 1994 or ditches under the management of drainage districts shall be consistent with NRCS standards, or as otherwise specified in a farm management plan approved by the WSU Cooperative Extension Office, USDA, the NRCS, or the Thurston County Conservation District and accepted by the county. Spraying of herbicide for ditch maintenance is prohibited. Ditch maintenance shall not involve enlarging the ditch lengthwise, in depth, or in width.

B. If a ditch has not been in active use and maintained for the last five consecutive years (e.g., as evidenced by aerial photographs or the maturity of vegetation in the ditch), it shall be considered abandoned.

C. Road side ditches. See TCC 24.25.325.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.160 Drilling.

A. Drilling with Human Powered, Non-motorized, Hand-held Equipment. Gauge installation and non-motorized site exploration, excavation for data collection or research and accomplished by human powered, hand-held equipment in accordance with state-approved sampling protocols is allowed. The associated spoils shall be contained and the disturbed area shall be restored upon completion of the activity.

B. Motorized Drilling and Boring. Motorized augering under the direction of a professional engineer licensed in the State of Washington, well drilling allowed pursuant to TCC 24.25.420, and boring consistent with TCC 24.25.340 are allowed provided the approval authority determines, in consultation with a qualified biologist and engineer, that the drilling or boring is appropriate, subject to the following:

1. The applicant shall identify and minimize potential impacts. This shall include demonstration that the drilling or boring will not dewater the water body;

2. The access for delivering equipment to the drilling or boring site shall be aligned and constructed in a way that minimizes potential impacts to the important habitat area;

3. The associated spoils shall be contained, the disturbed area shall be restored upon completion of the activity;

4. Related equipment and materials shall be stored outside of the important habitat area except as necessary for daily operations; and

5. Drilling shall not occur within an area where a priority or locally important species has a primary association (e.g. nest sites, foraging and roosting areas), based on WDFW Management Recommendations for Priority Species, unless the approval authority determines, in consultation with the WDFW, that the scale and timing of the proposed activity would not be harmful to the wildlife.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.170 Existing, lawfully established uses.

Existing, lawfully established uses not specifically addressed in this chapter may continue. However, existing uses in the important wildlife habitat areas and associated buffers should employ BMPs to minimize adverse impacts on the important habitat area(s).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.180 Habitat area enhancement/restoration.

The approval authority may, in consultation with WDFW and other experts (such as tribal biologists or DNR botanists), approve restoration of important habitat areas and associated buffers subject to an approved critical area report and restoration plan (see Chapter 24.35 TCC) and applicable provisions of this chapter. Stream enhancement/restoration shall only be performed under a plan for the design, implementation, maintenance and monitoring of the project approved by a qualified fisheries biologist and, if needed, by a civil engineer with experience in stream hydrology. The project shall be carried out under the direct supervision of a qualified fisheries biologist, hydrologist, or engineer with demonstrated experience, as appropriate. (Also see Chapter 24.20 TCC, Frequently Flooded Areas.)

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.190 Hatcheries.

State and federal fish hatcheries are permitted if the applicant demonstrates to the approval authority's satisfaction that there is not an alternative location with less adverse impact on the critical area and associated buffer than the proposed location and that the operation will not reduce water quality or increase water temperature to the detriment of native or planted game fish occupying the affected water body. The hatchery shall be consistent with the Shoreline Master Program for the Thurston Region (1990) and employ BMPs to avoid adverse impacts to the important habitat area and associated buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.200 Instream structures—New and expanded.

A. New and Expanded Instream Structures. New and expanded instream structures may be allowed as necessary to evaluate, restore or improve habitat. Installation of instream structures shall be done in the least impacting way practical, at the least impacting time of year, and in conformance with applicable local, state and federal regulations.

B. New and expanded public flood protection measures and other instream structures, such as, but not limited to, high flow bypasses, dikes, levees, tide gates, dams, weirs and other flood control structures may be allowed on Type S and F streams only when demonstrated to be necessary to protect human life or as part of a watershed basin restoration project approved by the county, consistent with state or federal requirements, in consultation with the WDFW and others with experience. These may also be allowed subject to Chapter 24.90 TCC, Emergency Authorization.

C. Minimize Impacts. The approval of a new or expanded instream structure shall be consistent with a critical area report (see Chapter 24.35 TCC) prepared by a qualified biologist and engineer, if appropriate, that identifies and provides for the mitigation of any adverse habitat impacts, including restoration of all affected instream and riparian habitat features.

D. Species of Concern. All structures, activities, uses, and alterations proposed to be located in Type S or F streams or in Type Np and Ns streams that drain to Type S or F streams, directly to Puget Sound, a pond regulated by this title, or habitat of any other species of concern shall be located and designed so that they will not degrade habitat or water quality, including water temperature. Fish bypass facilities shall be provided where needed to allow fish migration. Structures that would prevent the migration or travel of salmonids or other native fish shall not be allowed.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.210 Instream structures—Repair, maintenance or renovation.

Repair, maintenance or renovation of lawfully established instream structures including, but not limited to dams, dikes, levees, high flow bypasses and revetments, is permitted provided that the facilities are not increased in height or length or expanded waterward. Any necessary stabilization shall be accomplished with bioengineering techniques to the maximum extent practicable, consistent with TCC 24.25.300. The site shall be restored with appropriate native vegetation, as determined by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.220 Intensive uses.

Intensive uses on parcels containing fish and wildlife habitat conservation areas shall comply with the applicable requirements in this section.

A. Types of Intensive Uses. For the purposes of this section, intensive uses include those uses that store or use hazardous materials, pesticides, or herbicides in quantities regulated by TCC 24.10.140, or would generate excessive nutrients, sediments, or pollutants that could reach the important habitat area or associated buffer or significantly alter the quantity or the timing of water reaching a stream, lake or pond such that the survival of native or anadromous fish would be jeopardized.

B. Identify Risks. Applicants for new intensive uses on sites that contain streams, lakes, ponds or priority species conservation areas or abut marine waters, that have potential to degrade such habitat areas, as determined by the approval authority in consultation with the WDFW and others with expertise, shall submit information that identifies and evaluates the potential risks the proposed use poses for the habitat areas.

This shall include, as applicable, whether sediment, effluents, altered pH, the amount, timing, or duration of groundwater flows or altered surface hydrology, noise, or glare would be harmful to aquatic life, birds, or other wildlife.

C. Protective Measures. The approval authority shall require measures to avoid, or if that is not possible, minimize, potential adverse impacts on the important habitat area and any associated buffer.

1. The approval authority may require, as warranted, the use of BMPs for new and existing intensive uses. In addition, the approval authority may require applicants for new intensive uses to use integrated pest management; provide and maintain vegetative filter strips (up to fifty feet in width); install fencing; locate noisy activities away from the habitat area; require buildings on the site to be located or oriented where they would have the least impact on the habitat; or employ other mitigation measures that would be effective in preventing pollutants and sediment from reaching a water body, preventing damage to the important habitat area and avoiding adverse impacts on dependent wildlife, including maintaining stream flows and temperature necessary to sustain fish.

2. If pollution or emissions from a type of proposed use (e.g., smoke stacks associated with asphalt plants, incinerators, or other industrial operations) have been demonstrated scientifically as causing damage to the important habitat or species, the approval authority may require use of BMPs and require that the use be located on the project site where the emissions would pose the least risk of polluting the important habitat area, consistent with best available science and protection of public health and safety.

D. Expert Review. The approval authority may call upon experts, at the applicant's expense, as necessary to help evaluate information submitted by the applicant.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.230 Landscaping and gardening—Maintenance.

A. Maintenance of lawfully established lawns, landscaping, gardens, athletic fields, playgrounds, parks and similar uses is permitted in important habitat areas and associated buffers provided it does not involve any expansion beyond the existing, developed area.

B. Gardening. Gardening for personal consumption within existing gardens is permitted. New gardens may be established within portions of priority upland habitat areas, marine riparian habitat area, pond buffers, and riparian habitat areas approved for development pursuant to this chapter. No clearing or tree removal outside of the area authorized for development shall be permitted to accommodate such gardens.

C. Landscaping and screening requirements for development under other county regulations such as the zoning code, shall include flexibility in design and vegetation when located adjacent to a fish and wildlife habitat conservation area. This may include incorporation of native, vegetation local to the area, consistent with the habitat area or species use, and/or alternate screening methods such as fencing rather than trees.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.240 Mineral extraction—Asphalt plants.

Mineral extraction and asphalt batch plants are allowed in the riparian management zone landward of any documented channel migration hazard area, subject to TCC 24.25.140. Mineral extraction and asphalt batch plant proposals on property containing streams or marine, lake or pond shorelines subject to this chapter shall be reviewed to determine if stormwater or sediment from the activity would be harmful to aquatic life in such waters. In addition, an analysis shall be performed to determine if mineral extraction or asphalt batch plants would diminish or change groundwater flows and temperatures to the water body such that elevated temperatures would adversely affect dependent fish and wildlife. Impacts to air quality, or lighting, noise or other impacts to specific species shall be evaluated and mitigated through the special use permit process. Mitigative measures shall be required to avoid, or if that is not possible, minimize, the potential adverse impacts (Also see Chapter 20.54 TCC, Special Uses and Chapter 17.20 TCC, Mineral Extraction Code).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.250 On-site sewage disposal systems and sewer lines—New.

A. New on-site sewage disposal systems and sewer lines serving an approved use may be allowed in fish and wildlife habitat conservation areas as specified in Table 24.25-3, subject to Chapter 24.50 TCC.

B. New on-site sewage systems and sewer lines shall be consistent with applicable provisions of Article IV of The Thurston County Sanitary Code, and the applicable provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.260 On-site sewage disposal systems—Repair/Replacement.

A. Failing on-site sewage disposal systems shall be remedied through compliance with Article IV of the Thurston County Sanitary Code and the method that results in the least impact to the important habitat area and associated buffer. Replacement sewage disposal systems shall not be allowed within the riparian habitat area, marine riparian habitat area, or pond buffer unless there is no alternative site available outside of such areas to accommodate the facilities. Clearing of existing vegetation to remedy the failing system shall be limited to the minimum area necessary for the replacement system.

B. If the failing sewage disposal system must be replaced with a new on-site sewage disposal system, when possible, it shall be located on a portion of the site that has been disturbed by development and as far from any water body, priority species habitat, and any documented one-hundred-year channel migration zone as possible (see Chapter 24.20 TCC, Frequently Flooded Areas). The approval authority may require the applicant to demonstrate that due to physical constraints (e.g., topography, soil conditions, or the configuration of the site), another site configuration would not allow the development to occur without intrusion or with less intrusion into the important habitat area and associated buffer than the proposal.

C. If a suitable disturbed area is not available to accommodate the on-site sewage system, it shall be located where it would be least harmful to the important habitat, as determined by the approval authority in consultation with WDFW.

D. Replacement on-site sewage systems and sewer lines shall be consistent with applicable provisions of Article IV of the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, and the applicable provisions of this chapter.

E. Regular maintenance such as septic pumping, mechanical repairs and inspections are allowed without critical area review permits.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.265 Reclaimed water.

Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.267 Recreation facilities, trails, and trail-related facilities—Exemptions.

The following uses are exempt from the need for a critical area permit:

A. Construction and/or maintenance of a private ground trail using hand tools in the riparian habitat area, provided that the trail is three feet or less in width, not impervious (e.g. gravel, rocked, paved), and constructed with minimal vegetation removal and minimal pervious material such as wood chips. Construction of the trail shall not cause a public safety risk.

B. Passive recreation activities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.270 Recreation facilities, trails, and trail-related facilities.

A. Trails and Related Facilities. Trails and related facilities shall avoid habitat sustaining priority species and species of local importance to the greatest extent possible. The approval authority may allow trails and trail-related, passive recreation facilities, such as, but not limited to, nature viewing areas, benches, identification and interpretive signs, viewing platforms, and fishing access within important habitat areas if it is determined that there is no practicable or reasonable alternative. Trail alignment, design, construction, and maintenance shall adhere to the following requirements:

1. Location.

a. Trails and related facilities shall, to the extent feasible, be placed on existing levies, road grades, abandoned rail lines, utility corridors, or other previously disturbed areas.

b. Except for access points for wildlife viewing, fishing, and recreational use authorized pursuant to this chapter, trails and trail related facilities shall be located outside or on the outside edge of important habitat areas to minimize disturbance and clearing.

c. Trails and related facilities (e.g., viewing platforms and benches) allowed in important habitat areas shall be located, aligned and constructed to minimize disturbance to important habitat area

functions, and to avoid the most sensitive and productive wildlife habitat (e.g., documented breeding, nesting, spawning and rearing areas). Trails and related facilities shall not be located where they would negatively impact a priority species or species of local importance. The approval authority may require signage to avoid intrusion into habitat areas at times when priority or locally important wildlife species are sensitive to disturbance. When necessary to avoid habitat impacts, footbridges shall be used to cross water bodies rather than culverts.

d. The trail alignment shall minimize removal of conifer trees twelve inches or greater in diameter, shrubs, and snags and preserve priority habitats.

e. Parking areas and other facilities associated with trails, not specifically provided for in this section or Table 24.25-3, shall be located outside of the important habitat area.

2. Trail Width. Trails shall not exceed four feet in width unless they are designed to accommodate handicapped persons. In that case, the trail and associated clearing shall be the minimum width that complies with the Americans with Disabilities Act (ADA). Clearing shall be done with hand tools unless the approval authority determines that the scale of the project necessitates mechanized equipment and its use will not harm important habitat areas beyond the trail corridor.

3. Protect Water Quality. Trails and related facilities shall incorporate water quality protection measures (e.g., check dams or devices, such a perforated pipe, to reduce sheet flow of stormwater runoff) as needed to assure that runoff from such trails/facilities does not create channels in the riparian habitat area, marine riparian habitat area, or buffer that directly discharge to a stream, pond, lake or Puget Sound.

4. Salvage Plants. Native vegetation disturbed by trail construction shall be made available for salvage.

5. Impervious Surfaces. Trails shall not be paved unless they are specifically designed to be accessible by handicapped persons. The approval authority may allow regional trails to be paved on former railroad rights-of-way extending through important wildlife habitat. Where impervious surfaces are used they shall be minimized consistent with applicable standards (e.g., ADA and Washington Department of Transportation standards). Raised boardwalks may be used in wet areas provided that they are not treated with hazardous materials that would be harmful to water quality or sensitive species. Viewing platforms shall not be made of continuous impervious materials or be treated with toxic substances that could leach into the important habitat area. The "footprint" of viewing platforms shall be as small as possible in order to minimize impacts (e.g., through the use of pin piles).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.275 Active recreation.

A. Active Recreation. Water related active recreation, such as swimming areas, may be located within the buffers for ponds and marine habitat areas to the minimum extent necessary to accommodate the use, consistent with the Shoreline Master Program for the Thurston Region (1990), or as amended, and as determined by the approval authority. Related restrooms and parking areas shall be located outside of such areas. Uses such as active use parks, athletic fields, golf courses, operation of motorized recreational vehicles (ORVs), campgrounds, picnic areas, and related restrooms and parking areas shall not be located in important habitat areas or associated buffers.

B. Golf Courses. Important habitat areas shall not be adversely impacted in designated play areas of the golf course, but they may be included in the course design provided all other applicable provisions of this chapter are met. Important habitat areas and associated buffers within golf courses shall remain in their existing condition, except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.280 Roads/streets, railroads, and associated bridges and culverts—New and expanded.

Proposed road and railroad crossings of streams, riparian habitat areas, marine riparian habitat areas, riparian and marine management zones, and lake and pond buffers and other important habitats shall follow all applicable local, state, and federal laws and the requirements listed below. These requirements also apply to private access roads.

A. New road, railroad and bridge crossings of the habitats and buffers listed above shall be prohibited except where there is no alternative for an essential crossing (e.g., to provide access to property where no other access is physically possible or available) with less impact on the important habitat area.

Where the approval authority determines that alternative access with less impact on the important habitat area is physically possible, prior to authorizing a new crossing, the applicant shall demonstrate that the necessary property or easement for the alternative access cannot be obtained at reasonable terms or that the alternative is otherwise cost prohibitive.

B. Alignment. Roads within habitat areas, where necessary, shall be aligned as follows:

1. Crossings shall occur, to the extent practical, where they would have the least adverse impact on important habitat. Proposed crossings that would degrade salmonid spawning or rearing areas, priority wildlife habitat, or stands of mature conifer trees (e.g., at least one hundred years old) in riparian areas, shall not be allowed unless the applicant demonstrates to the approval authority's satisfaction that the crossing is essential and that no other crossing location would have less impact on habitat functions. Priority shall be given to protecting salmonid spawning and rearing areas from adverse impact. Crossings shall be located, to the greatest extent practical, to avoid fragmentation of priority habitats (e.g., prairie and oak woodlands).

2. Road alignments shall, to the extent possible and consistent with this section, avoid bends in the stream, areas with highly erodible soils and landslide prone areas (see Chapter 24.15 TCC, Geologic Hazards), unless the approval authority determines that mitigation measures will allow the project to occur without a net loss of habitat functions or increased public safety risks. (See Chapter 24.20 TCC, Frequently Flooded Areas and Chapter 24.30 TCC, Wetlands).

3. New roads crossing riparian habitat areas or streams shall be aligned perpendicular to the channel where possible. If that is not possible, they shall be aligned as close as possible to perpendicular at an angle greater than sixty degrees to the centerline of the stream channel. The approval authority may allow a deviation from this standard to avoid impacting high quality riparian habitat (e.g., mature conifers and wetlands associated with streams) or other critical areas if the net effect of the alternative alignment would reduce impact on the affected critical areas or if necessary to preserve public safety. Roads in riparian habitat areas shall not extend parallel to the stream.

4. The road alignment shall avoid, to the maximum extent practical, conifer trees greater than twelve inches in diameter at four and one-half feet above the ground, measured on the uphill side of the tree and shall stay five feet outside of the dripline of oak trees.

5. Maintenance roads may be located in utility corridors if the approval authority determines that they are essential and they are located in the least impactive location in the outer half of the habitat area or buffer contiguous to the utility corridor on the side away from any water body. To the maximum extent practicable, access for utility maintenance within riparian habitat areas, marine riparian habitat areas, and pond buffers shall be limited to access points rather than by an access road extending parallel to the water body. The width of the maintenance road shall be minimized; in no event shall it be greater than fifteen feet.

C. Serve Multiple Properties. Crossings of Type S and F streams shall be aligned, whenever possible, to serve multiple properties and be designed to accommodate conduit for utility lines. The county shall require the applicant for a new road crossing, to the extent legally permissible, to work with the county to provide for a street layout and crossing location that will minimize the need for additional stream crossings in the future to serve surrounding property.

D. Spacing of Crossings.

1. Crossings of Type S and F streams shall not be allowed if the number of existing road and utility corridor crossings plus the proposed crossing would equal or exceed two crossings per 0.6 river miles in the affected stream segment, unless:

a. The approval authority determines that mitigation measures will allow the project to occur without a net loss of stream and riparian habitat functions. (For example, due to removal of an existing stream crossing at another location along the stream or restoration of degraded riparian area); or

b. The absence of the requested crossing would landlock the property.

2. The approval authority may require that crossings spaced closer than called for in this subsection be accomplished with a bridge rather than a culvert if it would significantly reduce habitat impacts.

E. Minimize Crossing Width. Crossings of streams, riparian habitat areas, marine waters, marine riparian habitat areas, and pond or lake buffers shall have the narrowest width possible, consistent with applicable county road standards and protection of public safety. Clearing to accommodate the road shall be minimized, consistent with the protection of the most important habitat, as determined by the approval authority.

F. Bridge and Culvert Design. The design of stream crossings shall be consistent with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended. Bridges are preferred on Type S and F waters unless physically infeasible. Culverts approved to be installed on Type S and F streams shall be arch/bottomless or the equivalent that provides comparable fish protection, as determined by the approval authority in consultation with WDFW and others with expertise. Crossing in estuaries shall be designed to avoid interruption of tidal flows. The approval authority may require that crossings in estuaries be accomplished with a bridge rather than a culvert if it would significantly reduce habitat impacts.

G. Avoidance of Flood Hazards. See Chapter 24.20 TCC.

H. Logging Roads within Sites Proposed for Development. Crossings of important habitat areas within sites proposed for development that were allowed by a state forest practices permit but which do not meet the requirements of this chapter, and any unlawfully established roads, shall be removed. The former roadbed shall be restored to a condition consistent with the surrounding undisturbed areas. The approval authority may require soil amendment to enable plant survival and drainage in the restored area.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.290 Road replacement and minor expansion.

Existing public roads constructed prior to July 24, 2012 may be replaced or widened (e.g., for safety improvements) within the footprint of the existing road bed and in portions of the right-of-way that have been previously cleared or graded as part of permitted road work provided that all of the following criteria are met:

A. Capacity. The capacity of the road is not increased.

B. Minimize Impact. When possible, road widening shall occur on the side of the road furthest from the important habitat area unless other critical areas are present, in which case the approval authority, in consultation with others with expertise, shall determine, given physical and technical constraints, where the proposed road expansion would have the least impact on the critical areas.

C. Expansion Limits. Such road expansion shall not extend beyond the outer edge of existing roadside ditches, or encroach into areas that are predominately covered with native vegetation. In no case shall a road expansion authorized pursuant to this chapter extend more than ten feet beyond the existing roadbed. Only one minor expansion shall be allowed per road segment pursuant to this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.295 Single-family residential, new.

New and existing single-family residential uses are subject to Chapter 24.50 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.300 Shoreline and slope stabilization.

The approval authority may authorize stabilization of stream banks, lakes, ponds, and marine shorelines only where it is determined that, it is necessary to protect lawfully established, existing threatened structures as defined in this title and by the Shoreline Master Program for the Thurston Region (1990) as amended and applicable; and that cannot be relocated with less impact to fish and wildlife habitat conservation areas or other critical areas; or to protect unusually high value natural resources/wildlife habitat (e.g., or priority species locations or a wetland associated with a stream). Stabilization of pond, marine or stream shorelines, is only allowed as provided for in the Shoreline Master Program, as amended, and consistent with this section. Any proposal for slope/bluff stabilization must be supported by a geological assessment from a qualified geotechnical professional and a biologist and shall adhere to the following preferential order:

A. Nonstructural Shoreline Protective Techniques. When stabilization methods are deemed necessary by the director, nonstructural shoreline protective techniques are preferred to concrete bulkheads, riprap or other types of shoreline armoring. Nonstructural techniques may include but are not limited to: beach nourishment, coarse beach fill, gravel berms, vegetation plantings and bioengineering. Best available science shall be used to evaluate the best techniques for protection as determined by the director. Refer also to the Washington Department of Ecology publications "Slope Stabilization and Erosion Control Using Vegetation" (1993, Publication 93-30), and "Marine Shoreline Armoring and Puget Sound" (2010, Publication 10-06-003.

B. Bioengineering. Stabilization of stream, lake, pond and marine shorelines, if necessary, shall be accomplished with bioengineering or similar soft stabilization techniques unless the applicant's qualified engineer and biologist demonstrates that such techniques are not sufficient to protect structures and facilities listed in this section from erosion and slope failure. (See Washington's Integrated Stream bank Protection Guidelines for bioengineering designs.) The stabilization shall be designed and installed to minimize adverse impacts on the habitat's functions.

C. Combination of Bioengineering and Hard Armoring. If the applicant's qualified engineer and biologist demonstrate to the approval authority's satisfaction that bioengineering alone will not be sufficient to protect structures and facilities listed in this section, the approval authority, in consultation with a biologist and qualified engineer, at the applicant's expense, may authorize a combination of bioengineering and structural solutions that is least damaging to the habitat. The stabilization shall be designed and installed to minimize adverse impacts on the habitat's functions. The structural stabilization solutions shall comply with subsection (D) below.

D. Structural Techniques (e.g., bulkhead, gabion, riprap, revetments, or wall). If the applicant's qualified engineer and biologist demonstrate to the approval authority's satisfaction that the nonstructural techniques provided for in this section are not possible or will not be sufficient to protect structures and facilities listed in this section from erosion and slope failure, they may, in consultation with a biologist and qualified engineer at the applicant's expense, propose a structural stabilization solution consistent with the following:

1. Hard armoring, such as rip-rap and bulkheads, may only be used when the applicant demonstrates to the approval authority's satisfaction that a public facility, public road, utility (not individual service lines that can be relocated), sole access road, or occupied structure cannot be safely and practically maintained without such measures. The armoring shall be the minimum dimension necessary to protect the structure.

2. Hard armoring shall not be allowed along Type S or F streams, in marine habitat areas, or in salmonid spawning, migration or rearing areas unless it is necessary to protect critical public facilities, human life, or a threatened dwelling.

3. Structural techniques shall only be allowed along riparian habitat areas when:

a. It is to protect a legally permitted threatened structure; and

b. The residence and normal appurtenances are located within the 2:1 slope measured from the toe of the bluff or within the fifty-foot top of slope buffer, whichever is greater; and

c. Only if a geotechnical assessment completed per Chapter 24.35 TCC finds that the structure to be protected will be threatened based on the long-term erosion rate (thirty—fifty year average) within the next three years if toe protection is not provided.

E. Designed by Engineer. A professional engineer licensed in the State of Washington with demonstrated expertise regarding hydraulic actions along shorelines shall design stabilization projects along streams and marine shorelines in consultation with a qualified biologist.

F. Avoid Intrusion into the Important Habitat Area. Any new or replaced shoreline protective structures shall be placed as close to the existing bank as possible and parallel to the natural shoreline. In areas where dry land has been previously created by fill behind the bulkhead, the replacement structure should be designed to remove the fill and place the new structure as close to the historical OHWM as possible.

G. Repair, Maintenance or Renovation. Repair, maintenance, or renovation of lawfully established shoreline stabilization structures is permitted consistent with state and federal regulations and the Shoreline Master Program for the Thurston Region, provided that the facilities are not increased in height or length or expanded waterward. Replacement of existing shoreline stabilization structures shall be considered a new use, except as provided for by the Shoreline Master Program for the Thurston Region (see Section XVIII, Shoreline Protection).

H. Nontoxic Materials. Approved stabilization shall only use materials that do not pose a risk to water quality, consistent with best available science.

I. Slope Stabilization. Slope stabilization is only allowed in important habitat areas, if consistent with Chapter 24.15 TCC, Geologic Hazards and Chapter 24.20 TCC, Frequently Flooded Areas, and only where erosion or landsliding threatens a use listed in this section. Bioengineering shall be used where possible.

J. A mitigation plan for impacts to fish and wildlife conservation areas including the shoreline ecological functions as a result of the armoring shall be prepared by a qualified biologist and implemented immediately following construction. Mitigation measures may include temporary or perpetual beach feeding with appropriate substrate, additional woody debris, revegetation of the adjacent upland area, or other measures designed to minimize the impacts to the nearshore environment from armoring.

K. Prior to any approval of shoreline armoring, the applicant shall demonstrate that other measures have been taken to address the erosion or other threats to the structure. This includes improving or installing a functioning drainage system, minimizing impervious areas, restoration of trees and other native vegetation on the adjacent buffer slope or bluff, possible relocation of structures, or other measures that would improve stabilization and reduce the threat to the structure.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.310 Stair tower, stairway, and mechanical lift.

Stair towers, stairways, and mechanical lifts may be permitted consistent with the Shoreline Master Program for the Thurston Region, and the following requirements:

A. Avoid Habitat Impacts. Stair towers, stairways, and mechanical lifts shall not be located, designed, or constructed such that they would ground on serf smelt, Pacific sand lance or herring spawning beds, or on eelgrass beds (Zostera spp.).

B. Treated Wood. Any treated wood proposed to be used in the construction of the stair tower, stairway and/or mechanical lift that would be placed in, over, or within 100 feet of the water is

subject to county approval. Only treatments that pose a negligible risk to water quality shall be permitted.

C. Armoring. Riprap or other armoring shall not be placed on a beach to protect stair towers, stairways or mechanical lifts.

D. Footprint. The footprint of the stair tower, stairway, and mechanical lift shall be the minimum necessary to accommodate the proposed use.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.320 Stormwater facilities—New.

New and expanded stormwater facilities (e.g. detention, retention, treatment and conveyance facilities) shall not be constructed within priority prairie habitat. New stormwater facilities may be constructed within other important habitat areas and associated buffers consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC) and the Clean Water Act, under the following conditions:

A. No Alternative. The applicant shall demonstrate that there is no alternative for accommodating stormwater with less impact on the important habitat area due to topography or other physical constraint. The facilities shall be designed and located to minimize impacts on the important habitat area.

B. Accommodation of Stormwater Generated Within the Habitat Area. New roads and other development located adjacent to important habitat areas shall be designed and located so any associated stormwater facilities are located outside of the important habitat area. The approval authority may require that the proposed development be redesigned or reduced in scale to avoid or minimize impacts to the important habitat area.

Any new retention, detention, or treatment facilities shall be designed and sized to only accommodate stormwater generated from impervious surfaces (e.g., roads and bridges) within or immediately adjacent to the important habitat area or new impervious surfaces approved consistent with this chapter.

C. Size Limits and Location. Use of riparian habitat areas, marine riparian habitat area or pond or lake buffers for stormwater retention, detention or treatment shall be limited to the twenty-five percent of the riparian habitat area, marine riparian habitat area, or buffer furthest from the water body, unless another location is necessary to accommodate stormwater from a road or bridge. In no case shall the size of the facility exceed twenty-five percent of the habitat area/buffer on the parcel(s) under development. The stormwater facility shall not cause an increase in water temperature or degradation of water quantity and quality of fish-bearing streams.

D. Roadside Stormwater Conveyance Facilities. Roadside stormwater conveyance swales and ditches may be extended through important habitats within rights-of-way. When possible, they shall be located along the side of the road furthest from the habitat area. If the conveyance facility must be located along the side of the road closest to the important habitat area, it shall be located as close to the road/sidewalk as possible, consistent with public safety.

E. Open and Vegetated. Stormwater detention, retention, and treatment ponds in important habitat areas shall be open and, to the extent possible, vegetated with native plants present in the area.

Invasive vegetation shall not be planted. Stormwater conveyance facilities shall be open and vegetated with non invasive plants unless the approval authority determines, in consultation with the applicant's qualified engineer, that design constraints or protection of public safety warrant burying the conveyance facility (e.g., underground storage is needed or the facility would span a steep slope and must be "tight lined" to avoid slope failure - see Chapter 24.15 TCC, Geologic Hazards). Vegetation shall be maintained and, if necessary, planted adjacent to all open swales, channels, and ponds in order to retard erosion, filter sediments, pollutants, and (if warranted to maintain water temperatures necessary to sustain aquatic life) shade the water, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and the Clean Water Act.

F. Avoid Channelization.

1. With the exception of conveyance facilities extending through the important habitat area and/or associated buffer, stormwater shall be dispersed as sheet flow at the outer edge of the important habitat area to avoid channelization and allow filtration of sediment, nutrients, and pollutants and infiltration of water. The approval authority may require, if slopes exceed five percent, that obstructions or devices (e.g., perforated pipe) be installed to maintain sheet flow within the important habitat area and associated buffer.

2. When an outfall to a stream, pond, or marine waters is necessary, it shall be designed to mitigate any adverse impacts to aquatic life. This may include, if warranted, a conveyance system and outfall structure that simulates natural conditions and provides habitat features necessary for fish feeding, cover and reproduction. If stabilization of an outfall along a Type S or F stream or marine shoreline is necessary, bioengineering techniques shall be used to the maximum extent practical, consistent with state and federal regulations (See TCC 24.25.300).

G. Treatment. All stormwater from stormwater systems shall be treated prior to release to a water body consistent with the Clean Water Act and Chapter 15.05, TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.323 Stormwater facilities—Engineered stormwater dispersion.

The dispersion area of stormwater dispersion systems, as defined by the Thurston County DDECM, shall not be considered a stormwater facility as described in TCC 24.25.320, and regulated as such, unless a physical structure is incorporated within the design that impacts the FWHCA. Stormwater dispersion facilities whose dispersion area includes any portion of a FWHCA are allowed as an element of a stormwater system under the following circumstances:

A. Dispersion of runoff from back yards of development and downspout dispersion, done in accordance with the Thurston County DDECM, is allowed at the outside edge of the FWHCA.

B. Sheet flow and concentrated flow dispersion, done in accordance with the Thurston County DDECM, of stormwater meeting runoff treatment requirements of the Thurston County DDECM is allowed at the outside edge of the FWHCA.

C. The required dispersion area for sheet flow and concentrated flow dispersion from other pervious and impervious surfaces, done in accordance with the Thurston County DDECM, may only include that portion of a FWHCA outside of the minimum area considered necessary for water quality protection or one hundred fifty feet whichever is greater.

D. Native vegetation in the FWHCA may be increased but shall not be cleared or altered to accommodate stormwater treatment.

E. In no case shall dispersion methods be approved that may cause water quality impacts to the FWHCA. If water quality impacts are anticipated or observed, additional stormwater treatment methods shall be implemented.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.325 Stormwater facilities—Maintenance or repair.

Maintenance and repair of existing stormwater retention, detention, treatment and conveyance systems is permitted in fish and wildlife habitat conservation areas and associated buffers, consistent with the following:

A. Best Management Practices. County-owned stormwater facilities within riparian habitat areas, marine riparian habitat area, and pond/lake buffers accommodating runoff from county roads shall be maintained consistent with the BMPs listed in the Regional Road Maintenance Program Guidelines, January 2002, and, as applicable, the Drainage Design and Erosion Control Manual for Thurston County, Chapter 15.05, TCC.

B. Other stormwater facilities within marine riparian habitat areas, pond/lake buffers, and riparian habitat areas shall be maintained consistent with a maintenance plan approved by the Thurston County Department of Water and Wastewater Management in accordance with the Drainage Design and Erosion Control Manual for Thurston County. The approved maintenance plan shall provide at least as much protection for the important habitat area as the provisions of this chapter.

C. No Expansion. Maintenance of stormwater facilities shall not result in their expansion within the riparian habitat, priority habitat, or marine riparian habitat area or pond/lake buffers or result in channelized discharges of water to such areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.330 Stream relocation.

The approval authority, in consultation with state and federal agencies with jurisdiction, may only allow streams to be relocated subject to state permit requirements, provided the proposal complies with the following:

A. Plans. The applicant shall submit plans identifying the extent to which the stream would be altered. The plans shall depict the existing stream channel, the location of the proposed stream channel, site topography with contours at two-foot intervals or less, proposed uses or restoration of the original stream channel including any grading and filling, proposed stream bed design and materials, the channel migration zone, stream bank stabilization, riparian area enhancement/restoration, and methods to preserve and relocate existing fish and aquatic life affected by the project.

B. Equal or Better Habitat Function. The replacement stream channel provides an equal or better habitat for all fish species, and affected important marine species, maintains or improves water quality, and does not have a net adverse impact on other critical areas.

C. Replicate or Improve Stream Characteristics. The original ecological value of the stream and riparian habitat area shall be recreated or enhanced, to the extent feasible. The natural channel dimensions shall be replicated or improved including substantially identical depth, width, length, gradient, channel complexity and horizontal alignment (meander lengths) as the original location or the upstream and downstream channel. The stream bottom shall be restored with materials identical or similar to the original streambed. Removal of vegetation and large woody debris (logs) shall be minimized. However, the approval authority may allow deviation from the original conditions if it is determined that an alternative configuration or materials would improve habitat quality (e.g., by adding structure, cover, pools, spawning gravels, etc).

D. Flooding. The flood carrying capacity of the relocated stream and floodplain shall not be diminished, as demonstrated by a professional engineer licensed in the State of Washington. (Also see Chapter 24.20 TCC, Frequently Flooded Areas.)

E. Channel Migration Zone. The applicant shall identify the channel migration zone for the watercourse at the project site and for the reach upstream and downstream of the site (for a distance of at least five hundred feet). The design and construction of the project shall not preclude channel movement, except as necessary to protect public safety or existing structures, consistent with TCC 24.25.300.

F. Impacts on Marine Habitat. Stream relocation shall minimize impacts to important marine habitat protected by this chapter. Any impacts to such areas shall be mitigated. Relocated streams entering Puget Sound shall not be contained in pipes within the marine riparian habitat area, with the exception of road crossings permitted consistent with this chapter.

G. Riparian Width and Condition. Any stream that is relocated shall have a riparian habitat area width as specified in Table 24.25-1 or as modified pursuant to TCC 24.25.015-24.25.040. The stream bank configuration shall be restored to the original or improved conditions, consistent with the latest edition of WDFW's Integrated Streambank Protection Guidelines. The riparian habitat area shall be replanted with native vegetation that replicates the natural, undisturbed riparian condition in species, size and densities.

H. Blockages. Stream alteration projects in Type S and F streams shall not result in blockage of side channels that would impede fish or adversely impact other priority wildlife species. Known fish barriers in side channels involved in the project site shall be removed as part of the approved stream alteration project.

I. Monitoring and Surety. The applicant shall submit a monitoring plan for county approval to ensure that the project functions as approved. The applicant also shall submit a surety to the county, consistent with TCC 24.70, sufficient to correct any project failures or to replace any vegetation that does not survive.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.340 Utility lines and facilities—New.

Installation of utility lines and facilities is permitted in existing rights-of-way and utility corridors consistent with applicable regulations (see Title 13, TCC). The alignment of underground utility lines outside of existing rights-of-way shall avoid important habitat areas to the greatest extent possible. The approval authority may allow underground utility lines within these areas when it is determined that there

are no practicable alternatives or if the utility lines will be consolidated with a road crossing or parallel to an existing utility crossing at the minimum separation distances established by the county for such uses.

A. Utility Corridors. Utility corridor alignment, construction, restoration, and maintenance shall adhere to the following standards:

1. Utility corridor alignment shall fall outside of important habitat areas and associated buffers to the maximum extent possible where it would have the least impact on the functions of important habitat area and associated buffers. The approval authority may require submission of a feasibility study that demonstrates that alternative routing with less impact on important habitat areas is not possible. Utility corridors shall not be located in habitat used for salmonid rearing or spawning or by a species listed as endangered or threatened by the state or federal government unless there is no other crossing site with less impact on these species and the habitat functions.

2. Utility corridors shall not parallel a stream within a riparian habitat area unless there is no alternative.

3. The utility corridor shall have the minimum width practicable.

4. The utility corridor alignment and utility installation shall not cause an increased risk of landslide or significant erosion that would impact an important habitat.

5. Utility corridor construction and maintenance shall maintain and protect the hydrologic and hydraulic functions of streams.

6. Clearing shall be limited to the minimum necessary to locate the utility. Cutting of conifer trees greater than twelve inches in diameter (at four and one-half feet above the ground on the uphill side of the tree) shall be avoided to the maximum extent possible and priority habitats preserved, consistent with the preservation of the most important habitat.

7. The utility corridor shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables when feasible.

8. Utility corridors shall be revegetated with appropriate native vegetation, compatible with the utility facility and, whenever possible, equivalent to preconstruction densities. Restoration shall occur immediately upon completion of construction or soon thereafter under seasonal constraints or work windows established pursuant to this chapter. The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that such vegetation survives or is replaced.

B. Stream Crossings. New utility lines and cables, sewer lines, and water lines are permitted to cross streams if they are in compliance with applicable local, state and federal regulations, and the following standards.

1. Dry Streams. Dry, intermittent streams may be crossed with open cuts during a time period approved by the county and any agency with jurisdiction.

2. Existing Crossings. Where possible, new lines and cables crossing perennial streams shall be contained within an existing roadbed, railroad bed, bridge, elevated walkway, conduit, or other existing structure.

3. Boring. When it is not possible to use existing crossings, new crossings shall, when physically and economically feasible, be accomplished by boring beneath the scour depth and hyporheic zone of the of the stream's active channel and, where documented, the one-hundred-year channel migration zone. (See TCC 24.20.045 and 24.20.055). Bore pits associated with the crossings shall be restored upon project completion.

4. Alignment. When use of existing structures or boring is not feasible to accommodate new utility lines, the stream/riparian habitat area crossing shall be aligned perpendicular to the channel where possible. If that is not possible, stream crossings shall be aligned at an angle greater than sixty degrees to the centerline of the stream channel consistent with the preservation of the most important habitat, as determined by the approval authority in consultation with the WDFW.

5. Staging Areas. Staging areas for equipment and materials shall be located outside of the important habitat area.

6. Maintenance Plan. Applicants shall submit a maintenance plan for the corridor for approval by the county consistent with the provisions of this chapter.

7. Overhead utility crossings of streams may be permitted if the review authority determines that it is method with the least impact on the critical area.

C. Individual Service Lines. Overhead lines or cables serving an individual use are permitted if no alternative is available, they meet state and federal requirements and do not impair wildlife use of the important habitat area. Poles supporting such lines shall be located outside of the important habitat area when feasible. If a pole is necessary within the important habitat area, it shall be located where it would be least damaging to the habitat, as determined by the approval authority in consultation with the WDFW.

Buried service lines serving an individual use are permitted upon demonstration that they will not have an adverse impact on the important habitat area. The site shall be restored upon completion of the utility installation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.350 Vegetation removal—General.

For guidance regarding vegetation removal along marine bluffs, see the Vegetation Management Guide for Puget Sound Bluff Property Owners, Washington Department of Ecology. Also see TCC 24.25.140.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.360 Vegetation removal—Native vegetation.

Removal of native vegetation within priority habitat, marine riparian habitat areas, and riparian habitat areas shall be prohibited except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.370 Vegetation removal—Oak woodlands.

Removal of Douglas fir trees within oak woodlands and thinning of oaks within oak savanna habitat is allowed subject to county approval based on a critical area report (e.g. Habitat Management Plan) that demonstrates that these activities will enhance the habitat.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.380 Vegetation removal—Noxious weeds and invasive plants.

A. Removal of noxious weeds, under the direction of the Thurston County Noxious Weed Control Board, is permitted in important habitat areas consistent with a county approved integrated pest management plan, applicable county and state regulations, and this section.

B. Removal of invasive plants is permitted subject to the criteria in this section. Plant removal shall be performed such that it will not increase the likelihood of stream bank erosion, marine bluff erosion (see Chapter 24.15 TCC), significantly damage untargeted vegetation, or impair any habitat functions. The method of removal shall be approved in writing by Thurston County Resource Stewardship Department, consistent with applicable county, state, and federal regulations.

C. Hand tools shall be used for plant removal unless the approval authority determines that the scale of the project warrants use of small scale equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide with a state and federally approved formulation by a licensed applicator in accordance with the safe application practices on the label) and use of the equipment/method does not pose a significant risk to untargeted areas, habitat functions, or water quality.

D. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with Chapter 15.05 TCC. If the area of exposed soil exceeds one hundred square feet, it shall be planted with appropriate native plant species present in the area at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing water quality or the important habitat area.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.390 Vegetation removal—Hazard trees.

The county may authorize the limbing, thinning or removal of hazard trees in important habitat areas and associated buffers provided that:

A. The county may require the applicant to submit a report from a certified arborist or professional forester that documents the hazard. If so, the arborist shall recommend suitable replacement trees for any trees that are removed pursuant to this subsection.

B. Tree cutting is limited to limbing or crown thinning in compliance with National Arborist Association pruning standards, unless the tree has a disease that would jeopardize the survival of other trees, or felling the tree is otherwise justified by the landowner/expert. Where limbing or crown thinning is not sufficient to address the hazard, the tree shall be pushed over into the important wildlife habitat and toward a stream or marine waters if present.

C. Snags shall be left in place to provide habitat unless they have a disease that would jeopardize other trees. All trees and branches cut in the important habitat area and buffer shall remain there unless the tree is diseased.

D. The landowner shall replace any tree that is taken down with field grown native trees at least two feet in height. In riparian habitat areas, replacement trees shall be native and appropriate to the location, such as Oregon white oak in prairie riparian habitat. Replacement ratios shall be based on the tree species impacted. Appropriate prairie adapted species shall be planted in prairie areas provided that they do not interfere with the integrity or survival of an oak stand. Replacement trees shall be planted from October to February. The county may also require that a watering, maintenance and monitoring plan be submitted to ensure their survival.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.400 Vegetation removal—Other.

Other vegetation may be removed from important habitat areas and associated buffers as follows:

A. Removal of vegetation to the minimum extent necessary for surveying or testing purposes, as determined by the approval authority.

B. Harvesting of plants and plant materials for restoration and enhancement projects provided the harvested material does not comprise more than twenty percent of any single plant, the species harvested comprises forty percent or more of the vegetation in the important habitat area/buffer on site, the harvested material consists of woody stems and twigs, and no root material is harvested, except as provided for in this section.

C. Salvage of whole plants in areas approved for development.

D. Removal of vegetation as part of an approved habitat restoration/enhancement project in the important habitat area.

E. Pruning and/or limb thinning

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.410 Water dependent uses.

The approval authority may allow alteration of the riparian habitat area, marine riparian habitat area, or pond buffer to the minimum extent necessary to accommodate water dependent structures and uses (as defined in the Shoreline Master Program for the Thurston Region, as amended) authorized by the shoreline master program when no other practicable alternative exists. Such uses shall be designed and installed to avoid or, where that is not possible, minimize impacts on important wildlife habitat consistent with the provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.420 Wells—New.

A. New individual and community wells serving approved uses shall only be allowed within important habitat area if there is not sufficient buildable area on the property outside the habitat

area to accommodate the well, as determined by the approval authority. New well houses are not permitted in riparian habitat areas, marine riparian habitat area, pond buffers or priority species conservation areas. Also see Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies.

B. Access to wells in important habitat areas shall be by a pervious trail no more than four feet in width unless the approval authority determines that it is necessary to provide vehicular access to a community well. In that case, the approval authority may authorize an unimproved access of minimal width (no greater than eight feet) to provide access for maintenance vehicles.

C. Maintenance of the trail/access road shall not involve the use of herbicides or other hazardous materials.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

APPENDIX 24.25-1

Table 24.25-4. Habitats of Local Importance

Habitat	Purpose of Habitat/Basis for Listing	Related Species
Cottonwood floodplains	Current floodplain regulations do not protect this habitat from being cleared for converting to agricultural uses. This is a habitat found only along the Nisqually River in Thurston County. Cottonwoods are a keystone species in many riparian zones (Johnson et al 2001).	Red-eyed vireo
Balds (dry plant communities, grasslands)	Globally unique and rare plant community. Primarily located in SE corner of Thurston County, vicinity of Bald Hills. Similar to prairies, but smaller and shallower soils (associated with bedrock outcrops).	
Prairie or Westside Prairie	Important prairie or westside prairie habitat means herbaceous, non-forested (forested means greater than or equal to sixty percent forest canopy cover) plant communities that can either take the form of a dry prairie where soils are well-drained or a wet prairie. Priority dry prairie areas have a minimum size of one acre. In addition, some areas dominated by Scot's (Scotch) Broom (non-native shrub) or other invasive species to prairies shall be considered prairie if the area is restorable and when there are native prairie species in the understory below the shrubs. Such marginal and restorable areas can be less valuable, but may have significant value if they are large in area, or in a landscape that connects two or more prairies. Small areas less than one acre with characteristics meeting the definition of prairie habitat which are functionally connected to another larger prairie habitat within	Mazama pocket gopher, Taylor's checkerspot bufferfly, Mardon skipper, streaked horned lark

	approximately one half mile are also important prairie habitat areas. Mima mounds shall be preserved to the greatest practicable extent as determined by the review authority. See the definitions for prairie habitat, dry prairie, and wet prairie.	
Oregon White Oak Habitat	Important Oak Habitat means stands of Oregon white oak (Quercus garryana) or oak/conifer associations where canopy coverage of the oak component of the stand is twenty-five percent or more; or where total canopy coverage of the stand is less than twenty-five percent, but oak accounts for at least fifty percent of the canopy coverage. The latter is often referred to as oak savanna. Important oak habitat consists of stands greater than or equal to one acre (0.4 hectares) in size. Single oaks or stands less than one acre (0.4 hectares) shall also be considered an important habitat when found to be particularly valuable to fish and wildlife (i.e. they contain many cavities, have a large diameter at breast height, are used by priority species, or have a large canopy), or are located in degraded habitat areas. Individual oak trees and stands of pure oak or oak conifer associations less than one acre in size that are located in close proximity to an oak habitat larger than one acre may also be considered an important habitat.	Western gray squirrel
Springs and seeps (includes mineral springs)	Forested springs/seeps are protected in the Forests and Fish Report to protect stream associated amphibians (SAA), protect water quality, etc. fifty-foot no cut buffer required. Mineral springs are important to Band-tailed pigeons, especially during breeding season.	Band Tailed Pigeon

Table 24.25-5. Wildlife Species of Local Importance

Common Name	Scientific Name	Basis for Listing as Locally Important
Birds:		*The following bird species depend on prairie habitat and are declining in population due to loss of habitat. They serve as indicator species for relatively large and/or healthy prairie and may assist in protection of prairie habitat.*
Western Meadowlark	Sturnell neglecta	Prairie species. Needs large open areas. Found on Joint Base Lewis McChord (JBLM), Mima Mounds, and Olympia Airport year round.

Lazuli Bunting	Passerina amoena	Prairie species. Declining populations. Found near Scatter Creek and Joint Base Lewis McChord (JBLM).
Common nighthawk	Chordeiles minor	Prairie species. Population declining significantly.
American Kestrel	Falco sparverius	Prairie species. Population is declining. Nests in cavities. Can use nest boxes.
Northern Harrier	Circus cyaneus	Prairie and herbaceous wetlands. Ground nester. Uncommon breeding in Washington.
American Bittern	Botaurus lengitinosus	State of Washington Birds classifies A. Bittern as a Species of Immediate Concern for wetlands.
Olive-sided Flycatcher	Contopus cooperi	State of Washington Birds classifies Olive-sided Flycatcher as a Species of Immediate Concern for forests.
Short-eared owl	Asio flammeus	State of Wa Birds classifies Short-eared owl as a Species of High Concern for grasslands.
Amphibians and Reptiles:		*The following amphibian species ranges have been significantly reduced due to habitat alteration and development. Sensitive to site and landscape alterations, specifically that limit breeding and foraging site connectivity, and dispersal/seasonal corridors.*
Olympic Torrent Salamander	Rhyacotriton olympicus	Three of the four species of Rhyacotritoninae occur in Thurston County - Olympic Torrent, Columbia Torrent, and Cascade Torrent. Cascade and Columbia Torrent salamanders are both listed as State Candidate Species by WDFW. Erik Neatherlin of WDFW and Bill Leonard, Biologist with WDOT, both recommend listing the Olympic Torrent Salamander as a Locally Important Species due to their association with old-growth forests and sensitivity to increased temperatures and sedimentation in streams and headwaters.
Tailed Frog	Ascaphus truie	Sensitive to timber harvest. Survival may depend on protection of cool flowing streams required for breeding and larval development. Likely to be affected by increased water temperatures occurring after timber harvest. Headwater stream protection through buffers is important mitigation measure.
Cope's Giant Salamander	Dicamptodon copei	Cope's giant salamander (Dicamptodon copei) are sensitive to habitat change and fragmentation from development. Both species would be expected to occur in the extreme SE

		portion of the county, similar to the two PHS species, Cascades torrent salamander and Van Dyke's salamander. The SE portion of the county in the headwaters of the Deschutes systems and the Nisqually system in the vicinity of Alder lake should be considered a "hot" region for all four (2 PHS, 2 local species mentioned) as this area is the only place they are likely to occur in the county. (Source: E. Neatherlin, WDFW)
Pacific Giant Salamander	Dicamptodon tenebrosus	May be associated with old-growth forests. Found in moist coniferous forests. During breeding season found in or near streams. Closely associated with high gradient streams with coarse substrate.

Table 24.25-6. Prairie Soils

Series Name	SCS Map Symbol #
Baldhill	5, 6, 7, 8
Cagey	20
Everett	32, 33
Grove	42
Indianola	46, 47
Nisqually	73, 74
Spana	109
Spanaway	110, 111, 112, 113, 114
Tenino	117

Table 24.25-7. Diagnostic Wet Prairie Plants

Scientific Name	Common Name
Camassia leichtlinii	giant camas
Camassia quamash	common camas
Carex densa	dense sedge*

Carex feta	green-sheath sedge
Carex tumulicola	foot-hill sedge
Carex unilateralis	one-sided sedge
Deschampsia cespitosa	tufted hairgrass
Deschampsia danthonioides	annual hairgrass
Downingia yina	Cascade downingia
Eryngium petiolatum	Oregon coyote thistle*
Lomatium bradshawii	Bradshaw's lomatium* Federally Endangered Species
Lotus pinnatus	bog bird's-foot-trefoil*
Lupinus polyphyllus	large-leaf lupine
Perideridia gairdneri	Gairdner's yampah
Plagiobothrys figuratus	fragrant popcorn flower
Polemonium carneum	great polemonium*
Polygonum bistortoides	American bistort*
Potentilla gracilis	graceful (fanleaf) cinquefoil
Ranunculus alismifolius	plantain-leaf buttercup
Ranunculus orthorhynchus	bird's-food buttercup
Saxifraga integrifolia	northwestern saxifrage
Saxifraga oregana	bog saxifrage
Sidalcea malviflora var. virgata	rose checkermallow*
Sisyrinchium idahoense	Idaho blue-eyed-grass
Veratrum californicum	California false hellebore
Veratrum viride	American false hellebore*
* Rare Wet Prairie Species	

Table 24.25-8. Diagnostic Dry Prairie Plants (Common and Rare)

Scientific Name	Common Name
Apocynum androsaemifolium	spreading dogbane
Balsamorhiza deltoidea	deltoid balsamroot
Brodiaea coronaria ssp. coronaria	harvest firecracker-flower
Camassia quamash	common camas
Carex inops ssp. inops	long-stolon sedge
Castilleja levisecta	golden Indian paintbrush * Federal Threatened Species
Castilleja hispida	harsh Indian paintbrush
Danthonia californica	California oatgrass
Delphinium menziesii	Puget Sound larkspur
Delphinium nuttallii	upland larkspur
Dodecatheon hendersonii	Henderson's shootingstar
Erigeron speciosus	showy fleabane (aspen fleabane)
Eriophyllum lanatum var. lanatum	common woolly sunflower
Festuca idahoensis v. roemeri	Roemer's fescue
Fragaria virginiana	Virginia strawberry
Fritillaria affinis	chocolate lily
Hieracium scouleri	hound's-tongue hawkweed
Koeleria macrantha (cristata)	prairie Junegrass
Linanthus bicolor	bicolored desert-gold
Lomatium triternatum	ternate desert-parsley
Lomatium utriculatum	foothills desert-parsley
Lomatium nudicaule	barestem biscuitroot
Lupinus albicaulis	sickle-keel lupine
Lupinus lepidus var. lepidus	prairie lupine

Microseris laciniata	cut-leaf silverpuffs
Plectritis congesta	shortspur seablush
Potentilla gracillis	fanleaf cinquefoil
Ranunculus occidentalis var. occidentalis	western buttercup
Saxifraga integrifolia	northwestern saxifrage
Sericocarpus rigidus	aster Curtus (white topped aster)
Silene scouleri	Scouler's catchfly
Sisyrinchium idahoense	Idaho blue-eyed-grass
Solidago missouriensis	Missouri goldenrod
Solidago simplex var. simplex (S. Spathulata)	sticky goldenrod
Solidago spathulata	spikelike goldenrod
Trifolium willdenowii (T. tridentatum)	springbank clover
Triteleia grandiflora	Howell's triteleia
Triteleia hyacinthina	white triteleia
Viola adunca	early blue violet (sand violet)
Viola praemorsa var. nuttallii	upland yellow violet
Zigadenus venenosus var. venenosus	meadow death-camas

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.9 Wetlands (Chapter 24.30 TCC)

24.30.005 General purposes.

The purposes of this chapter are to:

A. Achieve no net loss of wetlands and minimize adverse impacts.

B. Maintain wetland and buffer functions, such as, but not limited to, cleansing surface water, storing and conveying floodwater and providing fish and wildlife habitat, by avoiding or, where that is not possible, minimizing and mitigating impacts to wetlands and their buffers.

C. Establish wetland buffers based on the wetland's functions and values, sensitivity to impacts, rarity, whether or not it is replaceable, and site conditions.

D. Provide for uses and activities in wetlands and associated buffers that have negligible impacts on such areas and provide for other uses that must be located in wetlands or buffers in a way that will avoid or minimize potential impacts.

E. Provide for mitigation of impacts to wetlands and their buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.010 Applicability.

This chapter applies to all property within unincorporated Thurston County containing wetlands as defined in Chapter 24.03 TCC, and/or associated buffers required by this chapter. The Thurston County Wetlands Inventory on file at the resource stewardship department identifies the approximate location of many wetlands. However, it is the actual presence of a wetland and/or buffer on a parcel that triggers the requirements of this section, regardless of whether or not the wetland has been mapped.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.015 Exempted wetlands.

[Not incorporated]

24.30.020 Determination of boundaries.

If a wetland report is required, the determination of the wetland edge or boundary shall be carried out by a qualified wetland scientist, as described in TCC 24.35.370 in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.025 Rating wetlands.

The Washington State Department of Ecology's most recently approved version of the Wetland Rating System for Western Washington shall be used to determine the wetland's category and its score for habitat, water quality, and hydrologic functions. Wetland categories and function scores shall be determined, as the wetland exists at the time of the rating, with the exception of illegal modifications.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Note(s)—The Washington State Department of Ecology Wetland Rating System was amended in 2014. Code changes are under review. In the interim, please contact Thurston County Resource Stewardship for information about applying the new rating system to determine a wetland category and function scores.

24.30.030 Wetland categories.

A. Category I. Category I wetlands include wetlands that are rare, particularly sensitive to disturbance, relatively undisturbed (as described in Ecology's Washington State Wetland Rating

System for Western Washington) with ecological attributes that are impossible to replace within a human lifetime, or provide a high level of functions. They include:

1. Estuarine wetlands larger than one acre that are relatively undisturbed, as described in Ecology's Washington State Wetland Rating System for Western Washington (e.g., no diking, ditching, filling, cultivation, grazing, and less than ten percent vegetative cover by non-native plant species);

2. Wetland of High Conservation Value designated by the Washington Department of Natural Resources (DNR) Natural Heritage Program due to their high quality and relatively undisturbed condition (as described in Ecology's Washington State Wetland Rating System for Western Washington), or because they support plants listed by the DNR Natural Heritage Program as threatened or endangered;

3. All bogs;

4. Mature and old growth forested wetlands larger than one acre;

5. Wetlands in coastal lagoons; and

6. Wetlands with a total score for functions of twenty-three or more points under Ecology's Wetland Rating System for Western Washington.

B. Category II. Category II wetlands provide high levels of some functions and are difficult, though not impossible, to replace. They include:

1. Estuarine wetlands smaller than one acre and estuarine wetlands larger than one acre that are altered to a greater extent than specified in Section 24.30.030A.1;

2. Wetlands identified by the DNR Natural Heritage Program as containing "sensitive" plant species; and

3. Wetlands with functions scoring between twenty and twenty-two points under Ecology's Wetland Rating System for Western Washington.

C. Category III. Category III wetlands have functions scoring between sixteen and nineteen points under Ecology's Wetland Rating System for Western Washington. Typically, they have been disturbed and contain less diverse wildlife habitat or are more isolated from other habitat than Category II wetlands.

D. Category IV. Category IV wetlands have levels of functions scoring between nine and fifteen points under Ecology's Wetland Rating System for Western Washington. Typically, they are extensively altered.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.035 Wetland buffers.

To retain the natural functions of wetlands and the adjacent associated riparian functions, buffers shall be established consistent with this section. TCC 24.30.045 identifies the standard wetland buffer widths. These standard buffer widths may be reduced pursuant to TCC 24.30.050, increased pursuant to Section

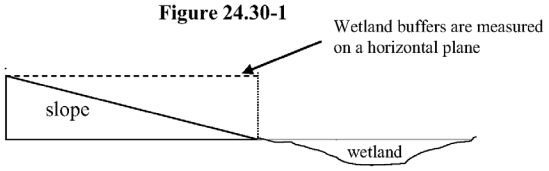
24.30.055 TCC, or reconfigured pursuant to TCC 24.30.060. Buffers shall be maintained in their existing condition, except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.040 Wetland buffers—General standards.

A. Measurement. Buffer widths shall be measured on a horizontal plane outward from the outer edge of the wetland, established consistent with TCC 24.30.020, along a perpendicular line.

Figure 24.30-1



B. Buffers on Created Wetlands. All wetlands created, as mitigation for wetland impacts, shall have buffers consistent with Table 24.30-1, as modified by TCC 24.30.055, based on the expected wetland category and function scores upon completion of the mitigation. The approval authority in consultation with a qualified wetland scientist shall make this determination.

C. Buffers on Enhancement Sites. The approval authority may establish buffers for wetlands that were voluntarily enhanced or restored based on the wetland's pre-enhancement condition. Buffers shall remain in effect as long as the owner of the property at the time the county authorized the enhancement retains ownership. The approval authority may require that the wetland be rated prior to the enhancement or restoration. The resource stewardship department shall record the approved buffer width and any associated rating with the auditor on the property title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.045 Wetland buffers—Standard width.

Table 24.30-1 identifies the standard buffer widths. Buffer widths are specified for both water quality and habitat protection. The widest of the applicable buffers under habitat and water quality applies.

Table 24.30-1. Standard Wetland Buffer Widths

The Larger of the Buffers for Habitat and Water Quality Applies											
BUFFER TO PROTECT HABITAT											
Rating for habitat from the wetland rating form under the Washington State Wetland Rating System for Western Washington, 2014.	3 L,L,L	3* L,L,L	4 M,L,L	5 M,M,L	5 H,L,L	6 M,M,M	6 H,M,L	7 H,M,M	7 H,H,L	8 H,H,M	9 H,H,H
Buffer width for habitat for all wetlands except estuarine wetlands and coastal lagoons	100'	120'	140'	160'	180'	200'	220'	240'	260'	280'	300'
Buffer width with mitigation under 24.30.050 TCC	100'	100'	105'	120'	135'	150'	165'	180'	195'	210'	225'
Buffer width for estuarine wetlands and coastal lagoons	220'										

BUFFER TO MAINTAIN WATER QUALITY	
Wetlands of high conservation value, bogs, and wetlands containing sensitive plant species documented by the DNR Natural Heritage Program	250'
Wetlands that rate 3 for habitat, score 7 or less for water quality, are less than 10,000 square feet in size and are not a functional part of a mosaic wetland, do not support priority wildlife species, and do not drain to a stream or a Category I or II wetland	50'

* Wetlands with habitat rating of 3 and a high value water quality score of 8 or 9 using Ecology's 2014 Wetland Rating System for Western Washington.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.050 Wetland buffers—Reduced width.

The approval authority may reduce the buffer width specified in Table 24.30-1, except when prohibited by TCC 24.30.055, as provided for below. The applicant shall submit information demonstrating that the proposed project qualifies for a reduction under this section. The approval authority may require technical review by a qualified wetland scientist in consultation with Ecology, at the applicant's expense, to verify and evaluate the information submitted by the applicant. The buffer reduction shall not adversely affect the functions of the adjacent wetlands. For a reduced buffer width, the applicant shall demonstrate compliance with all of the criteria below:

A. Reduced Impacts. If a wetland or buffer mitigation plan is submitted that meets the criteria in Table 24.30-2, the approval authority may reduce the standard buffer width required by Habitat Scores, not including estuarine or coastal lagoons, by twenty-five percent, or to the extent that it equals the buffer width required in Table 24.30-1 to maintain water quality, whichever produces the wider buffer, if:

1. The approval authority determines that the proposed reduction in buffer width, coupled with the proposed mitigation plan, would result in better protection of the wetland or better wetland or buffer functions than the standard buffer without such enhancement. The approval authority shall make this determination based on the applicant's proposed mitigation plan and a comparative analysis of all wetland and buffer functions under existing and enhanced conditions (e.g., filtration of sediments, excess nutrients, and pollutants; flood storage; erosion control; moderation of stormwater impacts; and shading for water temperature moderation) prepared by the applicant's qualified wetland scientist.

   Factors to be considered include, but are not limited to, meeting the criteria of Table 24.30-2, the surface roughness of the buffer (e.g., the presence of fallen trees and other material that slow the flow of water and increase the buffer's ability to retain sediment and infiltrate stormwater); the composition and density of vegetation; the wetland's position in the landscape; slope; and soils. The approval authority may consult with Ecology or others with expertise as necessary to evaluate the applicant's proposal.

2. The degradation of the wetland and buffer was not caused while the property was in the applicant's ownership or within the previous seven years, whichever is greater. This does not apply to damage from lawful land uses prior to July 24, 2012; and

3. The applicant submits maintenance and monitoring plan and performance surety consistent with Chapter 24.70 TCC.

4. The buffer reduction is consistent with all other applicable requirements of this chapter.

Table 24.30-2. Required Measures to Mitigate Impacts to Wetlands

Measures are required, where applicable to a specific proposal.

Disturbance	Required Measures to Minimize Impacts
Lights	• Direct lights away from wetland and buffers.
Noise	• 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 feet heavily vegetated buffer strip immediately adjacent to the outer wetland buffer.
Toxic runoff	• Treat and contain any toxic runoff.
	• 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 standards.
Stormwater runoff	• To improve existing water quality runoff that may be impacting wetland functions. Retrofit existing stormwater detention and treatment for roads and existing adjacent development.
	• Prevent channelized flow from lawns that directly enters the buffer.
	• Use Low Intensity Development techniques (per PSAT publication on LID techniques).
Change in water regime	• In order to maintain wetland hydrology and discharge only clean stormwater toward the wetland. Stormwater should be treated; then infiltrated, detained, and/or dispersed outside the wetland buffer for any new runoff from impervious surfaces and new lawns. Permanent improvements to the site hydrology that would improve wetland functions and not create off-site flooding. This may include, but is not limited to, removal of a lawfully established agricultural ditch draining a wetland or delivering sediment, pollutants or excess nutrients to a wetland.
Pets and human disturbance	• Use privacy fencing at buffer edge 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	• During construction or for commercial or industrial activities, use best management practices to control dust.
Disruption of corridors or connections/habitat enhancement	• In order to improve habitat quality and connectivity, a vegetation enhancement plan that improves areas with minimal trees and vegetation and proposes removal of invasive vegetation and replacing it with ground cover and shrubs that will provide dense vegetative cover at maturity. Planting noninvasive plants that provide improved filtration of sediment, excess nutrients, and pollutants that may be present.
	• Maintain habitat connections to off-site areas that are undisturbed.
	• Restore corridors or connections to off-site habitats by replanting.

B. Isolated Buffers.

1. If topographic breaks (e.g., bluffs) or a legally established road (not including logging roads), railroad or other lineal facility or barrier physically separates and functionally isolates a portion of the wetland buffer, the approval authority may allow the buffer width to be reduced to the minimum extent needed to exclude the isolated area if:

a. The facility or barrier was established prior to July 24, 2012; and

b. The area to be segregated from the buffer does not perform any biological or hydrological functions related to the wetland or the unsegregated portions of buffer.

2. The applicant shall provide the approval authority with sufficient information to enable him/her to determine whether or not the subject area qualifies under TCC 24.30.050(B)(1) above. The approval authority may require technical review by a qualified professional, at the applicant's expense, to verify and evaluate the information submitted by the applicant.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.055 Wetland buffers—Increased width.

The approval authority shall require an increase in the buffer width specified in Table 24.30-1 when a wider buffer is necessary to protect wetland and buffer functions, specified in subsections (A) and (B) below. Buffer widths expanded pursuant to this section shall not be decreased through other provisions of this chapter.

A. Steep Slopes. If the wetland buffer contains a slope greater than thirty percent that is at least fifteen feet high, the buffer shall be sized per Table 24.30-1 or the approval authority, in consultation with a qualified professional, may increase the buffer width up to twenty-five percent to protect water quality and prevent impacts from erosion. Slopes defined as geologic hazard areas shall meet the standards of Chapter 24.15 TCC.

B. Inadequate Vegetative Cover to Maintain Water Quality. If the standard buffer specified in Table 24.30-1 has inadequate vegetative cover to protect the wetland from sedimentation, excess nutrients, pollutants or damaging changes in pH, the approval authority, in consultation with a qualified professional, may increase the buffer width twenty-five percent to protect water quality. (For purposes of this section, inadequate buffers lack dense, continuous vegetation spanning a distance specified Table 24.30-1 for maintenance of water quality, or as modified by subsection (A) above.)

In lieu of increasing the buffer width, the approval authority may allow implementation of a buffer planting plan as described in a revegetation/enhancement plan. This buffer planting plan shall provide for planting of all bare and sparsely vegetated areas within the portion of the buffer needed to maintain water quality (per Table 24.30-1 or as modified by subsection (A) above) with grasses and native shrubs, at densities that will effectively filter/absorb sediment, nutrients and pollutants, as determined by the approval authority. The applicant shall submit a surety consistent with Chapter 24.70 TCC and provide for monitoring and maintenance to ensure survival or replacement of the planted vegetation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.060 Wetland buffers—Reconfiguration.

The approval authority may authorize or require reconfiguration of wetland buffers as follows:

A. Preservation of High Quality Habitat.

1. If the wetland or buffer contains variations in sensitivity or habitat quality the approval authority, in consultation with WDFW or Ecology, may require reconfiguration of the buffer to preserve the higher quality/sensitive habitat.

2. If necessary to maintain connectivity to areas that provide important associated wildlife habitat, or if the area abutting the standard buffer contains habitat sustaining species listed under the federal Endangered Species Act (64 FR 14307), state priority wildlife species, or species of local importance (see TCC 24.25.065(C), the approval authority may, in consultation with WDFW, require reconfiguration of buffers to provide connection to the adjacent habitat.

3. Reconfigured buffers authorized by this section shall be no less than the width specified in Table 24.30-1 to maintain water quality, or no less than seventy-five percent of the standard buffer, whichever is greater, and shall contain the same square footage as the standard buffer. The reconfigured buffer shall not exceed one hundred percent of the square footage of the standard buffer, as modified pursuant to TCC 24.30.050(B) or 24.30.055, without the landowner's consent.

B. Development Consistent with Preservation of Wetland and Buffer Functions. The approval authority may reconfigure the buffer width, except for buffers associated with bogs and wetlands of high conservation value, to accommodate proposed development. If necessary, the approval authority may have a qualified professional review and evaluate the submitted information at the applicant's expense. The applicant shall demonstrate compliance with all of the criteria below.

1. The proposed use cannot be accommodated on the site without reconfiguration of the buffer (see Section 24.30.050).

2. The scale, design, or orientation of the proposed land use has been adjusted to the extent practical to minimize buffer alteration.

3. Demonstration that the wetland and/or buffer contains variations in sensitivity due to existing physical characteristics (e.g., variations in topography, soils, vegetation, or wildlife usage), and that the wetland functions would benefit from a wider buffer in places, and would not be adversely impacted by a narrower buffer in other places.

4. If the wetland has a wildlife habitat score of five or more points under Ecology's Washington State Wetland Rating System for Western Washington, the applicant shall submit a habitat assessment demonstrating that wildlife habitat will not be significantly diminished and that documented habitat-sustaining priority or locally important wildlife species (see Section 24.25.065) will not be affected.

5. The reduction in buffer width will occur where it will have the least potential impact on the wetland and buffer functions. Area will be added to portions of the buffer where it would most benefit wetland and buffer functions. The reconfigured buffer shall maintain all wetland functions.

6. Any landscaped area shall extend no more than fifteen feet from the edge of the structure's footprint (outside wall at the foundation) toward the wetland if the buffer width reduction allows the landscaped area to intrude into the area that was formerly buffer.

7. The reconfigured buffer shall be no less than one hundred feet wide at any point, or no less than seventy-five percent of the standard buffer, whichever is more. The reconfigured buffer shall contain the same square footage as the standard buffer. It shall not exceed one hundred percent of square footage of the standard buffer, as modified pursuant to TCC 24.30.050(B) or 24.30.055, without the landowner's consent.

8. The reconfiguration is accomplished within the project site boundaries or in an abutting conservation easement or tract approved by the county that protects the buffer from alteration, except as provided for in this section.

C. Other buffer reconfigurations that do not meet the above criteria require a reasonable use exception (Chapter 24.45 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.065 Wetland buffers—Tree protection.

Trees within wetland buffers with driplines that extend beyond the upland edge (furthest from the wetland) of buffers with a wildlife habitat rating of five points or more under the Wetland Rating System for Western Washington shall be protected as follows:

A. A tree protection area extending a minimum of five feet beyond the dripline of trees twelve inches or greater in diameter (at four and one-half feet above the ground) and stands of trees shall be established and protected from disturbance during site development.

B. Tree protection areas shall be identified on all applicable site development and construction drawings submitted to the county.

C. Temporary fencing at least thirty inches tall shall be erected along the perimeter of the tree protection areas prior to the initiation of any clearing or grading. The fencing shall be posted with signage clearly identifying the tree protection area as a no entry area. If the tree protection area spans more than 0.25 miles, the perimeter of the protection area may be staked and flagged rather than fenced. The fencing or stakes shall remain in place throughout site development.

D. Clearing, grading, filling or other development activities are prohibited within the tree protection area.

E. Vehicle travel, parking and storage of construction materials and fuel are prohibited in tree protection areas.

F. The county may authorize use of alternate tree protection techniques that provide an equal or greater level of protection.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.070 Wetland mitigation.

All unavoidable adverse impacts to wetlands and associated buffers shall be mitigated consistent with the provisions of this section. A qualified wetland scientist shall identify the wetland functions using the best professional judgment and the best available technology, consistent with guidance from the department of ecology, including but not limited to the following documents: Wetland Rating System for Western Washington; Wetland Mitigation in Washington State, Parts 1 and 2; and Selecting Wetland Mitigation Sites Using a Watershed Approach.

A. Equivalent or Improved Wetland Functions. Mitigation shall achieve equivalent or improved wetland and buffer functions. The applicant's qualified wetland scientist shall demonstrate that the proposed mitigation will provide functions that are at least equal to the lost or diminished wetland and buffer functions or explain the reasons why that level of mitigation cannot be attained (e.g., it may not be possible to mitigate unavoidable impacts to a bog).

B. Location of Mitigation. Mitigation shall be on-site unless the approval authority, in consultation with Ecology, determines that paragraphs (1)—(5) below apply. In that case, mitigation may be allowed off-site within the subwatershed of the impacted site. When considering off-site mitigation, preference should be given to using alternative mitigation, such as a mitigation bank, an in-lieu fee program, or advanced mitigation.

1. There are no mitigation opportunities available on-site due to physical constraints such as hydrology, soils, the size of the property, the location of existing development, the presence of noxious weeds or invasive plants; potential adverse impacts from surrounding land uses; or other factors; or

2. On-site mitigation would require elimination of high quality upland habitat; or

3. Off-site mitigation has a greater likelihood of providing equal or improved wetland and buffer functions than mitigation of the impacted wetland and buffer; or

4. The hydrology and ecosystem of the impacted site will not be substantially damaged by the proposed wetland and/or buffer impacts; or

5. County-adopted goals or policies for flood storage, flood conveyance, habitat or other wetland functions justify location of the mitigation measures at another site.

C. Mitigation In-kind. Mitigation for impacts to estuarine wetlands, coastal lagoons and associated buffers shall be as determined to be appropriate by the approval authority in consultation with the WDFW and Ecology. Mitigation for all other lost or diminished wetland and buffer functions shall be in-kind, unless the applicant demonstrates that:

1. Higher levels of wetland and buffer functions would result from an alternate approach; or

2. The impacted wetland and buffer provide minimal functions (e.g., they score less than five points for habitat and less than five points for water quality under Ecology's Wetland Rating System for Western Washington) and the proposed mitigation action(s) will result in a wetland with greater functions or provide functions shown to be limiting within a watershed; or

3. Physical constraints make in-kind mitigation impossible; or

4. Out-of-kind replacement will best meet the county's adopted goals or policies for the watershed; or

5. The impacted wetland cannot be mitigated in-kind, based on best available science.

D. Wetland Mitigation Timing. Where feasible, mitigation projects shall be completed prior to the related wetland alteration or immediately following temporary disturbance of a wetland or buffer. The approval authority may allow the required mitigation to begin up to one year following occupancy of the associated project or commencement of the permitted activity if the applicant's qualified wetland scientist demonstrates to the approval authority's satisfaction that the delay is warranted and will not create environmental degradation or be injurious to the public health, safety, or welfare. Reasons for the requested delay could include, but are not limited to, environmental conditions that could cause project failure, "work windows" specified by the WDFW to avoid fish or wildlife impacts, or seasonal planting or grading constraints. The applicant shall submit a surety consistent with Chapter 24.70 TCC to ensure the completion and success of the required mitigation.

E. Protection of the Mitigation Site. The area where the mitigation occurred and any associated buffer shall be located in a critical area tract or a conservation easement consistent with Chapter 24.65 TCC.

F. Mitigation for Illegal Alterations. See Title 26, Code Enforcement.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15274, § 2(Att. B)JJJ, 2-23-2016; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.075 Wetland mitigation—Types.

Mitigation for lost or diminished wetland and buffer functions shall rely on a type listed below in order of preference. A lower preference form of mitigation shall only be used if the applicant's qualified wetland scientist demonstrates to the approval authority's satisfaction that all higher ranked types of mitigation are not viable, consistent with the criteria in this section.

A. Restoration. Rectifying the impact by restoring the affected wetland and associated buffer. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland or its buffer. For the purpose of tracking net gains in wetland acres, restoration is divided into:

1. Re-establishment. Re-establishing a wetland and buffer on a site formerly occupied by a wetland. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland or buffer. Re-establishment results in a gain in wetland acres (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.

2. Rehabilitation. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.

B. Establishment (Creation). The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.

1. If a site is not available for wetland restoration to compensate for expected wetland and/or buffer impacts, the approval authority may authorize creation of a wetland and buffer upon demonstration by the applicant's qualified wetland scientist that:

a. The hydrology and soil conditions at the proposed mitigation site are conducive for sustaining the proposed wetland and that creation of a wetland at the site will not likely cause hydrologic problems elsewhere;

b. The proposed mitigation site does not contain invasive plants or noxious weeds or that such vegetation will be completely eradicated at the site;

c. Adjacent land uses and site conditions do not jeopardize the viability of the proposed wetland and buffer (e.g., due to the presence of invasive plants or noxious weeds, stormwater runoff, noise, light, or other impacts); and

d. The proposed wetland and buffer will eventually be self-sustaining with little or no long-term maintenance.

C. Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these activities. Habitat enhancement is not eligible as a sole method of mitigation. Applicants proposing to enhance wetlands or associated buffers shall demonstrate how the proposed enhancement will increase the wetland's/buffer's

water quality functions, how this increase in function will adequately compensate for the impacts, and how all other existing wetland functions at the mitigation site will be protected.

D. Protection/Maintenance (Preservation) Removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences. This term also includes activities commonly associated with the term "preservation." Preservation does not result in a gain of wetland acres. Permanent protection of a Category I or II wetland and associated buffers at risk of degradation, will be used if:

1. The approval authority determines that the proposed preservation is the best mitigation option;

2. The proposed preservation site is under threat of undesirable ecological change due to permitted, planned, or likely actions that will not be adequately mitigated under existing regulations;

3. The area proposed for preservation is of high quality. The following features may be indicative of high quality sites:

a. Category I or II wetland rating using the wetland rating system for western Washington;

b. Rare wetland type (for example, bogs, mature forested wetlands, estuarine wetlands);

c. The presence of habitat for priority or locally important wildlife species (see Chapter 24.25.065 TCC); or

d. Priority sites in an adopted watershed plan.

4. Permanent preservation of the wetland and buffer will be provided through a conservation easement or tract held by a land trust, consistent with Chapter 24.65 TCC and TCC 24.30.340—24.30.410.

5. Ratios for preservation in combination with other forms of mitigation generally range from 10:1 to 20:1, as determined on a case-by-case basis, depending on the quality of the wetlands being impacted and the quality of the wetlands being preserved. Ratios for preservation as the sole means of mitigation generally start at 20:1.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.078 Wetland mitigation—Approaches.

Compensatory mitigation for lost or diminished wetland and buffer functions shall rely on an approach listed below in order of preference. A lower preference approach to mitigation shall only be used if the applicant's qualified wetland scientist demonstrates to the approval authority's satisfaction that all higher ranked approaches to mitigation are not viable, consistent with the criteria in this section.

A. Permittee-Responsible Mitigation. In this situation, the permittee performs the mitigation after the permit is issued and is ultimately responsible for implementation and success of the mitigation. Permittee-responsible mitigation may occur at the site of the permitted impacts or at an off-site location within the same watershed.

B. Cooperative Mitigation Projects. The approval authority may encourage, facilitate and approve cooperative projects wherein a single applicant or other organization with demonstrated capability may undertake a mitigation project with funding from other applicants if:

1. Construction of one or several larger wetlands is preferable to several small wetlands; and

2. Persons proposing cooperative compensation projects submit a joint permit application; demonstrate the organizational and fiscal capability to act cooperatively; and demonstrate that land acquisition, construction, long-term monitoring and management can and will be provided consistent with the provisions of this section.

C. Wetland Mitigation Banks for Unavoidable Impacts to Wetlands. An applicant may use credits from a wetland mitigation bank certified under Chapter 173-700 WAC if:

1. The approval authority determines that it would provide appropriate compensation for the proposed impacts; and

2. The mitigation will occur within the service area where the wetland or buffer impact would occur; and

3. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument; and

4. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument; and

5. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument.

D. In-Lieu Fee Mitigation. Is an alternative mitigation program for unavoidable impacts to wetlands. An approved in-lieu-fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu fee program may be used when paragraphs (1)—(6) below apply:

1. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.

2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved in-lieu-fee program instrument.

3. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.

4. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within three years of the credit sale.

5. Projects using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the in-lieu-fee program.

6. Credits from an approved in-lieu-fee program may be used to compensate for impacts located within the service area specified in the approved in-lieu-fee instrument.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.080 Wetland mitigation—Ratios.

A. Mitigation Ratios. The ratio of impacted wetland acreage to mitigation acreage shall be determined using the ratios specified in Table 24.30-3. Buffer mitigation shall occur at a 1:1 ratio of buffer impact to mitigation impact. The approval authority, in consultation with Ecology, shall establish the ratio of impacted wetland acreage to mitigation acreage on a case by case basis, based on the factors listed in subsection (B) below. The ratio of impacted wetland and buffer acreage to mitigation acreage shall not be less than 1:1, provided that buffers for created wetlands are sized consistent with TCC 24.30.035—24.30.065.

B. The approval authority shall consider, at a minimum, the following when establishing the mitigation ratio:

1. The category and quality of the impacted wetland(s) and buffer(s) and, if the mitigation is proposed to occur at existing wetlands off-site, the quality of any wetlands at the mitigation site;

2. The direct and indirect impacts to the affected wetlands and buffers.

3. The degree to which the proposed alteration would destroy or reduce wetland and/or buffer functions at the impacted site, including consideration of impacts to hydric soil and disruption of groundwater or surface water flows. Hydric soils are shown in Table 24.30-5 at the end of this chapter.

4. The probable success of the proposed mitigation in fully replacing all lost and diminished wetland and buffer functions based on:

a. The project team's demonstrated success in designing, constructing, and monitoring the proposed type of mitigation in wetlands of the same hydrogeomorphic classification (e.g., slope, riverine, or depressional);

b. Documentation indicating that the hydrologic and soil conditions at the mitigation site are supportive of the proposed mitigation and that the site is free of invasive plants and noxious weeds or will be made free of such plants;

c. If the mitigation was conducted in advance of the impact, whether it is successful in achieving the performance standards specified in the mitigation plan;

d. The long-term functions and values of the proposed mitigation;

e. The timing of the proposed mitigation relative to the proposed wetland and buffer impacts and the time frame within which the wetland and buffer functions will be fully replaced;

f. The quality and completeness of the applicant's proposed mitigation plan (see TCC 24.35.380); and

g. Other relevant factors.

C. Category III and IV Wetlands. The maximum mitigation ratio for impacts to Category III and IV wetlands shall be 1:1 under the following circumstances:

1. The wetland is not located in a riparian habitat area (see TCC 24.25.015—24.25.040);

2. The wetland is not a functional part of a mosaic wetland (as described in the Wetland Rating System for Western Washington);

3. The wetland has a score for habitat of four or fewer points under the Wetland Rating System for Western Washington;

4. The applicant's qualified professional has evaluated the wetland and determined that it does not provide essential habitat for priority wildlife species (see TCC 24.25.065);

5. A hydrologic analysis performed by a qualified professional demonstrates that the wetland does not provide important hydrological functions that cannot be replaced at another location (such as cleansing contaminated stormwater that would otherwise flow to a water body or preventing flooding of structures). The analysis shall be at the applicant's expense; and

6. The impacted wetland is under four thousand square feet in size.

D. Credit/Debit Method. To aid in the implementation of off-site mitigation, the county may develop a program which allows mitigation based on the "credit/debit" method developed by the department of ecology ("Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Final Report (March 2012), Publication #10-06-011, or as revised).

Table 24.30-3

Category and Type of Wetland	MAXIMUM MITIGATION RATIOS				
	Re-establishment or Creation	Rehabilitation	Re-establishment or Creation (R/C) and Rehabilitation (RH)	Re-establishment or Creation (R/C) and Enhancement of Water Quality or Storage Functions (E)	Enhancement of Water Quality or Storage Functions Only
	The acreage of compensating wetlands and buffers (calculated separately): The acreage of impacted wetlands and buffers (calculated separately) The ratio for buffer mitigation is 1:1.				
All Category IV	1.5:1	3:1	1:1 R/C and 1:1 RH	1:1 R/C and 2:1 E	6:1

All Category III	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
Category II - Estuarine	12:1 or case-by-case basis, whichever is greater	4:1 Rehabilitation of an estuarine wetland only	12:1 or case-by-case basis, whichever is greater	12:1 or case-by-case basis, whichever is greater	Not allowed
All other Category II	3:1	8:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
Category I - Mature/old growth forested wetlands	Not allowed	12:1	1:1 R/C and 10:1 RH	1:1 R/C and 20:1 E	Not allowed
Category I - Scoring 23 points or more for functions	4:1	8:1	1:1 R/C and 6:1 RH	1:1 R/C and 12:1 E	16:1
Category I - Wetlands of High Conservation Value	Not allowed	6:1 Rehabilitation of a Natural Heritage site only	Not allowed	Not allowed	Not allowed
Category I - Coastal Lagoon	Not allowed	6:1 Rehabilitation of a coastal lagoon only	Not allowed	Not allowed	Not allowed
Category I - Bog	Not allowed	6:1 Rehabilitation of a bog only	Not allowed	Not allowed	Not allowed
Category I - Estuarine	12:1 or case-by-case basis, whichever is greater	6:1 Rehabilitation of an estuarine wetland only	12:1 or case-by-case basis, whichever is greater	12:1 or case-by-case basis, whichever is greater	Not allowed

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.085 Wetlands—Standards and allowable uses and activities within wetlands and associated buffers.

The land uses and activities listed in Table 24.30-4 are allowable in wetlands and associated buffers as specified in that table, subject to the standards of this title, the applicable zoning district, and the shoreline master program, as amended. Water dependent uses allowed by the shoreline master program are permitted subject to the requirements of that program and this chapter. Uses and activities inconsistent with the shoreline master program and all land uses and activities not allowed or addressed by Table 24.30-4 are prohibited within wetlands and associated buffers. The general standards listed in TCC 24.30.090 apply to all uses in Table 24.30-4. Standards provided in TCC 24.30.100—24.30.420 apply to specific uses in wetlands and their buffers, and are in addition to other requirements of this title. Table 24.30-4 contains the primary section references for each activity covered by this chapter.

Table 24.30-4. Allowable Uses in Wetlands and Buffers and Related Restrictions

	Wetland Category			
	I	II	III	IV
Agricultural activity, new	X	P	P	P
Agricultural equipment and facility	X	P	P	P
Asphalt batch plants	X	X	P	P
Boat launching ramps, docks, piers and floats - New, maintenance and replacement TCC 24.30.110	X	P	P	P
Bridge or culvert maintenance or repair TCC 24.30.140	P	P	P	P
Bridge or culvert replacement TCC 24.30.130	P	P	P	P
Bridge or culvert - New construction TCC 24.30.280	X	X	P	P
Clearing, grading, excavation, dredging or removal of soil, organic matter, or material in conjunction with a permitted activity TCC 24.30.150	P	P	P	P
Critical facilities	X	X	X	X
Destruction or alteration of wetland vegetation through shading, intentional burning, or planting of vegetation that	X	X	X	X

would alter the character of the wetland that is not part of an activity approved under this chapter				
Draining or flooding a wetland or other activities that result in a significant change of water temperature, quality, physical or chemical characteristics (e.g., pH), quantity, timing, or duration of the water entering the wetland or altering the wetland's water level not addressed elsewhere in this table	X	X	X	X
Drilling and testing for a required report or study, scientific sampling, research, or other site investigation using hand powered tools TCC 24.30.160	A	A	A	A
Drilling and testing for required report or study, scientific sampling, research, or other site investigation using mechanized equipment TCC 24.30.160	P	P	P	P
Emergency temporary authorization	Refer to Chapter 24.90 TCC			
Enhancement/restoration TCC 24.30.170	P	P	P	P
Existing lots vested prior to July 24, 2012 - Development	Refer to Chapter 24.50 TCC			
Fencing	Refer to Chapter 24.60 TCC			
Filling, dumping, or discharging not associated with a permitted activity	X	X	X	X
Forestry, except forest practices regulated by Chapter 76.09 RCW	X	X	X	X
Gardens for personal consumption TCC 24.30.210	A	A	A	A
Golf courses, parks, playgrounds, athletic fields, and expansive landscaped areas	P	P	P	P

maintenance TCC 24.30.190				
Infiltration of reclaimed water (application to the land's surface above agronomic rates)* *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).	X	X	X	X
Intensive uses that involve use or storage of hazardous materials or would generate excessive nutrients, sediments, or pollutants on property containing wetlands and/or buffers TCC 24.30.200	P	P	A	A
Lawfully established existing uses not addressed in this table	A	A	A	A
Mineral extraction - New and expanded operations TCC 24.30.220	X	X	P	P
Mitigation required by the county TCC 24.30.070—24.30.080	P	P	P	P
Nonconforming uses/structures - Maintenance, repair, alteration, expansion, replacement	Refer to Chapter 24.50 TCC			
On-site sewage disposal system or drain field - Maintenance, repair, and replacement TCC 24.30.240	P	P	P	P
On-site sewage disposal system or drain field within 300 feet of Category I bogs or Wetlands of High Conservation Value - New	P	P	P	P

Open space (e.g., critical area tract)	A	A	A	A
Public facility	X	X	X	X
Public project of significant importance	X	X	X	X
Recreation activities - Passive and low impact (e.g., bird watching, nonmotorized boating, bicycling, canoeing, fishing, hiking, hunting, jogging, photography, and similar activities) TCC 24.30.250	A	A	A	A
Recreation facilities, trails, and trail-related facilities - New construction TCC 24.30.250, 24.30.260	P	P	P	P
Recreation - Swimming and fishing access TCC 24.30.250, 24.30.260	P	P	P	P
Recreation facilities - Active (e.g., athletic fields, playgrounds, golf courses, parks, day camps, and camping sites) TCC 24.30.260	X	X	X	X
Roads - Replacement and minor expansion TCC 24.30.270	P	P	P	P
Roads - Expansion TCC 24.30.280	P	P	P	P
Roads - New construction TCC 24.30.280	X	X	P	P
Signs	Refer to Chapter 24.60 TCC			
Slope stabilization or retaining wall TCC 24.30.290	P	P	P	P
Stormwater conveyance system or detention/treatment facility - Maintenance and repair TCC 24.30.315	P	P	P	P
Stormwater retention/treatment facilities, temporary sediment control ponds, and surface water conveyance	P	P	P	P

systems - Construction TCC 24.30.300, 24.30.310				
Stream relocation TCC 24.30.090	P	P	P	P
Subdivisions	Refer to Chapter 24.55 TCC			
Utility service lines - New installation TCC 24.30.320	P	P	P	P
Utility lines and facilities in existing rights-of-way - New installation TCC 24.30.320	P	P	P	P
Utility transmission lines, utility corridors, and other facilities outside of existing improved roads and utility corridors - New construction TCC 24.30.320	P	P	P	P
Vegetation removal - Enhancement projects TCC 24.30.380	X	P	P	P
Vegetation removal - Noxious weeds TCC 24.30.400	A	A	A	A
Vegetation removal - Invasive plants TCC 24.30.390	P	P	P	P
Vegetation removal - Hazard trees TCC 24.30.350	P	P	P	P
Vegetation removal - Aquatic weeds TCC 24.30.410	P	P	P	P
Water dependent uses not specifically addressed in this table TCC 24.30.420	X	P	P	P
Water elevation gages - Installation TCC 24.30.090	A	A	A	A
Wells TCC 24.30.330	X	P	P	P
Wildlife blind or nesting structure TCC 24.30.090	A	A	A	A

LEGEND:

A = Allowed without a Critical Area Review Permit, subject to requirements of this title

P = Permitted, subject to Critical Area Review Permit and requirements of this title

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14785, § 1, 8-28-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.090 Wetlands—General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.30-4.

A. Regulatory Differences. Differences in regulations because of the overlap of two or more critical areas or the Shoreline Master Program for the Thurston Region, as amended, are governed by Chapter 24.01 TCC. All uses and activities subject to this section shall meet the requirements that provide the most protection to the critical areas involved. Uses and activities are prohibited if they are inconsistent with the Shoreline Master Program for the Thurston Region, or as amended.

B. Avoidance of Impacts to Wetlands and Associated Buffers. All allowed uses and activities on sites containing wetlands or associated buffers shall be designed and constructed to avoid or, where that is not possible, minimize all adverse impacts to wetlands and associated buffers. Applicants must demonstrate an inability to avoid impacts as a prerequisite to the county authorizing impacts to wetlands or associated buffers. Impacts shall be minimized by sensitive site design, limiting the degree or magnitude of the use or activity, use of appropriate precautions and technology during construction and implementation of the permitted activity, or by taking other appropriate action.

C. Direct Impacts to Category III and IV Wetlands. Uses and activities may directly impact Category III and IV wetlands between one thousand and four thousand square feet in size and their associated buffers with mitigation, pursuant to this chapter under the following circumstances:

1. Compliance with all of the criteria below shall be demonstrated:

a. The wetland is not located in a riparian habitat area (see TCC 24.25.015-040);

b. The wetland is not a functional part of a mosaic wetland, as described in Ecology's Wetland Rating System for Western Washington;

c. The wetland has a score for habitat of four or fewer points under Ecology's Wetland Rating System for Western Washington;

d. The applicant's qualified professional has evaluated the wetland and determined that it does not provide habitat for priority wildlife species (see TCC 24.25.065); and

e. A hydrologic analysis performed by the applicant's qualified professional demonstrates that the wetland does not provide important hydrological functions that cannot be replaced at another location (e.g., cleansing contaminated stormwater runoff that would otherwise flow to a water body).

2. If there are alternative mitigations options available, such as mitigation banking or in-lieu fee (ILF) programs, then small impacts within the service area of the bank or ILF should be mitigated through the available mitigation options. If more than one option is available, then the most environmentally preferable option should be chosen for mitigation.

D. Timing. Uses and activities authorized in wetlands and buffers with a habitat score of eight or more points under Ecology's Wetland Rating System for Western Washington shall be undertaken, constructed or installed during the time frame specified by the review authority in consultation with the WDFW and/or Ecology to minimize habitat impacts.

E. Mitigation. All adverse impacts to wetlands and associated buffers caused by approved uses and activities shall be mitigated consistent with TCC 24.30.070—24.30.080. The county may require a fee to recover the cost of monitoring mitigation projects required pursuant to this chapter.

F. Surety. Applicants for proposals involving, as a condition of permit approval, mitigation of wetland and/or buffer impacts shall submit to the County a surety consistent with Chapter 24.70 TCC.

G. Access. Pedestrian access to wetlands and buffers is allowed, unless the approval authority determines that sensitive conditions or wildlife warrant access limitations. The approval authority may require that the perimeter of wetland buffer be fenced if warranted to protect wildlife, habitat or sensitive plant species documented by the DNR Natural Heritage Program, consistent with Chapter 24.60 TCC.

H. Temporary Field Marking. The perimeter of the wetland buffer and those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field and inspected by the approval authority prior to the commencement of permitted activities. The temporary markings shall be maintained throughout the duration of the development activity. Also see TCC 24.30.065 and 24.30.150.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.100 Reserved.

Editor's note(s)—Ord. No. 14785, § 1Editor's note(s)—, adopted Aug. 28, 2012, repealed § 24.30.100Editor's note(s)— which pertained to wetlands—agricultural activities and derived from Ord. No. 14773, § 3(Att. B), adopted July 24, 2012.

24.30.105 Biosolids application.

Biosolids application and uses shall be regulated by the Washington Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and be consistent with a memorandum of agreement (MOA), or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.110 Wetlands—Boat launching ramps, piers, docks and floats.

Boat launching ramps, piers, docks and floats are prohibited in estuarine wetlands and Category I wetlands. They may be permitted in lakes with Category II, III and IV wetlands consistent with the

Shoreline Master Program for the Thurston Region, as amended, consistent with TCC 24.25.110, and all of the following:

A. New Docks, Floats and Piers. Floating docks, floats and piers in lakes may be permitted in Category II, III or IV wetlands and buffers where the lake fringe wetland vegetation is less than sixteen feet wide. When possible, the dock/float/pier shall be located where there is a natural gap in the wetland vegetation that does not require access maintenance. No treated wood or other hazardous material shall be used in the construction of the dock, float or pier or placed in, over, or beside (within one hundred feet) of the water.

B. Boat Launches. Public boat launches may only be permitted in lake fringe wetlands and buffers if there is no existing public access to the lake, and if there is no alternative location outside of the wetland or buffer to accommodate the boat launch. When possible, the boat launch shall be located where there is a natural gap in wetland vegetation. Parking areas, restrooms and other facilities related to boat launches shall be located outside of the wetland and/or wetland buffer. The facility shall be designed to minimize direct, untreated stormwater runoff from the site into the wetland.

C. Maintenance. Maintenance of legally established piers, docks, floats and boat launches is allowed provided that neither the width nor the length of the dock, pier, float, or boat launch is increased and hazardous materials are not used, except as provided for through a county approved Integrated Pest Management Plan or upon demonstration that the material does not pose a risk to water quality.

D. Replacement. Legally established boat launching ramps, piers, floats, and docks may be replaced provided they are not increased in length or width and the construction materials comply with the requirements for new ramps, piers, floats, and docks, as applicable. See the Shoreline Master Program, as amended, for other regulations that apply in shoreline jurisdiction.

E. For the purposes of this section, floats shall include, but are not limited to: floating docks, mooring buoys, navigational aids and swimming floats.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.130 Wetlands—Bridge and culvert replacement.

Replacement of a bridge or culvert is allowed if necessary to conform to current standards or as part of a development approved consistent with this chapter, if:

A. The existing bridge or culvert was lawfully established;

B. There is not another alternative available that has less adverse impact on the wetland and buffer and any associated stream/riparian habitat area (see TCC 24.25.130);

C. The bridge or culvert is designed to avoid or, where that is not possible, minimize impacts to the wetland and any associated stream/riparian habitat area, and it is in compliance, to the greatest extent possible, with TCC 24.30.280 below (in the case of culverts in a Type F or S stream see TCC 24.25.130);

D. In the case of culverts in wetlands associated with a Type F or S stream, the culvert is made passable for fish in accordance with the WDFW Fish Passage Design at Road Culverts, 2003, as

amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended;

E. If the culvert involves a ditch, the ditch is not increased in width at the culvert site unless it is narrower at that point than the rest of the ditch and would otherwise impede the flow of water. In that case, it may be widened to the minimum extent the approval authority deems necessary; and

F. Flood hazards are avoided and the proposal is consistent with Chapter 24.20 TCC and other applicable regulations.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.140 Wetlands—Bridge and culvert maintenance or repair.

A. Maintenance and repair of bridges and culverts is permitted provided:

1. All maintenance and repair is consistent with the Regional Road Maintenance ESA Program Guidelines, 2002, as amended;

2. The county may allow use of other maintenance BMPs if they will protect water quality and avoid detrimental impacts on fish and priority wildlife species;

3. Maintenance of culverts in streams used by salmonids or that convey water to a stream used by salmonids shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet and stabilization of the disturbed bank and channel immediately adjacent to the culvert and shall not involve the excavation of a new sediment trap adjacent to the inlet;

4. Such maintenance shall not involve the use of herbicides, sealants, liquid oily substances or other hazardous materials;

5. The bridge or culvert is not located within Shoreline Master Program jurisdiction. Maintenance of a bridge or culvert within the Shoreline Master Program must be consistent with the SMP and may require a shoreline permit or review;

6. It meets the conditions of any required hydraulic project approval from WDFW, which shall be posted in a conspicuous location on site.

B. Clearing of culverts does not require a permit. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.150 Wetlands—Clearing and grading.

Clearing and grading within wetlands and buffers is only allowed to the minimum extent necessary to accommodate a use permitted pursuant to this chapter, as determined by the approval authority. Also see Chapter 14.37 TCC regarding grading requirements and Chapter 15.05 TCC regarding stormwater and erosion control.

A. Erosion Control. Erosion control shall be done consistent with Chapter 15.05 TCC. In no case shall sediment from clearing and grading or other development activities be allowed to reach wetlands or portions of the buffer not approved for development.

B. Fencing the Clearing Limits. The clearing limits within the wetland or buffer shall be marked with temporary fencing. Signage shall be placed on the fence indicating that the area beyond is a no entry area. If the perimeter of the area to be cleared spans more than 0.25 miles, the clearing limits may be staked and flagged rather than fenced. The fencing and stakes are subject to inspection by the approval authority prior to the commencement of permitted activities. The temporary fencing or stakes shall be maintained throughout construction and shall not be removed until permanent signs, if required pursuant to Chapter 24.60 TCC, are in place.

C. Timing. Clearing and grading in wetlands and buffers shall only occur between May 1 and October 1. The county may temporarily suspend grading during this period if excessive rainfall might cause erosion and sedimentation that could affect a wetland or dependent fish or wildlife. The county may allow clearing and grading outside of this period if all drainage will flow away from the wetland. The approval authority may waive this requirement if the wetland will be eliminated consistent with the provisions of this chapter. If the wetland and buffer has a habitat score above twenty points or, absent a rating, the approval authority determines that the site supports breeding, nesting, or rearing of wetland dependent species, the clearing and grading shall be scheduled in compliance with TCC 24.30.090(D).

D. Preservation of the Infiltration Capacity of the Site. The soil duff layer in the buffer shall remain undisturbed to the maximum extent practicable. The moisture-holding and infiltration capacity of the topsoil disturbed by permitted development shall be maintained in areas not approved for impervious surfaces by minimizing soil compaction or by stripping, stockpiling, and reapplying topsoil at predevelopment levels.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.160 Wetlands—Drilling.

A. Drilling with Human Powered, Non-mechanical, Hand-held Equipment. Gauge installation, non-mechanical site exploration and, excavation for data collection or research and accomplished by human powered hand-held equipment in accordance with state-approved sampling protocols is allowed. The associated spoils shall be contained and the disturbed area around the well shall be restored upon completion of the activity.

B. Mechanized Drilling and Boring. Mechanical auguring under the direction of a professional engineer licensed in the State of Washington, well drilling allowed pursuant to TCC 24.30.330, and boring consistent with TCC 24.30.320 are allowed provided that the approval authority determines, in consultation with a qualified biologist and engineer, the drilling or boring is appropriate, subject to the following:

1. The applicant shall identify and minimize potential impacts to all wetland functions. This shall include demonstration that the drilling or boring will not dewater the wetland;

2. The access for delivering equipment to the drilling or boring site shall be aligned and constructed in a way that minimizes potential impacts to the wetland and associated buffer;

3. The associated spoils shall be contained, the disturbed area around the well shall be restored upon completion of the activity; and

4. Related equipment and materials shall be stored outside of the wetland and buffers except as necessary for daily operations.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.170 Wetlands—Enhancement/restoration.

The approval authority may, in consultation with Ecology and WDFW and others with expertise as warranted, approve enhancement or restoration of wetlands and buffers. (See TCC 24.30.035-065).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.180 Wetlands—Existing lawfully established uses.

Existing, lawfully established uses not specifically addressed in this chapter may continue to the extent that they are consistent with other provisions of this title. However, existing uses in wetlands and/or buffers shall employ best management practices to minimize adverse impacts on the wetlands and buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.190 Wetlands—Golf courses, parks, playgrounds, athletic fields, and expansive landscaped areas—Maintenance.

Maintenance of approved golf courses, parks, playgrounds, athletic fields, and expansive landscaped areas within the buffers of Category I wetlands, Category II bogs, Category II wetlands containing sensitive plants identified by the DNR Natural Heritage Program, and areas within one hundred feet of associated Type S or F streams or within one hundred feet of other wetlands or streams shall conform to the following:

A. Application of Fertilizers and Other Chemicals. Fertilizer, herbicide and pesticide management practices for golf courses, parks, playgrounds, athletic fields and other landscaped areas of one acre or larger in size that encroach into the wetland buffer shall comply with the following:

1. Integrated pest management practices shall be used for pest control.

2. The applicant shall submit a maintenance plan for review and approval by the approval authority identifying the timing and amount of fertilizer, herbicide, or other chemicals proposed to be used on the site. The application rate for such substances shall not exceed the application guidelines on the product packaging. The approval authority may require a reduced application rate if necessary to prevent harmful effects on wetlands or dependent fish or wildlife. Applicable WSU Extension Office BMPs or other BMPs accepted by the approval authority shall be used for maintaining grassed areas and other landscaping. See critical aquifer recharge areas, TCC 24.10.140, regarding the storage of hazardous materials.

3. If necessary to maintain water quality in bogs, wetlands of high conservation value, or wetlands containing sensitive plants identified by the DNR Natural Heritage Program, the approval authority may require use of stormwater treatment methods that provide a high level of stormwater cleansing, consistent with the Drainage Design and Erosion Control Manual for

Thurston County, as amended (Chapter 15.05 TCC). The approval authority may require an evaluation of the water quality at the outflow of stormwater facilities draining to wetlands identified in this section and require remedial action as necessary to sustain the wetland/sensitive plant species.

4. The approval authority may require additional protective measures as necessary to maintain water quality.

B. No Expansion of Disturbed Area. Maintenance shall not involve expansion of the lawn, landscaping, ditch, or other disturbed area into the wetland or buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.200 Wetlands—Intensive uses.

New and existing intensive uses on sites containing Category I or II wetlands or associated buffers shall comply with the applicable requirements in this section. For the purposes of this section, intensive uses include those uses that store or use hazardous materials, pesticides, or herbicides in quantities regulated by TCC 24.10.140, or would generate excessive nutrients, sediments, or pollutants following initial construction that could reach the wetland and buffer or significantly alter the quantity, frequency or the timing of water reaching the wetland.

A. Identify Risks. Applicants for new intensive uses on sites that contain a Category I or II wetland or associated buffer that have potential to degrade the wetland or buffer, as determined by the approval authority, shall submit information that identifies and evaluates the potential risks the proposed use poses for the wetland and buffer. This shall include, as applicable, whether noise, glare, sediment, effluents, altered pH, the amount, timing, or duration of groundwater flows or altered surface hydrology would be harmful to aquatic life, birds, or other wildlife or sensitive plants listed under the DNR Natural Heritage Program.

B. Protective Measures. The approval authority shall require measures to avoid potential adverse impacts on wetlands and buffers. (Also see Chapter 20.54 TCC, Special Uses).

1. The approval authority may require the use of best management practices for new and existing intensive uses to mitigate existing and potential impacts in order to protect water quality, wetland functions, and sensitive plants listed by the DNR Natural Heritage Program. In addition, the approval authority may require applicants for new intensive uses to employ integrated pest management; install and maintain vegetative filter strips (up to fifty feet in width) at the outer edge of the wetland buffer; install fencing; direct lights away from the wetland(s); locate noisy activities away from the wetland; require buildings on the site to be located or oriented where they would have the least impact on the wetland and associated buffer (this may include orientation of a building so that the building itself acts as a shield to buffer the wetland); or employ other mitigation measures that would be effective in preventing pollutants and sediment from reaching the wetland, preventing damage to the wetland and buffer and avoiding adverse impacts on dependent wildlife.

2. Harmful Pollution. If pollution or emissions from a type of proposed use (e.g., smoke stacks associated with asphalt plants, incinerators, or other industrial operations) have been demonstrated scientifically as causing damage to wetland plants, aquatic life or wildlife, the approval authority may require use of BMPs and require that the use be located on the project site

where the emissions would pose the least risk of polluting Category I and II wetlands, consistent with best available science and protection of public health and safety.

C. Expert Review. The approval authority may call upon experts, at the applicant's expense, as necessary to evaluate information submitted by the applicant.

D. Monitoring. The approval authority may require that uses on property containing Category I wetlands be reviewed at five-year intervals to ensure that it is operating consistent with this section and any conditions of approval. The approval authority may require remedial action as warranted to protect water quality, wetlands, and associated buffers consistent with the provisions of this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.210 Wetlands—Landscaping and gardening—Maintenance.

Maintenance of legally existing landscaping and gardening for personal consumption is permitted within existing gardens and new gardens located within the portion of a buffer approved for residential development pursuant to this chapter (see also Chapter 24.50 TCC) subject to the standards listed in this section.

A. Clearing or tree removal to accommodate gardens or lawns shall not be permitted in the wetland, wetland buffer, or outside of the portion of the site authorized for development pursuant to this chapter;

B. Integrated pest management practices shall be used for pest control;

C. Best management practices shall be used for fertilization and weed control;

D. The approval authority may require other protective measures as necessary to maintain water quality and protect wildlife; and

E. For landscaping in areas larger than one acre, see TCC 24.30.190.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.220 Wetlands—Mineral extraction.

Mineral extraction may only be permitted within designated areas pursuant to the designation requirements for mineral lands (Chapter 20.30B TCC), the mineral extraction code (Chapter 17.20 TCC), and with a special use permit (Chapter 20.54 TCC). Within designated mineral lands, mineral extraction and asphalt batch plants are prohibited within Category I and II wetlands and their buffers. Mineral extraction and asphalt batch plants may be permitted in Category III and IV wetlands eligible for mitigation replacement under the provisions of TCC 24.30.090.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.230 Wetlands—On-site sewage disposal systems—New.

New on-site sewage disposal systems are subject to all of the following:

A. New On-Site Sewage Disposal Systems. On-site sewage disposal systems shall be located outside wetlands and their buffers. This may require systems that provide a higher level of sewage treatment. The sewage disposal system shall be located as far from the wetland as possible and have the least adverse impact on water quality and to the wetland and buffer. Also see Article IV, the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage.

B. Separation from Bogs and Wetlands of High Conservation Value. New on-site sewage disposal systems shall not be allowed within three hundred feet of Category I bogs, wetlands of high conservation value, or wetlands draining to a stream listed by the Washington Department of Ecology under Section 303(d) of the Clean Water Act as impaired for nutrients unless the applicant demonstrates that due to soil conditions, surficial geology, the direction of ground water flow or other relevant factors, the sewage disposal system will not adversely impact the wetland or sensitive plants identified by the Washington Department of Natural Resources Natural Heritage Program. The approval authority shall review the information submitted by the applicant and consult with the Washington Department of Ecology and others with expertise, as needed, prior to allowing the proposed sewage disposal system within three hundred feet of such wetlands. Any approved sewage disposal systems shall be located as far from the wetland as possible.

C. For lots created prior to July 24, 2012 that cannot meet the above criteria, refer to Chapter 24.50 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.240 Wetlands—On-site sewage disposal systems—Maintenance, repair and replacement.

A. Maintenance of approved functioning septic systems is allowed as recommended by the Thurston County Health Department.

B. Failing Sewage Disposal systems. Failing on-site sewage disposal systems in wetland buffers shall be remedied through the method that results in the least impact to the wetland and buffer, including relocation to an alternate site. This may require methods and/or systems that provide a higher level of sewage treatment. Replacement of failing, or substandard, sewage disposal systems shall not be allowed within the wetland or wetland buffer unless there is no alternative site available outside of such areas to accommodate the facilities. Clearing of existing vegetation to remedy a failing sewage disposal system shall be minimized. The approval authority may require the applicant to demonstrate that due to physical constraints (e.g., topography, soil conditions, or the site's configuration), another configuration would not allow the development to occur without intrusion or with less intrusion in the wetland and/or buffer than the proposal.

C. If the failing sewage disposal system must be replaced with a new on-site sewage disposal system within a buffer, it shall be located on a portion of the site that has been previously disturbed by development and as far from the wetland as possible. If a suitable disturbed area is not available to accommodate the on-site sewage system, it shall be located where it would be least harmful to the wetland and buffer, as determined by the approval authority.

D. Replacement of sewage septic systems for new development shall be considered a new septic system under TCC 24.30.230.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.245 Wetlands—Reclaimed water.

Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.250 Wetlands—Recreation facilities, trails, and trail-related facilities—Exemptions.

The following uses are exempt from the need for a critical area permit:

A. Construction and/or maintenance of a trail in the wetland buffer, provided that the trail is three feet or less in width, not paved and constructed with minimal pervious material such as wood chips.

B. Passive recreation activities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.260 Wetlands—Recreation facilities, trails, and trail-related facilities—Administrative approval.

A. Passive Recreation. The approval authority may allow trails and trail-related, passive recreation facilities, such as, but not limited to, identification and interpretive signs, nature/wildlife viewing platforms, and fishing access within wetland buffers if it is determined that there is no alternative outside the buffer. Trail alignment, construction, and maintenance shall adhere to all of the following requirements:

1. Location.

a. Trails and related facilities shall, to the extent feasible, be placed on existing levees, road grades, abandoned railroad lines, utility corridors, or other previously disturbed areas.

b. When trails cannot be located outside of the wetland buffers or on existing disturbed corridors within the buffers, they shall be located as far from the wetland as possible, except for access points for wildlife viewing, fishing, and recreational use authorized pursuant to this chapter.

c. Trails and related facilities (e.g., viewing platforms and benches) allowed in wetland buffers shall be located, aligned and constructed to minimize disturbance to wetland functions, avoid the most sensitive and productive wildlife habitat (e.g., documented breeding, nesting, and rearing areas), and minimize removal of trees, shrubs, snags, and other significant wildlife habitat.

d. Parking areas and other facilities associated with these trails, not specifically provided for in this section and Table 24.30-4, shall be located outside of the wetland and/or wetland buffer.

2. Stair Tower, Stairway, and Mechanical Lift. See Chapter 24.25 TCC, Fish and Wildlife Conservation Areas; and Chapter 24.15 TCC, Geologic Hazards and the Shoreline Master Program, as amended.

3. Protect Water Quality. Trails and related facilities shall incorporate measures (e.g., check dams or devices to induce sheet flow of stormwater runoff) as needed to assure that runoff from such trails/facilities does not create channels in the buffer or directly discharge to wetlands or streams.

4. Trail Width. The width of trails extending through a wetland buffer shall be minimized consistent with any applicable state or federal standards. Access paths extending through the wetland buffer to the water's edge shall be no more than three feet in width unless they are designated for public access and designed to accommodate handicapped persons. In that case, the trail and associated clearing shall be the minimum width that complies with the Americans with Disabilities Act (ADA). Clearing shall be done with hand tools unless the approval authority determines that the scale of the project necessitates mechanized equipment and its use will not harm the wetland or buffer beyond the trail corridor.

5. Impervious Surfaces. Trails shall not be paved unless they are specifically designed to be accessible by handicapped persons. Trails shall be designed for nonmotorized use, with the exception of motorized wheelchairs. The approval authority may allow regional trails on former road or railroad beds to be paved when they extend through wetland buffers. Where impervious surfaces are used, they shall be minimized consistent with applicable standards (e.g., ADA and Washington Department of Transportation standards.)

   Raised boardwalks shall be used in wet areas provided that they are not treated with hazardous materials that would be harmful to wetland water quality, dependent wildlife, or sensitive wetland plants documented by the DNR Natural Heritage Program. Viewing platforms shall not be made of continuous impervious materials or treated with toxic materials that could leach into the wetland or associated buffer. The "footprint" of viewing platforms shall be as small as possible in order to minimize impacts (e.g., through the use of pin piles).

   Fill shall not be allowed in wetlands.

6. Salvage Plants. Native vegetation disturbed by trail construction shall be made available for salvage.

7. Parking areas and other facilities associated with trails, not specifically provided for in this section or Table 24.30-4, shall be located outside of the wetland and/or wetland buffer.

B. Active Recreation. If there is no alternative location, public swimming and fishing access may be located within wetland buffers to the minimum extent necessary to accommodate the use, as determined by the approval authority. Non water-dependent active recreational uses such as playgrounds, athletic fields, campgrounds, picnic areas and related restrooms and parking areas shall be located outside of wetlands and wetland buffers.

C. Golf Courses. Wetlands and associated buffers within proposed new golf courses shall be protected and remain in natural condition, except as provided for by TCC 24.30.090(C). They shall not be designated as play areas of the golf course, but may be included in the course design provided all other applicable provisions of this chapter are met.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.270 Wetlands—Road replacement and minor expansion.

Existing roads and driveways constructed prior to July 24, 2012 may be repaired, replaced or widened (e.g., for safety improvements) within the footprint of the existing road bed and in portions of the right-of-way that have been previously cleared or graded as part of permitted road work, consistent with state and federal regulations, provided that all of the following criteria are met:

A. Capacity. The capacity of the road is not increased;

B. Minimize impact. No wetlands are filled or degraded, except as provided for in this chapter. When possible, given physical and technical constraints, road widening shall occur on the side of the road furthest from the wetland. In the event other critical areas are present, the approval authority, in consultation with others with expertise, shall determine where the proposed road expansion would have the least impact on the critical areas; and

C. Expansion limits. Such road expansion does not extend beyond the outer edge of existing roadside ditches, or encroach into areas that are predominately covered with native vegetation. In no case shall a road expansion authorized pursuant to this section extend more than ten feet beyond the existing roadbed. Only one minor expansion shall be allowed per road segment pursuant to this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.30.280 Wetlands—Roads/streets, railroads, bridges and culverts—New and expanded.

Proposed road and railroad crossings of wetlands and/or associated buffers shall be avoided unless the approval authority determines that it is not possible. Proposed road or railroad crossings of wetlands and buffers and expansion of existing roads exceeding the limitations of TCC Section 24.30.270 shall follow all applicable local, state, and federal laws and the applicable requirements listed below. These requirements also apply to private access roads and driveways. (Also see TCC Section 24.25.280).

A. Public Safety. Expansion of existing roads is allowed in all wetlands and buffers to the minimum extent necessary to protect public safety, consistent with subsection (D) below. This provision does not apply to expansion for capacity. Expansion for additional capacity shall comply with the criteria for new or expanded roads.

B. Criteria for Allowing Crossings. The approval authority may authorize new and expanded road crossings in wetlands and buffers as follows:

1. Category I and II Wetlands and Buffers. Category I and II wetlands shall not be crossed unless it is necessary to accommodate public safety improvements to an existing road. Category I and II wetlands and the inner seventy-five percent of their standard buffers may only be crossed by roads through a Reasonable Use Exception and by meeting all of the criteria in this section.

2. Category III—IV Wetlands and Buffers. The most suitable type of new crossing shall be determined by the approval authority on a case-by-case basis. New and expanded roads are permitted in Category III and IV wetlands and their buffers that meet the criteria for replacement under TCC 24.30.090(C). New and expanded roads may be permitted in Category III-IV wetlands and buffers not meeting the criteria in TCC 24.30.090(C), if:

a. The wetland is not a functional part of a mosaic wetland (as described in Ecology's Wetland Rating System for Western Washington);

b. The road complies with subsection (D) below.

C. Access roads and driveways shall be subject to the following requirements, as well as subsection D below.

1. Utility Maintenance Access. The director may allow maintenance roads for utility corridors accommodating transmission lines, pipelines, and similar major utilities when the applicant demonstrates to the director's satisfaction that the road is necessary. Maintenance roads shall not be allowed where they would adversely impact bogs, wetlands of high conservation value, or wetlands with a score for habitat of eight or more points under Ecology's Wetland Rating System for Western Washington.

   If allowed, maintenance roads shall be located in the least impactful location in the outer twenty-five percent of the buffer contiguous to the utility corridor, on the side away from the wetland. To the maximum extent practicable, access for utility maintenance within wetland buffers shall be limited to access points rather than by a continuous access road extending through the buffer. The width of the maintenance road shall be minimized; in no event shall it be wider than fifteen feet.

D. Road crossings, including private access roads, shall comply with all of the following requirements:

1. Wetlands not meeting TCC 24.30.090(C): New and expanded roads shall not be allowed in wetlands and/or buffers unless the applicant demonstrates to the approval authority that:

a. It is essential (e.g., to provide access to property where no other access is physically possible or available with less impact on the wetland), or in the case of a road expansion, is needed for public safety;

b. There is no alternative crossing location that would have less impact on wetland and buffer functions, dependent fish and wildlife, and sensitive wetland plant species documented by the DNR Natural Heritage Program. The applicant shall demonstrate that alternative access with less impact on the wetland and buffer is not physically possible, or that an easement allowing use of the alternative alignment cannot be obtained at reasonable terms as determined by the approval authority; and

c. It meets the requirements for existing lots in Chapter 24.50 TCC.

2. Proposed crossings that would negatively impact Category I or II wetlands or associated buffers, or wetlands in riparian habitat areas shall not be allowed unless the applicant demonstrates to the approval authority's satisfaction that the absence of the requested crossing would landlock the property and leave it with no economically viable use. The approval authority may require that

crossings be accomplished with a bridge rather than a culvert if it would significantly reduce wetland impacts.

3. If allowed pursuant to this section, new crossings and associated facilities shall:

a. Serve multiple properties and be designed to accommodate conduit for utility lines whenever possible. To the extent legally permissible, as part of the development approval process, the developer shall work with the county to provide for a street layout and wetland and buffer crossing location that will minimize the need for additional crossings in the future to serve surrounding property. The approval authority may waive this requirement if the additional road width required to serve multiple properties would be more detrimental to the wetland, associated buffer, or other critical area than individual access roads/driveways; and

b. Have the narrowest width possible, consistent with applicable county road standards and protection of public safety. Clearing to accommodate the crossing shall be minimized, consistent with the protection of the most important habitat, as determined by the approval authority.

4. Crossings using culverts shall use superspan or oversize culverts sufficient to allow wildlife passage, consistent with Chapter 24.25 TCC.

5. The design of crossings in wetlands associated with streams shall be consistent with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended. Culverts installed on Type S and F streams shall be arch/bottomless or the equivalent that provides comparable fish protection, as determined by the approval authority in consultation with WDFW and others with expertise. Approved crossings in estuaries shall be designed to avoid interruption of tidal flows. The approval authority may require that crossings in estuaries be accomplished with a bridge rather than a culvert if it would significantly reduce habitat impacts.

6. Bridges are preferred for spanning Category I and II wetlands.

E. Logging Roads. Crossings of wetlands and/or buffers within areas proposed for development that were allowed by a State Forest Practices Permit but do not meet the requirements of this chapter, and any unlawfully established roads, shall be removed. The roadbed shall be restored to a condition consistent with the surrounding undisturbed areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 2(Att. B), 12-17-2013; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.290 Wetlands—Slope stabilization.

Slope stabilization is allowed in wetland buffers, consistent with the provisions of this title, only where erosion or landsliding threatens a primary structure, including but not limited to houses, barns and places of business, utility facilities, including wells, or a roadway. Bioengineering shall be used where possible consistent with TCC 24.25.300.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.300 Wetlands—Stormwater facilities—New and expanded generally.

Stormwater facilities (e.g., detention, retention, treatment, and conveyance facilities) associated with new roads and other development shall be designed and located outside of wetlands and wetland buffers, except as otherwise provided in Section 24.30.310. Stormwater facilities shall not be allowed in the buffers of Category I and II wetlands, including bogs or wetlands of high conservation value, with the exception of stormwater conveyance pipes extending through the outer twenty-five percent of the standard buffer when there is no alternative. No discharges of stormwater shall be allowed to flow to bogs or wetlands of high conservation value.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.310 Wetlands—Stormwater facilities—New and expanded stormwater facility.

New and expanded stormwater facilities (e.g., detention, retention, treatment, and conveyance facilities) may only be allowed in the outer twenty-five percent of Category III and IV wetland buffers, or in wetlands meeting the criteria of TCC 24.30.090(C) if all of the following are met:

A. The facilities are consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

B. The facilities are designed and sized to only to accommodate stormwater from:

1. Development allowed in the buffer pursuant to this chapter; and/or

2. Existing or new impervious surfaces within or adjacent to the buffer when there is no available alternative outside of the buffer for accommodating stormwater due to topographic or other physical constraints.

C. Design and Location.

1. The facilities shall be designed and located to minimize impacts on the wetland or buffer; and

2. The approval authority may require that the proposed development be redesigned or reduced in scale to avoid or minimize impacts to the wetland or buffer; and

3. No other location is feasible; and

4. The location of such facilities will not degrade the functions of the wetland and buffer; and

5. Stormwater facilities shall be limited to the twenty-five percent of the standard buffer furthest from the wetland, unless another location is necessary to accommodate stormwater from a road or bridge.

6. Stormwater facilities shall not be allowed in portions of the buffer that have been reduced in width pursuant to TCC 24.30.050.

7. Portions of buffers expanded pursuant to TCC 24.30.055 shall not be used to accommodate stormwater facilities.

D. Treatment. All stormwater from stormwater facilities, with the exception of conveyance facilities extending through the buffer, shall be treated prior to release to a wetland buffer, consistent with the Clean Water Act, the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and other applicable state and federal standards pertaining to water quality and treatment of stormwater. Direct stormwater outfalls to wetlands are prohibited.

E. Avoid Channelization. Stormwater flows released to wetland buffers, with the exception of conveyance facilities extending through the buffer, shall be dispersed as sheet flow at the outer edge of the buffer to avoid channelization and allow filtration of sediment, nutrients, and pollutants and infiltration of water. The approval authority may require, if slopes exceed five percent, that obstructions or devices be installed outside of the buffer to maintain sheet flow within the buffer.

F. Open and Vegetated. Stormwater detention, retention, and treatment ponds in wetland buffers shall be open and, to the extent possible, vegetated with native plants. Invasive vegetation shall not be planted. Stormwater conveyance facilities shall be open and vegetated with non- invasive plants unless the approval authority determines, in consultation with the applicant's qualified engineer, that design constraints or protection of public safety warrant burying the conveyance facility (e.g., underground storage is needed or the facility would span a steep slope and must be "tight lined" to avoid slope failure - see Chapter 24.15 TCC). Vegetation shall be maintained and, if necessary, planted adjacent to all open swales, channels, and ponds in order to retard erosion, filter sediments and pollutants, and (if warranted to maintain water temperatures necessary to sustain aquatic life) shade the water, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and the Clean Water Act.

G. Protection of Wetland Hydrology. Wetland hydrology shall be protected through the development process, as determined by the director and pursuant to the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC). Post-development wetland hydrology shall match pre-development wetland hydrology unless the approval authority determines that changes in hydrology will not harm wetland functions. The approval authority may require a hydrologic study if it is determined that the project has potential to significantly impact a wetland. The approval authority may call upon experts as needed, at the applicant's expense, to evaluate the study.

H. Roadside Stormwater Conveyance Facilities. Roadside stormwater conveyance facilities (e.g., swales, ditches, and pipes) may be extended through wetland buffers within rights-of-way. When possible and practical, they shall be along the side of the road furthest from the wetland. If the conveyance facility must be located along the side of the road closest to the wetland, it shall be located as close to the road/sidewalk as possible, consistent with public safety. In no case shall facilities that infiltrate stormwater be less than one hundred feet from a Category I—III wetland or fifty feet from a Category IV wetland.

Stormwater conveyance facilities shall be designed and constructed consistent with the BMPs listed in the Regional Road Maintenance ESA Program Guidelines, 2002, and, if applicable, the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

I. Use of Wetlands for Stormwater Storage. Use of Category II-IV wetlands for storage of stormwater (not including stormwater facilities) is only allowed for public projects designed to halt or improve deteriorated wetland conditions, consistent with TCC 24.30.300, other applicable provisions of this chapter, and the following:

1. The project shall be for the purpose of solving an existing problem, not to accommodate stormwater generated from new impervious surfaces; and

2. The alteration in the timing, amount, duration and quality of stormwater reaching the wetland shall not be harmful to wetland functions, dependent aquatic life, wildlife, and native plants.

3. Category I wetlands shall not be used for stormwater storage.

J. Temporary Stormwater Management Facilities. If there is no alternative to avoid impacts to wetlands and buffers, surface water discharges may be allowed from new temporary sediment control ponds, retention/detention facilities, or other temporary surface water management structures located beyond the buffer and, if necessary, within the outer twenty-five percent of Category III and IV wetland buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.312 Wetlands—Stormwater facilities—Engineered stormwater dispersion.

The dispersion area of stormwater dispersion systems, as defined by the Thurston County DDECM, shall not be considered a stormwater facility as described in TCC 24.30.300—24.30.310, and regulated as such, unless a physical structure is incorporated within the design that impacts the standard wetland buffers. Stormwater dispersion facilities whose dispersion area includes any portion of a wetland buffer are allowed as an element of a stormwater system under the following circumstances:

A. Dispersion of runoff from back yards of development and downspout dispersion, done in accordance with the Thurston County DDECM, is allowed at the outside edge of the wetland buffer.

B. Sheet flow and concentrated flow dispersion, done in accordance with the Thurston County DDECM, of stormwater meeting runoff treatment requirements of the Thurston County DDECM is allowed at the outside edge of the wetland buffer.

C. The required dispersion area, calculated under the DDECM, for sheet flow and concentrated flow dispersion from pervious and impervious surfaces, done in accordance with the Thurston County DDECM, may only include that portion of a wetland buffer outside of the minimum area considered necessary for water quality as shown in Table 24.30-1.

D. Native vegetation in the wetland and buffer may be increased but shall not be cleared or altered to accommodate stormwater treatment.

E. In no case shall dispersion methods be approved that may cause water quality impacts to the wetland. If water quality impacts are anticipated or observed, additional stormwater treatment methods shall be implemented.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.315 Wetlands—Stormwater facilities—Maintenance or repair.

A. Best Management Practices. Maintenance and repair of existing stormwater retention, detention, treatment and conveyance systems is permitted in wetlands and associated buffers. County owned stormwater facilities within wetlands or buffers accommodating runoff from county roads shall be maintained consistent with the BMPs listed in the Regional Road Maintenance Program Guidelines, January 2002, as amended. Other stormwater facilities within wetland buffers shall be maintained consistent with a maintenance plan approved by the Thurston County Department of Water and Wastewater Management in accordance with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC). The approved maintenance plan shall be consistent with the wetland and buffer protection provisions of this chapter.

B. No Expansion. Maintenance of stormwater facilities shall not result in their expansion within the wetland or buffer or result in additional or channelized discharges of water to a wetland or buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.320 Wetlands—Utility lines and facilities—New.

A. New Utility Lines and Facilities in Rights-of-Way. Installation of utility lines and facilities is permitted in existing rights-of-way within wetlands and associated buffers, consistent with applicable regulations (see Title 13, TCC) and the provisions of this chapter. When possible, utility installation shall occur on the side of the utility corridor or road furthest from the wetland. In the event that other critical areas are present, the approval authority, in consultation with others with expertise, shall determine where the proposed facilities would have the least impact on the critical areas and associated buffers. Mitigation of any impacts may be required consistent with the provisions of this title.

B. Individual Service Lines.

1. Overhead lines and cables serving an individual use are permitted in wetland buffers if:

a. They meet state and federal requirements;

b. The applicant demonstrates that an alternative location with less impact on the wetland and buffer is not available (e.g. new service line cannot be combined with a legally existing driveway, approved road crossing, or another utility's existing crossing);

c. The alignment has the least impact on the wetland and buffer; including minimizing vegetation removal and avoiding wildlife habitat impacts; and

d. Paths or roads are not needed in the wetland or buffer to install or maintain the facilities.

2. Poles supporting overhead lines shall be located outside of the wetland. They shall be located outside of the buffer to the greatest extent possible. If a pole is necessary within the buffer, it shall be located as far from the wetland as possible where it is least damaging to the wetland and dependent wildlife, as determined by the approval authority. Disturbance of the buffer shall be minimized and no herbicides, pesticides or other hazardous materials shall be applied to the buffer or wetland in the course of installing the line(s) and pole(s). Poles in wetland buffers shall not be treated with toxic substances that could harm the wetland, buffer, dependent wildlife, or sensitive plants documented by the DNR Natural Heritage Program.

3. Buried service lines serving an individual use are permitted in the outer twenty-five percent of standard wetland buffers consistent with this chapter upon demonstration that they will not have more than a temporary adverse impact on the wetland or buffer. The site shall be restored upon completion of the installation. Buried service lines within the inner seventy-five percent of standard wetland buffers and in wetlands require a reasonable use exception.

C. New Transmission Lines/Utility Corridors.

1. Where possible, new transmission, distribution lines and cables crossing wetlands or buffers, shall be contained within an existing roadbed, railroad bed, bridge, elevated walkway, conduit, or other disturbed area where they would have the least adverse impact on wetland and buffer functions. If the utility lines will be consolidated with, or parallel to, an existing utility crossing, they shall be located at the minimum separation distances established by the county for such uses, so long as the minimum distances so established also meet the applicable industry, state and national gas and electric safety standards.

2. The approval authority shall not authorize a new utility corridor within a wetland and buffer unless the applicant demonstrates that there is no alternative available outside of the wetland and buffer. New transmission lines and utility corridors within Category I and II wetlands and the inner seventy-five percent of their standard buffers require a reasonable use exception. When proposing to cross wetlands and/or buffers, the applicant shall demonstrate to the approval authority's satisfaction that the crossing is essential and there is no alternative alignment or crossing method with less impact to the wetland, associated buffer and other critical areas. This shall include identification of the alternative alignments, crossing methods (including boring), their feasibility, and potential impacts.

3. When it is necessary to cross the wetlands or buffers outside of the locations identified above, the corridor shall be in compliance with the following standards:

a. The corridor shall be aligned where it would have the least impact on the wetland functions and associated buffers using the least damaging alternative method.

b. The utility corridor within the wetland and buffer shall have the minimum width practicable, as determined by the approval authority, while still adhering to safe operating clearances and industry standards. Clearing shall be limited to the minimum necessary to locate the utility.

c. The utility corridor within the wetland and buffer shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables in the future.

d. If the approval authority determines that overhead lines or lines buried in trenches would be detrimental to the wetland, buffer or dependent fish or wildlife, the proposed crossings shall, when physically feasible, be accomplished by boring beneath the wetland and buffer. Entrance and exit portals shall be located outside of the wetland and buffer, if possible. Bore pits shall be restored upon project completion.

i. If trenching or boring is proposed to be used to accommodate utility lines, the applicant shall evaluate its effect on the flow of groundwater sustaining the wetland. As determined by the review authority, the applicant may be required to submit a hydrological study prepared by a geologist licensed in the State of Washington or a professional engineer licensed in the State of Washington with experience in hydrogeologic analysis to determine whether ground water flows

would likely be altered to the detriment of the wetland. The approval authority may call upon technical experts as needed, at the applicant's expense, to evaluate the report.

ii. Trenching and boring beneath a wetland and buffer shall not be required/allowed if it would interrupt the ground water connection to the wetland to the extent that the wetland or dependent wildlife would be damaged.

e. Utility corridors shall be revegetated with appropriate native vegetation, at not less than preconstruction densities. Restoration shall occur immediately upon completion of construction or as soon thereafter as possible due to seasonal constraints or work windows established pursuant to this chapter. (See 24.30.090(D) and 24.30.150 TCC.) The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that the planted vegetation survives or is replaced.

f. Staging areas for equipment and materials shall be located outside of the wetland and buffer.

g. Applicants shall submit a maintenance plan for approval by the county consistent with the provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.330 Wetlands—Wells—New.

A. New individual and community wells serving approved uses shall only be allowed within the outer twenty-five percent of buffers of Category II—IV wetlands if there is not sufficient buildable area on the property outside the buffer to accommodate the well, as determined by the approval authority. Well houses are not permitted in wetlands and buffers. Also see Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies, as amended, and Chapter 24.50 TCC.

B. Access to wells approved within buffers shall be by a pervious trail no more than four feet in width unless the approval authority determines that it is necessary to provide vehicular access to a community well. In that case, the approval authority may authorize an unimproved access of minimal width (no greater than ten feet) to provide access for maintenance vehicles. Mitigation for impacts to wetland buffers may be required, including increased buffers in adjacent areas or enhanced vegetation.

C. Maintenance of the trail/access road shall not involve the use of herbicides or other hazardous materials.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.340 Wetlands—Vegetation removal—General.

Removal of vegetation within wetlands and buffers shall be prohibited except as provided for in this chapter. Also see TCC 24.30.150.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.350 Wetlands—Vegetation removal—Tree removal.

A. Hazard Trees. The county may authorize limbing, thinning or removal of hazard trees located in the wetland or buffer provided that compliance with all of the criteria below can be met:

1. The county may require the applicant to submit a report from a certified arborist or professional forester that documents the hazard. If such a report is required, the arborist shall recommend suitable replacement trees for any trees that are removed pursuant to this subsection.

2. Tree cutting is limited to limbing or crown thinning in compliance with Tree Care Industry Association (formerly the National Arborist Association) pruning standards, unless the tree has a disease that would jeopardize the survival of other trees, or felling the tree is otherwise justified by the landowner/expert. Where limbing or crown thinning is not sufficient to eliminate the hazard, disease-free trees shall be pushed over into the wetland buffer. Snags shall be left in place to provide habitat unless a communicable disease or invasive pest that threatens adjacent habitat is present.

3. All vegetation severed from the tree shall be left within the buffer unless removal is warranted due to the presence of invasive pests or potential for disease transmittal to healthy vegetation.

4. Hazard tree removal in wetlands shall be mitigated as required by this chapter. At minimum, mitigation shall include replacement with native tree species at a ratio of 3:1 for each tree removed. The replacement trees shall have a minimum fifteen-gallon pot size, a height of four feet, and be three years old. Additional mitigation may be required based on site conditions, habitat type and wetland functions as determined by the resource stewardship director. The applicant may be required to submit reports for maintenance and monitoring of planted vegetation at the discretion of the director.

B. Forest Practices. Harvesting of trees under an approved Class II or Class III forest practices permit is not subject to this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.360 Wetlands—Vegetation Removal—Harvesting.

The approval authority, in consultation with the Washington Departments of Natural Resources (Natural Heritage Program), Fish and Wildlife, and Ecology or United States Fish and Wildlife Service staff, may allow harvesting of plants and plant materials provided compliance with all of the criteria below can be met:

A. The harvest shall not comprise more than twenty percent of any single plant.

B. The species harvested must comprise forty percent or more of the vegetation in the wetland or buffer area.

C. Harvested material shall not consist of any threatened or endangered species pursuant to Chapter 24.25 TCC.

D. No root material shall be harvested, except as provided for TCC 24.30.370.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.370 Wetlands—Vegetation removal—Salvaging.

Salvage of whole plants is allowed in wetlands and buffers approved for impacts from development.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.380 Wetlands—Vegetation removal—Other allowed vegetation removal.

Removal of vegetation is allowed as part of an approved habitat restoration or enhancement project in the wetland or associated buffer. Other vegetation may be removed from wetlands and associated buffers provided compliance with all of the criteria below can be met:

A. Removal of vegetation shall be the minimum extent necessary for surveying or testing purposes.

B. The approval authority may allow trimming of vegetation to provide a view corridor in the outer (furthest from the wetland) twenty-five percent of the standard buffer of Category III and IV wetlands with a wildlife habitat rating of four points or less under the Wetland Rating System for Western Washington, provided that trimming is limited to view corridors with maximum widths of twenty feet. Trimming shall be limited to limbing or crown thinning in compliance with Tree Care Industry Association (formerly the National Arborist Association) pruning standards. No more than thirty percent of the live crown of a tree may be removed in any three-year period. Trimming shall not include felling, topping, or removal of trees or jeopardize the tree's survival. Snags shall be left in place except as provided for in Section 24.30.350A.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.390 Wetlands—Vegetation removal—Invasive species.

When removing invasive species, removal of native vegetation within wetlands and buffers shall be prohibited, and shall be in compliance with all of the criteria below. Also see TCC 24.30.150.

A. Plant removal shall be performed such that it will not cause significant damage to untargeted vegetation, impair water quality or any wetland or buffer function.

B. Activity that would expose more than one hundred square feet of soil within one hundred feet of the wetland shall require submission of a plan for county approval that identifies the proposed plant removal and site restoration consistent with the provisions of this section. The method of vegetation removal must be approved in writing by the Thurston County Resource Stewardship Department, consistent with this section and all applicable county, state, and federal regulations prior to initiation of any such vegetation removal.

C. Hand tools shall be used for plant removal unless the approval authority determines that the scale of the project warrants use of small scale equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide with a state and federally approved formulation by a licensed applicator in accordance with the safe application practices on the label) and use of the equipment/method does not pose a significant risk to untargeted areas, habitat functions, or water quality.

D. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with the Chapter 15.05 TCC. If the area of exposed soil exceeds one hundred square feet and lies within one hundred feet of a wetland, it shall be planted

with appropriate native plants at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing water quality or wetland and buffer functions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.400 Wetlands—Vegetation removal—Noxious weeds.

A. Removal of noxious weeds, as defined by Chapter 16-750 WAC, under the direction of the Thurston County Noxious Weed Control Agency, is permitted in wetlands and associated buffers consistent with a county approved integrated pest management plan, applicable county and state regulations, and TCC 24.30.390(A), (C) and (D). Prior to requiring removal of noxious weeds within a Category I wetland or associated buffer, the noxious weed control staff shall consult with the planning and environmental division of the resource stewardship department to evaluate alternative methods of weed removal and the associated risks to the wetland and buffer.

B. When removing noxious weeds, removal of native vegetation within wetlands and buffers shall be prohibited. Also see TCC 24.30.150.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.410 Wetlands—Vegetation removal—Aquatic weed removal.

Aquatic weed removal consistent with an integrated pest management plan is only allowed subject to applicable local and state regulations (e.g., HPA and NPDES permits).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.420 Wetlands—Water dependent uses.

When there is no practicable alternative outside of the wetland and associated buffer, the approval authority may allow alteration of wetlands and buffers subject to and defined by the Shoreline Master Program for the Thurston Region, as amended, to the minimum extent necessary to accommodate water dependent structures and uses. Such uses shall be designed and installed to minimize impacts on wetlands and buffers consistent with the provisions of this chapter.

Table 24.30-5. Hydric Soils of Thurston County

MAP SYMBOL	SOIL UNIT NAME
14	Bellingham silty clay loam
29	Dupont muck
36	Everson clay loam
41	Godfrey silty clay loam
45	Hydraquents, Tidal
65	McKenna gravelly silt loam, 0 to 5% slopes

69	Mukilteo muck
70	Mukilteo muck, drained
75	Norma fine sandy loam
76	Norma silt loam
88	Puget silt loam
95	Riverwash
100	Scamman silty clay loam, 0 to 5% slopes
101	Scamman silty clay loam, 5 to 20% slopes
104	Semiahmoo muck
105	Shalcar muck
106	Shalcar variant muck
116	Tacoma silt loam
120	Tisch silt loam

Source: Soil Survey of Thurston County, Washington

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.10 Special Reports (Chapter 24.35 TCC)

24.35.010 Purpose—Special reports.

The purpose of this chapter is to establish provisions governing the submittal requirements of special reports associated with development that impacts critical areas and/or their associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.012 Critical area report determination processes.

The sequence of review and determining whether critical area reports shall be required is described in TCC 24.05.027 and through the specific chapters of Title 24.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.015 Mitigation sequencing.

All proposals that require submittal of a mitigation plan due to impacts to a critical area or buffer shall employ the following sequence in order to reduce those impacts. Redesign, reconfiguration or relocation of a proposal to avoid impacts shall be preferable to submittal of a mitigation proposal. Mitigation actions associated with development proposals impacting critical areas shall adhere to the following mitigation sequence:

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

B. Minimizing 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;

C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

F. Monitoring the impact and taking appropriate corrective measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.017 Monitoring and contingency requirements.

A. A contingency plan shall be established for compensation in the event the mitigation project is inadequate or fails. The contingency plan is to provide specific corrective measures for such common mitigation plan failings as plant mortality, undesirable vegetation, vandalism, damage due to wildlife grazing, grading errors, damage caused by erosion, settling, or other geomorphological processes, and hydro-regime problems. A financial guarantee shall be provided per Chapter 24.70 TCC. Financial guarantees shall be based on an estimate submitted to the County detailing the work to be accomplished and the current cost.

B. Requirements of monitoring programs are as follows:

1. Scientific procedures are to be used for establishing the success or failure of the project.

2. Monitoring reports prepared by a fish or wildlife biologist are to be submitted for department review. Monitoring reports generally will include discussions of wildlife utilization of the site, habitat structure establishment, water quality, and existing or potential degradation.

3. Monitoring reports for wetland mitigation projects shall be prepared per the Monitoring Report Checklist in Appendix M of Wetland Mitigation in Washington State, Part 2: Developing Mitigation Plans (Version 1, Publication #06-06-011b, March 2006, as amended).

4. For critical aquifer recharge areas, the approval authority may require water quality or quantity monitoring as a condition of approval and to document compliance with permit conditions. This may include establishment of baseline conditions for water quality and quantity. Said monitoring shall be performed by a qualified individual or entity, approved by the county. Monitoring may

also be delegated to an appropriate county department and paid for by the applicant. The approval authority shall periodically review the need for continued monitoring and shall authorize termination of the monitoring if it is determined that it is no longer warranted.

5. Monitoring may include, but is not limited to:

a. Evaluation of the project's status relative to the project's performance standards and goals in the approved mitigation plan.

b. Evaluation of vegetation plots to track changes in plant species composition and density over time;

c. Using photo stations to evaluate vegetation community response;

d. Sampling surface and subsurface waters to determine pollutant loading and changes from the natural variability of background conditions (e.g., pH, nutrients, heavy metals);

e. Measuring base flow rates and stormwater runoff to model and evaluate water quality predictions, if appropriate;

f. Measuring sedimentation rates, if applicable;

g. Wildlife utilization of the site. If warranted, sampling fish and wildlife populations may be required to determine habitat utilization, species abundance and diversity;

h. Existing degradation; and

i. Hydric soil characteristics monitored through the use of one or a combination of the following: Munsell soil color, pH, particle size, redox potential, organic content, microbial activity, time and duration of saturation or ponding, and alkalinity. The duration and extent of water on site can be approximated by periodic field visits to verify depth and extent of hydrology. Alternatively, continuous data loggers could be installed that monitor the hydroperiod.

6. Monitoring reports for mitigation projects specific to vegetative restoration or enhancement shall comply with the following:

a. Monitor for a period of time appropriate to the nature of the project (single-family versus commercial) and the complexity of the mitigation project. The majority of monitoring programs will last a minimum of five years (ten years for forested and scrub-shrub communities) and are to be submitted according to the following schedule:

i. At completion of construction of mitigation project (as-built report);

ii. Thirty days after completion;

iii. Early in the first growing season after construction;

iv. End of the first growing season after construction;

v. Twice the second year; and

vi. Once in years 3, 5, 7 and 10.

b. Deviation from this schedule may be allowed based upon project specific conditions.

7. Monitoring reports for mitigation projects whose goals are other than vegetative restoration or enhancement are to be submitted to the department for a period of time, and upon a schedule, appropriate for the species or habitat of concern. The specifics of such mitigation projects will be determined on a project by project basis.

C. As a condition of approval for permits requiring monitoring, the county shall be provided the ability to enter property to verify monitoring reports and compliance with conditions of permit approval.

D. Failures in the mitigation project shall be corrected as required by the county, such as, but not limited to:

1. Replace dead or undesirable vegetation with appropriate plantings.

2. Repair damage caused by erosion, settling, or other geomorphological processes.

3. If necessary, redesign the mitigation project and implement the new design.

E. Correction procedures shall be approved by the fish or wildlife biologist and the director or designee.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.020 Third party review.

Any submission made to the county as part of an application subject to this title may be subject to third party review, as outlined in TCC 24.05.022.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.022 General qualifications for report preparers.

Special reports required by this chapter shall be prepared by professionals licensed, certified, or otherwise qualified to collect and analyze pertinent data and present a determination regarding the nature of a given critical area, its habitat value, threats posed to the critical area functions, threats posed to public safety, slope stability, or other relevant information, as determined by the director. Criteria for determining qualification are also found in specific sections of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.025 Required reports.

Critical area review permits under Chapter 24.40 TCC, where the underlying permit application requires a Type III review process (See Chapter 20.60 TCC) within a CARA, shall provide the following special reports:

A. Drainage and erosion control plan; and

B. Hydrogeological report. In addition to the specific requirements for individual uses in Chapter 24.10 TCC, the approval authority may require a hydrogeological report as part of other applications if:

1. There is insufficient information regarding ground water to perform an adequate review to assure aquifer protection;

2. The project is likely to possess, store, use, transport, or dispose of hazardous materials; or

3. There is evidence of ground water degradation, or known ground water contamination, in the vicinity of the proposed project and the project would influence or be influenced by the water quality degradation. For example, where the identified quality degradation may render the proposed water source non-potable, or when the proposed project may add to existing quality degradation in excess of ten percent of the Assimilative Capacity standard (see TCC 24.10.030).

C. The director may waive the hydrogeological report requirement or limit the scope of the report if the nature of the project and its impacts are generally known, or the impacts of the project have been mitigated by source control strategies.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.030 Special reports requirements.

Special report required in critical aquifer recharge areas shall include the following when relevant.

A. Drainage and Erosion Control Plan. This plan shall address methods to minimize erosion and contain soil within the project boundaries during construction and to provide for stormwater management from the site and its surroundings during and after construction, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

B. Hydrogeological Report.

1. The hydrogeological report shall identify the proposed development plan and the risks associated with on-site septic systems and other on-site activities which may degrade the ground water beneath or down gradient from the site.

2. The hydrogeological report shall be prepared by a licensed professional engineer or hydrogeologist, licensed in the State of Washington, qualified to analyze geological and hydrological information and ground water systems.

3. The approval authority may waive the requirements of this section when there is persuasive evidence and reason that the issue(s) pertinent in a specific case, either site conditions or project mitigations, have been or can be adequately addressed in the technical report and supporting documentation.

4. The hydrogeological report shall contain:

a. A description of the soil, geological and hydrological characteristics of the area under permit application consideration, including the relationships between ground water and surface water

including stream flows and wetlands; the character of the unsaturated zone, the depth to groundwater and, if reasonably possible, direction of groundwater flow.

b. A site plan depicting the location of all existing and proposed structures; the boundaries of the property proposed to be developed; adjoining roads and site access; topography with two-foot contours; the hydrogeologic context including water bodies, wetlands, springs, seeps, wells, ditches, culverts, stormwater facilities and other relevant features; and the location of all existing and proposed public and on-site utility structures and lines, including on-site sewage systems, sewer lines and water lines.

c. A discussion of how the characteristics described in subparagraph (a) above will influence drainage and the movement of water and contaminants in the ground water, and a discussion of how the proposed project will influence surface water including instream flows and wetlands.

d. A description of conditions prior to project development, which may include baseline conditions for water quality and quantity.

e. A description of conditions as they are likely to exist after complete development of the proposed project, and their impact on ground water quality and quantity.

f. If determined to be necessary to evaluate the proposed activity or use, the approval authority may require the following information regarding the hydrogeologic characteristics of the site and the predicted behavior of contaminants: background water quality compiled over at least a one-year period, contaminant transport modeling based on potential releases to ground water, and modeling to determine the effects of ground water withdrawals.

g. A list of those recommendations to be used to mitigate any of these potential ground water impacts. This shall include the effects of sewage disposal, lawn and yard activities, agricultural and animal husbandry, household chemical use, stormwater impacts and any other impacts reasonably associated with the project type described.

h. The post development description shall include the effects of the activities likely to occur as a result of the complete development and use of the project at final equilibrium.

5. Review and evaluation of the report may be delegated to other county departments and to qualified private consultants, at the applicant's expense, under the direction of the approval authority.

C. Pier Foundations in Critical Aquifer Recharge Areas. The applicant shall submit the following information, certified by a qualified engineer, for foundations subject to review in accordance with TCC 24.10.170.

1. The proposed depth of the foundation below the ground surface.

2. The depth to the aquifer that any well within two hundred feet of the proposed foundation draws upon.

3. If the aquifer drawn upon is less than fifty feet below the bottom of the hole proposed to be excavated to accommodate the foundation, then the applicant shall submit the following additional information.

a. The distance from the proposed foundation to the subject wells.

b. The foundation design and materials, including the concrete mix and the specific components of any additives, and the composition of any sealer/slurry proposed to be employed in construction of the foundation.

c. Proposed construction techniques, such as use of a casing to mitigate potential groundwater contamination.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.040 Performance monitoring and reporting.

Monitoring requirements are established in TCC 24.35.017.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.045 Spill plan—Hazardous materials management plan.

Spill plans and hazardous materials management plans shall include, at a minimum, the following:

A. A list of the locations, amounts, and types of hazardous materials/waste, stored on site;

B. A description of inspection procedures for hazardous material storage areas and containers and the minimum inspection intervals. An inspection logbook shall be maintained for periodic review by the county;

C. Provision of an appropriate spill kit with adequate spill supplies and protective clothing;

D. Detailed spill cleanup and emergency response procedures identifying how the applicant will satisfy the requirements of the dangerous waste regulations, Chapter 173-303 WAC, in the event that hazardous material is released into the ground, ground water, or surface water;

E. Procedures to report spills immediately to the department of ecology and the environmental health division of the Thurston County Public Health and Social Services Department, in that order;

F. A list of emergency phone numbers (e.g., the local fire district and ambulance);

G. Procedures to ensure that all employees with access to locations where hazardous material are used or stored receive adequate spill training. A training logbook shall be maintained for periodic review by the county;

H. Documentation of proper disposal, recycling, or on-site treatment of hazardous waste; and

I. Additional information the approval authority determines to be necessary to demonstrate that the use or activity will not have an adverse impact on ground water quality.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.050 Geologic hazards—Types of special reports.

The following special reporting requirements may apply to development proposals which contain a use or activity subject to Table 24.15-1 within a geologic hazard area and/or the associated buffer, as determined by the approval authority.

A. Erosion Hazard Areas.

1. Geological assessment.

2. Drainage and erosion control plan.

3. Grading plan.

4. Revegetation plan.

B. Landslide Hazard Areas and Marine Bluff Hazard Areas.

1. Geological assessment.

2. Drainage and erosion control plan.

3. Grading plan.

4. Revegetation plan.

5. Structural mitigation plan.

C. Mine Hazard Areas.

1. Geological assessment.

D. Seismic Hazard Areas.

1. Geological assessment.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.060 Geologic hazards—Waiver of special reports.

The director may waive the requirement for, or limit the scope of, any special reports upon a written finding in the geological assessment that the potential for landslide activity is low and that the proposed development would not cause significant adverse impacts, as determined by the director, or that there is adequate geological information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.070 Geologic hazards—Minimum standards for special reports—Drainage and erosion control plan.

The drainage and erosion control plan shall comply with the requirements of the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.080 Geologic hazards—Minimum standards for special reports—Grading plan.

A. The grading plan shall identify the proposed development project including the movement of material on-site along with the proposed and existing contours of the site and cross sections thereof.

B. The grading plan shall be prepared by a registered design professional, as defined in TCC 14.37.020.

C. The grading plan shall comply with the standards in Chapter 14.37 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.090 Geologic hazards—Minimum standards for special reports—Revegetation plan.

A. The revegetation plan shall include a detailed site plan drawn to scale showing the placement of all plants to be used, the quantities of each species, distance on-center for planting, list of all species to be used with both botanical and common names, size of the nursery stock to be used, and any details for planting procedures including timing and maintenance. Once the revegetation plan has been installed, an as-built shall be submitted to the County that shows the results of the installation including any necessary modifications and reasons for those modifications.

B. The revegetation plan shall be prepared by a person who is knowledgeable about regional soil and climatic conditions as well as native plant materials suitable for installation on or near an erosion, landslide, or marine bluff hazard area or associated buffers.

C. The revegetation plan shall use a predominance of native, non invasive species, appropriate to the area. It shall document why the species chosen for the site will be appropriate, will function in the capacity as designed (i.e., soil and bluff stabilization, or runoff distribution), and will be likely to survive in the location with a minimum of maintenance once established.

D. The approval authority may waive the requirement for the revegetation plan if it can be demonstrated that disturbance of the site is so minor that it will regenerate on its own within a reasonable time or that the size of the project does not necessitate such plan.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.100 Geologic hazards—Minimum standards for special reports—Structural mitigation plan.

A. The structural mitigation plan shall be prepared by a registered design professional, as defined in TCC 14.37, with demonstrated geotechnical experience, geologist, or engineering geologist licensed to practice in the State of Washington.

B. The owner or agent shall provide for review, a minimum of two copies of a structural mitigation plan, including but not limited to, the following information:

1. Project Information.

a. Permit and/or application number;

b. Tax parcel number;

c. Plan number or other identification of project.

2. Registered Design Professional Information.

a. Name, mailing address, and phone number of registered design professional;

b. Type of registration of the design professional;

c. Date the design was completed.

3. Project Site Plan Information.

a. Existing and proposed topographic contours at two-foot intervals;

b. Erosion control and drainage measures for the construction period and final disposition of the parcel;

c. Proposed slope stabilization methods consistent with Chapter 24.15 TCC, if necessary.

4. Soils Investigation Report. The structural mitigation plan shall include a soils investigation report conforming to the provisions of the Thurston County Building Codes, as amended. The report shall include, but not be limited to, the following information:

a. A plot showing the location of test borings and/or excavations.

b. A complete record of the soil samples.

c. A record of the slope profile before and after construction drawn at an identifiable scale.

d. Elevation of the water table, if encountered.

e. Recommendations for foundation type and design criteria, including but not limited to: bearing capacity of natural or compacted soil; provisions to mitigate the effects of expansive soils; mitigation of the effects of liquefaction, differential settlement and varying soil strengths; and the effects of adjacent loads.

f. Expected total and differential settlement.

g. Pile and pier foundation information in accordance with TC building codes, as amended.

h. Special design and construction provisions for foundations located in adverse soils, as necessary.

i. Compacted fill material properties and testing in accordance with the TC building codes as amended.

5. Construction Drawings. Drawings submitted for review shall be annotated to call out and identify location of details, sections, and other specifics of the plan.

6. Details and Section Drawings. The registered design professional shall provide all details and sections needed to communicate the specific requirements of the structural mitigation plan to reviewers, inspectors, and field personnel responsible for installation of construction. All details and sections shall be clearly labeled.

7. Materials and Specifications. The registered design professional shall identify and provide specifications for all construction materials to be used.

8. Method of Approval for Changes to Structural Mitigation Plan. The registered design professional shall provide details of steps taken to review, submit, and approve changes.

9. Special Inspections and Structural Observation Programs. When applicable, the building official may require a P.E., architect, or other qualified person to perform specific special inspections or structural observation programs.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.120 Reserved.

Editor's note(s)—Ord. No. 14961, § 5(Att. E), adopted Dec. 17, 2013, repealed § 24.35.120Editor's note(s)—, which pertained to geologic hazards, minimum standards for special reports, and flood elevation certificate, and derived from Ord. No. 14773, § 3(Att. B), adopted July 24, 2012.

24.35.130 Geologic hazards—Minimum standards for special reports—Geologic assessment.

A geologic assessment, as outlined below, shall be required when the resource stewardship department's mapping, source documents, and/or field investigations indicate a proposed activity is located within or adjacent to an erosion, landslide, marine bluff, seismic, or mine hazard area.

A. A geological assessment shall be submitted to the review authority for review and approval together with the appropriate permit application and associated fees.

B. A geological assessment shall include a field investigation and may include review of available geologic hazard maps, historical air photo analysis, public records, and any other pertinent documentation, as required by the county.

C. A geological assessment shall be prepared, signed, sealed, and dated by an appropriately licensed geotechnical professional, as defined in Chapter 24.03 TCC and as applicable to the specific geologic hazard identified on or near the project site.

D. A geological assessment shall be submitted in the form of a geotechnical letter, geotechnical evaluation, or geotechnical report, as determined in this chapter.

E. After reviewing the geological assessment submitted by the applicant, the approval authority may request additional information or studies specific to the conditions of the development proposal site.

F. A geological assessment for a specific site may be valid for a period of up to five years when the proposed land use activity and surrounding site conditions are unchanged. If any environmental surface or subsurface conditions associated with the site change during that five-year period, the applicant may be required to submit an amendment to the geological assessment.

G. When a development has the potential to impact slope stability on, below, or above adjacent property, particularly where public health and safety are at risk, the geotechnical studies presented must comply with the guidelines defined as standard of practice under the Washington State Geology Licensing program, as presented in the Washington State Department of Licensing "Guidelines for Preparing Engineering Geology Report in Washington," as amended. Such reports must include an assessment of each of the following parameters:

1. Slope gradient and existing slope stability conditions.

2. Stratigraphy (affecting infiltration rates, transmissivity, and groundwater flow paths).

3. Precipitation patterns (regional, seasonal and storm-related).

4. Land cover (vegetation type and density as it affects water available for infiltration — evapotranspiration and interception loss).

5. Previous and proposed land use (affecting percent infiltration versus run-off).

6. Specifically, a geologic assessment shall include analysis that addresses the following questions:

a. How will the project affect the stability of the slope?

b. What are the expected effects on groundwater levels during different seasons from development?

c. What specific mitigation actions will be used to minimize or avoid effects of the development?

d. What is the geologic/hydrologic basis for any proposed structural stabilization?

e. Do alternatives exist that would better protect the functions and values of the critical area?

H. All geological assessments submitted under this chapter shall include the following information:

1. The dates when the geological assessment was conducted and when the assessment letter was prepared.

2. The parcel number(s) of the subject property.

3. Site address of the subject property.

4. The name, mailing address, and telephone number of the geotechnical professional who prepared the letter.

5. The name, mailing address, and telephone number of the property owner.

6. A description of the proposed project and the area to be developed.

7. A map showing the property lines for the site, existing two-foot contours of the existing topography, and the location of any existing structures, utilities, wells, stormwater or septic systems, or other development.

8. A site plan delineating the boundaries of the proposed development site and the location of all areas of the site subject to the potential geologic hazard, and if applicable, limits of associated buffers.

9. If a site plan is required pursuant to this title, the site plan shall be prepared at a scale of one inch equals fifty feet (or other scale deemed appropriate by the department). The department may require that the site plan information listed below be based on a field survey by a licensed surveyor. The site plan shall include:

a. The limits/location of the geologic hazard area(s), including adjacent lots if necessary.

b. The location of any existing structures, utilities, on-site septic systems, wells, and stormwater management facilities.

c. The location of any proposed structures, utilities, on-site septic systems, wells, and stormwater management facilities.

d. The full geographical limits of the proposed project area (area to be developed).

e. Dimension of the closest distance between the identified geologic hazard area boundary (and associated buffers, if applicable) and the proposed project area.

f. Existing contours on the site at two-foot intervals.

g. Property lines for the site.

h. North arrow and scale.

10. Detailed discussion of the technical information, best available science and site-specific data on which the determination of hazard was based, including background assumptions. References to any sources of best available science used shall be included.

11. A paragraph that states the following:

a. A statement that the assessment was prepared under the responsible charge of (individual's name) and that the individual meets the qualifications defined for a geotechnical professional in Chapter 24.03 TCC to prepare a geological assessment for the specific type of geologic hazard.

b. A statement that a(n) (erosion, landslide, marine bluff, mine, or seismic) hazard geological assessment, including a field investigation, and research of available historic records, has been completed by the geotechnical professional on the subject site.

c. A statement that the scope of services completed for this project is adequate to meet the requirements of this title.

d. For geotechnical letters: A statement that it does not appear that a hazard area exists within the following areas adjacent to a development proposal.

i. Within two hundred feet for erosion hazards areas;

ii. Within three hundred feet for landslide, marine bluff, or mine hazard areas;

iii. Within the development proposal site for seismic hazard areas.

e. For geotechnical evaluations: A statement that it does not appear that a(n) (erosion, landslide, marine bluff, mine, or seismic) hazard area exists within 200 feet for erosion hazards areas; three hundred feet for landslide, marine bluff, or mine hazard areas; within the proposed project area for seismic hazard areas of the proposed project area.

12. All geological assessments proposing infiltration or dispersion of stormwater that are submitted under this chapter in relation to landslide and marine bluff hazards shall include the following additional information regarding the applicant's proposed solutions for handling stormwater:

a. An estimate of the amount and percentage increase of added stormwater that will be infiltrated as a result of the proposed development, both during peak storm events and month-by-month over an average one-year period.

b. Detailed discussion of the science, site-specific data on which the estimate of infiltrated stormwater was based, including background assumptions regarding groundwater incorporated into analysis.

c. A professional estimate of where the added water is expected to flow under the ground, and where and in what volumes it will daylight on the slope or bluff during peak storm events.

d. Detailed discussion of the science and site-specific data on which the hypothesized stormwater flows were based, including background assumptions incorporated into the analysis.

e. An analysis of whether the added stormwater daylighting the slope during peak storm events will increase the frequency, duration and severity of landslide events on the slope.

f. Detailed discussion of the science and site-specific data on which the estimate of the landslide risk was made, including background assumptions incorporated into the analysis.

g. A discussion of the alternative approaches to handling stormwater which were considered in the development process and discussion of why the proposed approach was chosen.

h. A discussion of the long-term impacts of stormwater and other sources of added water due to development (e.g. on-site sewage treatment systems and underground springs altered by development).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.140 Geologic hazards—Minimum standards for special reports—Third party review.

The approval authority may require a third party review of the geological assessment by a geotechnical professional at the applicant's expense.

A. If a third party review is required, the approval authority will notify the applicant in writing of an intent to retain a qualified third-party to review the information provided by the applicant.

B. At the time the applicant is notified of the requirement for third party review, the approval authority shall also provide written notice that the geotechnical report is available for review to property owners within one thousand feet of the project site. The approval authority shall accept public comment during a thirty-day period and shall forward the comments to the third party reviewer.

C. Landslide and Marine Bluff Hazard Areas. The approval authority shall require third party review, at the applicant's expense, to assess the adequacy of the proposal and the cumulative impacts of stormwater infiltration on slope stability. This is accomplished by evaluating the applicant's proposal as well as previous geotechnical reports prepared for properties within one thousand feet of the project site.

The approval authority may waive this requirement if the applicant demonstrates that the development proposal site is hydrologically disconnected to the landslide or marine bluff hazard area.

D. Third Party Review—Report Requirements. Third party review reports submitted under this section shall include the following information:

1. An analysis of the adequacy of methods used and the uncertainty and risk involved in the estimates.

2. Review and comment on the applicant's proposed methods for handling stormwater.

3. In addition to paragraphs (1) and (2) above, third party review reports for landslide and marine bluff hazard areas shall include a thorough discussion of the cumulative stormwater impacts on the ground water flowing into the proposed development and the geologic hazard area from prior developments built or proposed to be built within one thousand feet of the project site.

4. In light of these analyses, the third party reviewer shall answer the following question:

a. For landslide and marine bluff hazard areas: "In your professional opinion, does this development, as proposed, along with adjacent development within one thousand feet, create a probable significant adverse impact from increased geological hazard risk." If the answer is yes, the approval authority shall deny approval of the project, as proposed.

b. For seismic, volcanic, mine, or erosion hazard areas: "In your professional opinion, does the development, as proposed, create a probable significant adverse impact from increased geological hazard risk?" If the answer is yes, the approval authority will consider denial of the project, as proposed, based on the third party review findings.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.150 Geologic hazards—Additional requirements for geologic assessments in erosion hazard areas.

In addition to the requirements in TCC 24.35.130, the following shall be required for geologic assessments in erosion hazard areas, as specified:

A. The geological assessment shall be prepared by a geotechnical professional, such as an engineering geologist or geotechnical engineer, who is experienced and licensed to assess erosion hazard areas.

B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no erosion hazard area exists within two hundred feet of the development proposal site. A geotechnical letter shall, at a minimum, include the following:

1. The letter shall be labeled identifying the submittal as an "erosion hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.

C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that an erosion hazard area exists, but is located more than two hundred feet away from the proposed project area, and in their opinion, will not impact the subject site. A geotechnical evaluation shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as an "erosion hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9).

D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that 1) an erosion hazard area exists within two hundred feet of the proposed project area, or 2) an erosion hazard area is located more than two hundred feet away from the proposed project area, but in their opinion, will impact the subject site. A geotechnical report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as an "erosion hazard geotechnical report" and shall include all mandatory elements listed in TCC 24.35.130.

2. A description of the surface and subsurface geology, hydrology, soils, and vegetation on the site; conclusions and recommendations regarding the effect of geologic conditions on the proposed development; assessments and conclusions regarding the stability or instability of the site for the existing conditions and the developed conditions over the life of the project.

3. A detailed description of any previous grading activity, soil instability, or slope failure.

4. A site plan, as defined in TCC 24.35.130(H)(9).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.160 Geologic hazards—Additional requirements for geologic assessments in landslide hazard areas.

In addition to the requirements in TCC 24.35.130, the following shall be required for geologic assessments in landslide hazard areas, as specified:

A. The geological assessment for a landslide hazard area shall be prepared by a geotechnical professional who is licensed as a professional engineer or engineering geologist with a minimum of four years of relevant professional employment, as determined by the director.

B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no landslide hazard area exists within three hundred feet of the development proposal site. A geotechnical letter shall, at a minimum, include the following:

1. The letter shall be labeled, identifying the submittal as a "landslide hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.

2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a landslide hazard area exists, but is located more than three hundred feet away from the proposed project area, and in their opinion, will not impact the subject site. A geotechnical evaluation shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "landslide hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. A description of the surface and subsurface geology, hydrology, soils, and vegetation on the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, the effect of the proposed development on geologic conditions, and opinions and recommendations on the stability or instability of the site over the life of the project.

D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that 1) a landslide hazard area exists within three hundred feet of the proposed project area; or 2) a landslide hazard area is located more than three hundred feet away from the proposed project area, but in their opinion, will impact the subject site. A geotechnical report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "landslide hazard geotechnical report" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. A description of the surface and subsurface geology, hydrology, and soils on the site; a list of the landslide hazard indicators; conclusions and recommendations regarding the effect of geologic conditions on the proposed development and the effect of the proposed development on geologic conditions;

4. Assessment of the role of existing vegetation on maintaining slope stability on site;

5. Subsurface characterization data must be provided. The data shall be based on both existing and new information that may include soil borings (SPT or other appropriate driven sample collection methods), test pits, geophysical surveys, or other appropriate subsurface exploration methods, as approved by the director, development of site-specific soil and/or rock stratigraphy, and measurement of groundwater levels including variability resulting from seasonal changes, alterations to the site, and other factors as determined by the director.

6. The geotechnical or boring data shall provide sufficient information for the geotechnical professional to determine slope stability. A written explanation shall be provided and include the logs outlining how the work was performed (equipment, company, drillers, etc.), weather, classification systems, and other information that incorporates all of the variables related to project performance.

7. The soil classification shall meet the requirements of Title 14 TCC, Buildings and Construction.

8. The three-dimensional subsurface conditions at the site shall be included in the report.

9. Soil strength and index properties (i.e., unit weight, cohesion, etc.) shall be provided for each soil unit interpreted from the subsurface characterization of the site.

10. A detailed description of any prior grading activity, soil instability, or slope failure.

11. Assessments and conclusions regarding slope stability for both the existing and developed conditions shall be presented and documented. These assessments and conclusions shall include:

a. Evaluation of the potential types of landslide failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site.

b. Quantitative stability evaluation of slope conditions of the various failure mechanisms using state-of-the-practice modeling techniques as determined by the director. Limiting equilibrium methods of analysis shall state the stability conditions as a factor of safety. The most unstable failure geometry(ies) shall be presented in the form of a cross-section(s), with the least stable failure geometry for each failure mechanism clearly indicated. The stability evaluation shall also consider dynamic (earthquake) loading, and shall use a minimum horizontal acceleration as established by Title 14 TCC, Buildings and Construction.

c. An analysis of slope regression rate shall be presented in those cases where stability is impacted or influenced by erosional processes (e.g., wave cutting, stream meandering, etc.) acting on the toe of the slope.

12. Mitigation recommendations using engineered measures and any relevant best available science to protect the proposed structure(s) and any adjacent structures, infrastructure, adjacent wetlands, or critical fish and wildlife habitat from damage or destruction as a result of proposed construction activities shall be designed by a professional engineer. The geotechnical report shall contain:

a. Design plans and associated design calculations for engineered structures or drainage systems (e.g., structural foundation requirements, retaining wall design, etc.).

b. Recommendations and requirements pertaining to the handling of surface and subsurface runoff in the developed condition.

c. Identification of necessary geotechnical inspections to assure conformance with the report mitigation and recommendations.

d. Proposed angles of cut and fill slopes, site grading requirements, final site topography (shown as two-foot contours), and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development detailed within the body of the report and shown on a site map at the same scale as required by the review authority.

e. Soil compaction criteria and compaction inspection requirements.

f. An analysis that indicates how the proposal meets the standards outlined in TCC 24.15.030-24.15.240.

g. Structural foundation requirements and estimated foundation settlement shall be provided if structures are proposed.

h. Lateral earth pressures.

i. Suitability of on-site soil for use as fill.

j. Mitigation measures for building construction on each lot for short plats, large lots, or formal plats such that additional geotechnical professional involvement is minimized during building construction.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.170 Geologic hazards—Additional requirements for geologic assessments in marine bluff hazard areas.

In addition to the requirements in 24.35.130 TCC, the following shall be required for geologic assessments in marine bluff hazard areas, as specified:

A. The geological assessment for a marine bluff hazard area shall be prepared by a geotechnical professional who is licensed as a professional engineer or engineering geologist with a minimum of four years of relevant professional employment, as determined by the director.

B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no marine bluff hazard area exists within three hundred feet of the development proposal site (i.e. legal lot). A geotechnical letter shall, at a minimum, include the following:

1. The letter shall be labeled, identifying the submittal as a "marine bluff hazard geotechnical letter" and shall include all mandatory elements listed in 24.35.130 TCC.

2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a marine bluff hazard area exists, but is located more than three hundred feet away from the proposed development, and in their opinion, will not impact the subject site. A geotechnical evaluation shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "marine bluff hazard geotechnical evaluation" and shall include all mandatory elements listed in 24.35.130 TCC.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. A general description of the on-site geology and shoreline processes affecting the subject property as well as a detailed discussion of how the site could be developed without the use of a bulkhead along the shoreline.

4. Assessments and conclusions of the stability or instability of the site including past slope failures if any, their timing, size, frequency, and mechanism; assessment of the likelihood of future failures, and identification of those aspects of the potential development that may contribute to future failures.

D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that 1) a marine bluff hazard area exists within three hundred feet of the proposed project area; or 2) a marine bluff hazard area is located more than three hundred feet away from the proposed project area, but in their opinion, will impact the subject site. A geotechnical report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "marine bluff hazard geotechnical report" and shall include all mandatory elements listed in 24.35.130 TCC.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. A description of the surface and subsurface geology, hydrology, and soils on the site, as well as a detailed discussion of how the site could be developed without the use of a bulkhead along the shoreline.

4. Assessment of the role of existing vegetation on maintaining slope stability on site.

5. Subsurface characterization data must be provided. The data shall be based on both existing and new information that may include soil borings (SPT or other appropriate driven sample collection methods), test pits, geophysical surveys, or other appropriate subsurface exploration methods, as approved by the director, development of site-specific soil and/or rock stratigraphy, and measurement of groundwater levels including variability resulting from seasonal changes, alterations to the site, and other factors as determined by the director.

6. Soil strength and index properties (i.e., unit weight, cohesion, etc.) shall be provided for each soil unit interpreted from the subsurface characterization of the site. Refer to requirements under TCC 24.35.160.

7. Shoreline processes including an evaluation of erosion and bluff retreat over the past decade, and an estimate of probable rate of erosion over the useful life of the development (normally fifty years).

8. A detailed description of any prior grading activity, soil instability, or slope failure.

9. Assessments and conclusions regarding slope stability for both the existing and developed conditions shall be presented and documented. These assessments and conclusions shall include:

a. Evaluation of the potential types of landslide or bluff failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site.

b. Quantitative stability evaluation of slope conditions of the various failure mechanisms using state-of-the-practice modeling techniques. Limiting equilibrium methods of analysis shall state the stability conditions as a factor of safety. The most unstable failure geometry(ies) shall be presented in the form of a cross-section(s), with the least stable failure geometry for each failure mechanism clearly indicated. The stability evaluation shall also consider dynamic (earthquake) loading, and shall use a minimum horizontal acceleration as established by Title 14 TCC, Buildings and Construction.

c. An analysis of the slope regression rate shall be presented in those cases where stability is impacted or influenced by erosional processes (e.g., wave cutting, stream meandering, etc.) acting on the toe of the slope.

10. Assessments and conclusions of the stability or instability of the site including past slope failures if any, their timing, size, frequency, and mechanism; assessment of the likelihood of future failures, and identification of those aspects of the potential development that may contribute to future failures.

11. Evaluation of site development alternatives that use nonstructural erosion control measures such as vegetation alone or in combination with rock at the toe of the marine bluff, beach berm, an earthen berm, logs anchored at the toe of the slope or beach nourishment.

12. Mitigation recommendations using engineered measures to protect the proposed structure(s) and any adjacent structures, infrastructure, adjacent wetlands, or critical fish and wildlife habitat from damage or destruction as a result of proposed construction activities shall be designed by a professional engineer. The geotechnical report shall contain.

a. Design plans and associated design calculations for engineered structures or drainage systems (e.g., structural foundation requirements, retaining wall design, etc.).

b. Recommendations and requirements pertaining to the handling of surface and subsurface runoff in the developed condition.

c. Identification of necessary geotechnical inspections to assure conformance with the report mitigation and recommendations.

d. Proposed angles of cut and fill slopes, site grading requirements, final site topography (shown as two-foot contours), and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development detailed within the body of the report and shown on a site map at the same scale as required by the review authority.

e. Soil compaction criteria and compaction inspection requirements.

f. An analysis that indicates how the proposal meets the standards outlined in TCC 24.15.030-240.

g. Structural foundation requirements and estimated foundation settlement shall be provided if structures are proposed.

h. Lateral earth pressures.

i. Suitability of on-site soil for use as fill.

j. Mitigation measures for building construction on each lot for short plats, large lots, or formal plats such that additional geotechnical professional involvement is minimized during building construction.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.180 Geologic hazards—Additional requirements for geologic assessments in mine hazard areas.

In addition to the requirements in Chapter 24.18 TCC and TCC 24.35.130, the following shall be required for geologic assessments in mine hazard areas, as specified:

A. The geological assessment for a mine hazard area shall be prepared by a geotechnical professional who is licensed as a professional engineer or engineering geologist with a minimum of four years of relevant professional employment, as determined by the director.

B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no mine hazard area exists within 300 feet of the development proposal site. A geotechnical letter report shall, at a minimum, include the following:

1. The letter shall be labeled, identifying the submittal as a "mine hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.

2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

3. A description of historical data and information required by Chapter 24.18 TCC and other information used in the assessment.

C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a mine hazard area exists, but is located more than three hundred feet away from the proposed project area, and in their opinion, will not impact the subject site. A geotechnical evaluation report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "mine hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. A description of the surface and subsurface geology, hydrology, soils and vegetation of the site and a list of the mine hazard indicators found on or in the vicinity of the site.

4. A summary of the results, conclusions, and recommendations resulting from the geological assessment of the mine hazards on or in the vicinity of the site.

5. A summary of the data and methods of analysis used to support the conclusions and recommendations presented in the geotechnical evaluation.

6. The review authority may waive the requirement for this report if it can be proven that the mine hazard no longer exists.

7. The geotechnical evaluation shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

8. A description of historical data and information required by Chapter 24.18 TCC and other information used in the assessment.

D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that a mine hazard area exists within three hundred feet of the proposed project area or when the results of the site investigation by the geotechnical professional indicate that mitigation measures are necessary in order to construct or develop within a mine hazard area. A geotechnical report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "mine hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. A description of the surface and subsurface geology, hydrology, soils and vegetation of the site and a list of the mine hazard indicators found on or in the vicinity of the site.

4. A description of the analytical tools and processes used to develop the geotechnical report.

5. A detailed description of any prior grading activity, soil instability, or ground failure.

6. Data from surface exploration such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or site investigations that may be useful in making conclusions or recommendations about the site under investigation.

7. A description of historical data and information required by Chapter 24.18 TCC and other information used in the evaluation, together with sources, to include:

a. Topographic maps at a scale and contour interval of sufficient detail to assess the site. The site boundaries and proposed development site shall be overlain with the mine plan view map.

b. Aerial photography, as appropriate.

c. Geologic cross-sections and other illustrative data, as appropriate.

8. A summary of the results, conclusions, and recommendations resulting from the geological assessment of the mine hazards on or in the vicinity of the site.

9. The review authority may waive the requirement for this report if it can be proven that the mine hazard no longer exists.

10. The geotechnical report shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.190 Geologic hazards—Additional requirements for geologic assessments in seismic hazard areas.

In addition to the requirements in TCC 24.35.130, the following shall be required for geologic assessments in seismic hazard areas, as specified:

A. The geological assessment for a seismic hazard area shall be prepared by a team that includes a geotechnical professional who is licensed as an engineering geologist specializing in seismic hazards with a minimum of four years of relevant professional employment, as determined by the director.

B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no seismic hazard areas exist within the development proposal site. A geotechnical letter shall, at a minimum, include the following:

1. The letter shall be labeled identifying the submittal as a "seismic hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.

2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a seismic hazard area exists but is located outside the proposed project area. A geotechnical evaluation shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "seismic hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9).

3. Verification that a seismic hazard exists on the property, but is located outside the proposed project site.

4. A description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations for compensating for the seismic hazards present.

5. The geotechnical evaluation shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that a seismic hazard area exists within the proposed project area. A geotechnical report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "seismic hazard geotechnical report" and shall include all mandatory elements listed in TCC 24.35.130.

2. A site plan, as defined in TCC 24.35.130(H)(9). The site plan shall also include any set-backs from the defined locations of the seismic hazard area, as determined by the geotechnical professional(s), to protect any portion of the proposed development activity from damage caused by liquefaction-induced ground displacement.

3. Verification that the proposed project site falls within a seismic hazard area.

4. The field investigation shall include subsurface characterization using conventional geotechnical borings and standard penetration testing (SPT) or using cone penetration testing (CPT).

5. The geotechnical report shall include a detailed assessment of the liquefaction and/or dynamic settlement hazard based on an analysis of all available SPT or CPT data using state-of-the-practice methodologies, such as provided by Youd and Idriss (1997) or subsequent technical publications. The methodology used in the analysis shall be documented, and all results of intermediate and final calculations and results, including factors of safety, shall be included.

6. The geotechnical report shall contain an assessment of the potential for large lateral spreads or flow failures, bearing failures, settlement, limited lateral displacement, and floatation of buried facilities. The methodologies used must be, at a minimum, state-of-the-practice, and where applicable, should employ more than one method of analysis. All results of intermediate and final calculations and conclusions regarding the potential and severity of the possible liquefaction and/or dynamic settlement induced failure modes shall be presented.

7. Alternative mitigation measures including structural and foundation design options and/or soil improvement techniques shall be evaluated and compared for their effectiveness in reaching the level of performance specified in the report. Final designs and specifications and plans for structural and/or foundation design shall be included if applicable. Effectiveness of soil improvement techniques shall be specified in terms of post-treatment densification or strength improvement as measured by appropriate subsurface investigation and testing. The extent of post-treatment verification testing shall be provided on a site map at the same scale as required by the approval authority.

8. A description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations for compensating for the seismic hazards present.

9. The geotechnical report shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.200 Frequently flooded areas—Special reports.

The following special reports are required for uses and activities proposed to be located within flood or channel migration hazard areas, including the NDZ and RDZ associated with high ground water hazard areas: drainage and erosion control plan; topographic survey of the site plan; and flood elevation certificate from a licensed surveyor. If the subject site contains a channel migration zone identified

pursuant to TCC 24.20.045 and .055, the applicant shall submit a one- hundred-year channel migration hazard area report.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.205 Frequently flooded areas—Flood elevation certificate.

A flood elevation certificate shall be required for a structure when a property lies within the one-hundred-year floodplain (flood hazard zone) of any river, lake, pond, wetland, or marine waters within Thurston County consistent with Chapter 14.38 TCC.

(Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.35.210 Frequently flooded areas—Drainage and erosion control plan.

The applicant shall submit a drainage and erosion control plan which addresses methods to minimize erosion and contain soil within the project boundaries during construction and to provide for stormwater management from the site and its surroundings during and after construction, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.220 Frequently flooded areas—Grading plan.

A. An applicant shall submit a grading plan which identifies the proposed development project including the movement of material on-site along with the proposed and existing contours of the site, and cross sections thereof.

B. This report shall be prepared by a civil engineer licensed in the state of Washington, consistent with Title 14 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.230 Frequently flooded areas—Topographic survey.

A. An applicant shall submit a topographic survey when development on the subject property lies within the one-hundred-year floodplain of any river, lake, wetland or marine waters within Thurston County pursuant to Chapter 14.38 TCC, as amended; or within a high ground water hazard area/NDZ/RDZ; or in a one-hundred-year channel migration hazard area. The survey shall indicate the one-hundred-year floodplain elevation above mean sea level of the site or BFE, as applicable (see Chapter 24.03 and TCC 24.20.015) and the location and first floor elevation of any proposed structures as required by TCC 14.38, as amended or above the BFE consistent with TCC 24.20.015—24.20.035.

B. Where elevation data is not available from the flood insurance rate maps a licensed surveyor shall establish an approximate flood elevation based upon other sources of information as described in TCC 14.38.040, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.240 Frequently flooded areas—Channel migration hazard area report.

If the approval authority determines that a proposed project is in an historic channel migration zone of a Type S or F stream and the one-hundred-year channel migration hazard area has not been mapped for the site, the applicant shall identify the location of the one-hundred-year channel migration hazard area on the site as follows:

A. A determination as to whether the one-hundred-year channel migration hazard area is located on site and, if so, the extent of its location, shall be made by a qualified professional proficient in fluvial geomorphology (e.g., possess a graduate degree in geology or physical geography with specialization in fluvial geomorphology, and have at least two years of professional experience) using a reliable methodology to determine channel migration accepted by the resource stewardship department (e.g., as described in Forest Practices Board Manual, Standard Methods for identifying Channel Migration Zones and Bankfull Channel Features, dated 8/2001, as amended, or as described in "A Framework for Delineating Channel Migration Zones," Washington Department of Ecology, 2003 as amended). Maps delineating the one-hundred-year channel migration zone shall be of a scale and format specified by the department.

B. The following areas shall be considered outside of the one-hundred-year channel migration hazard area:

1. Areas separated from the stream channel by a legally established structure that the approval authority, in consultation with a qualified professional, determines will block channel migration. This may include, but is not limited to, dikes and public roads that extend above the one-hundred-year flood elevation which are constructed to remain intact through a one-hundred-year flood. Constraints to channel migration that do not extend above the one-hundred-year flood elevation shall not be considered to limit channel migration unless demonstrated otherwise based on scientific and technical information; and

2. Areas separated from the stream channel by a natural geologic feature, such as a rock outcrop, that the approval authority, in consultation with a qualified professional, determines will stop channel migration.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.250 Special reports.

Applications for development proposals on property containing an important species or habitat shall provide: a critical area report; a drainage and erosion control plan; and a grading plan as indicated in this chapter. Applications for development proposals that are within six hundred feet of a point location of an important species may be required to submit special reports described in this chapter if the approval authority determines that the project location and nature may have an impact on an important species. If restoration is proposed in exchange for reduced habitat area width, the applicant shall submit a habitat restoration plan consistent with TCC 24.35.310.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.260 Critical area reports required.

All applications for projects requiring a critical area review permit (see Chapter 24.40 TCC) on sites containing important habitats and species areas or associated buffers shall include a critical area report as

specified in this section. The critical area report for important habitats and species may also be referred to as a habitat management plan. If the use or activity is proposed to be located within an important habitat area or an associated buffer, a mitigation plan shall also be submitted.

A. Critical area reports shall be prepared by a qualified professional biologist with experience preparing reports for the relevant species or type of habitat. The report shall be prepared in consultation with staff from the appropriate state agency, such as WDFW or DNR.

B. The approval authority shall verify compliance with the applicable standards contained in Chapters 24.01, 24.25, 24.65 TCC, and 24.70, prior to authorizing the proposed use or activity.

C. All proposals for land development activities, including land clearing, on a prairie soil type shown in Table 24.25-6 (Chapter 24.25 TCC), or in an area that could be classified as a prairie or oak habitat under this chapter, or are within six hundred feet of those habitats, shall be subject to the requirements of this chapter, except where one of the following conditions exist:

1. Proposals for which there is no expansion of the structural footprint of an existing structure, or where there is no change in the location and area of existing impervious surfaces; or

2. Minor road and street improvements (refer to WAC 197-11-800(2)(c)); or

3. Developed parcels less than one acre in size for which an accessory structure or an addition to the primary structure is proposed, and which are surrounded by similarly sized and similarly developed lots, where developed means the presence of a primary structure(s), with associated paving, lawns, or non-native landscaping; or

4. New development is proposed on vacant parcels less than one-half acre in size surrounded by similar sized developed lots, where developed means the presence of a primary structure(s), with associated paving, lawns or non-native landscaping.

For the purposes of this section, a structure shall not include sheds, agriculture buildings, buildings less than two hundred square feet, or similar structures as determined by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.270 Waiver of special reports.

The director may waive the submittal of any and all of the fish and wildlife habitat conservation areas special reporting requirements identified in this chapter under the following conditions:

A. The removal of vegetation is minimal and will not impact the values or functions of an important habitat area or associated buffer;

B. Project activities will not impact the values or functions of an important habitat area or associated buffer; and

C. In the judgment of the director, any waived special reporting requirements would not be required to adequately address the potential critical area impacts and required mitigation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.280 Critical area reports—Minor projects.

A. A critical area report for minor projects shall be submitted for:

1. Small scale projects with less than five thousand square feet of impervious surface that will not encroach into an important habitat area or associated buffer; and

2. Other projects on sites containing important habitat areas where all of the proposed development would be located at least four hundred feet from all important habitat areas, as verified in the field. This does not include priority species conservation areas or intensive uses identified in TCC 24.25.220.

B. Applicants for projects that do not qualify under this section must comply with TCC 24.35.290.

C. The critical area report for minor projects shall contain the following information, as applicable:

1. The applicant's name, address, and contact information;

2. The name, contact information, and qualifications of the report's primary author;

3. The site address and tax parcel number;

4. A vicinity map with driving directions;

5. A site map including:

i. A north arrow;

ii. Scale;

iii. The approximate location of the important habitat area on site and an approximate delineation of the other critical areas and associated buffers on-site and within three hundred feet of the site;

iv. Topographic contours at two-foot intervals;

v. Existing physical features, including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies, etc.;

vi. Property lines, rights-of-way, and easements; and

vii. The location of the proposed activity or use, including proposed structures, grading and clearing limits, and any other site development and modifications.

6. Text outlining, as applicable:

i. Site acreage and general site characteristics; and

ii. A description of the proposal.

D. Based on the quality and detail of information provided, the site's complexity or the use's potential to impact important habitat areas or associated buffers, the approval authority may

require additional information listed in TCC 24.35.290 as necessary to make a decision regarding the proposal.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.290 Requirements for critical area reports.

Applicants for projects that do not qualify for a critical area report—minor projects shall submit a report and accompanying plan/data sheets containing, at a minimum, the relevant information specified in this section.

A. Maps. The report shall contain a vicinity map with detailed driving instructions to the subject site and site map setting forth the following, as applicable:

1. A north arrow and scale.

2. The location of important habitat areas and any marine or riparian management zones on-site, the point location of an important species within six hundred feet of the development proposal site, and other critical areas that extend onto the property proposed for development and within three hundred feet of the project area. The important habitat areas and any established and proposed buffers shall be staked and flagged in the field. A professional land surveyor shall survey the boundary of the important habitat area or, if applicable, associated buffer after the approval authority has determined that it is located correctly. The habitat area and management zone delineations shall be submitted to the approval authority in a format acceptable to the resource stewardship department.

3. Property lines, rights-of-way, and easements.

4. Topographic contours at two-foot intervals.

5. Patterns of surface water movement and, if relevant (e.g., for streams, lakes, ponds, Puget Sound, and riparian habitats), known subsurface water movement into, through, and out of the site.

6. All existing physical features including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies.

7. A depiction of the proposed activity or use and other proposed modifications to the site including the grading and clearing limits and proposed stormwater management facilities.

B. The important habitat area, associated buffer, and any management zone boundary shall be identified on all grading, landscaping, site, utility or other development plans submitted for the project.

C. Text. The report shall contain the following information, as applicable:

1. The applicant's name and contact information;

2. The name, contact information, and qualifications for the primary report author(s);

3. The site address and tax parcel number;

4. A description of the proposal;

5. Identification of all the local, state, and federal permit(s) required for the project;

6. Assessment of existing conditions including, as relevant, vegetative types and complexity, hydrology, soil conditions, general site conditions, acreage and identification and characterization of the important wildlife habitat and any other critical areas on-site;

7. If a stream, Puget Sound, pond or lake is affected, a hydrological analysis, including existing surface and known significant sub-surface flows into and out of the important habitat area;

8. Identification of the important habitat area's functions and documentation of fieldwork and literature reviewed pertaining to functional assessments;

9. An analysis of site development alternatives and a discussion of measures proposed to avoid impacts and preserve the important habitat area/buffer and associated functions; and

10. A description of the nature and extent of the proposed use or activity's potential direct or indirect impacts to the important habitat area and associated buffer, including a description of impacted vegetation, hydrology, soil conditions, and other relevant factors.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.300 Requirements for mitigation plans.

If important habitat areas or associated buffers would be impacted, a mitigation plan shall be submitted with the critical area report. The mitigation plan shall identify proposed measures to avoid, minimize and mitigate the proposed project's impacts to the important habitat areas and associated buffers. The mitigation plan shall include, as applicable:

A. Mitigation Proposal. The general mitigation scheme and justification that provides for restoration or mitigation of the projects impacts, approximate project sequencing and schedule, proposed plant selection, and maintenance program;

B. Performance Standards. Performance standards for evaluating whether or not mitigation is successful. These standards shall address all of the relevant habitat functions being mitigated including, but not limited to, water quality, habitat diversity, establishment of viable plant communities, vegetative complexity, and vegetative survival rates;

C. Monitoring and Contingency Measures. Proposed monitoring and contingency measures shall be provided per TCC 24.35.017.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.310 Requirements for restoration plans.

Habitat restoration plans shall be prepared by a qualified biologist or other qualified professional and shall identify all measures needed to improve the habitat functions. Priority and locally important habitats and species, if present, shall be addressed in the plan. The restoration plan shall be prepared, consistent with best available science, by the applicant's qualified biologist. Restoration measures shall include, as applicable, but are not limited to, the following:

A. Planting a mix of conifers and other native trees in degraded riparian habitat areas that will provide structural diversity and a source of large woody debris (e.g., fallen trees) for the stream, marine areas, and productive upland habitat. The trees shall be appropriate to the habitat, field grown, at least two feet in height, and planted between October 1 and April 1. The applicant shall provide a watering plan indicating how the trees will be watered during the first two years following planting to ensure survival.

B. Replacing invasive or nonnative plant species with native vegetation that occurs in the habitat.

C. Replacing rip-rap, concrete, tires or similar stream bank armoring along a Type F or S stream with anchored logs or another appropriate form of bioengineering consistent with the latest edition of WDFW's Integrated Stream bank Protection Guidelines. (Also see Chapter 24.20 TCC, Frequently Flooded Areas).

D. Planting vegetation appropriate and consistent with the surrounding habitat to increase root density along stream banks that are eroding or are vulnerable to erosion, as determined by the approval authority. Unless otherwise recommended by a qualified professional, such vegetation shall be planted between October 1 and April 1. The applicant shall provide a watering plan indicating how the plants will be watered during the first two years following planting to ensure survival.

E. Off channel habitat restoration or enhancement (e.g., sloughs) that significantly improves the productivity of a stream section.

F. Installing rot free, slow decomposing tree trunks with root balls (e.g., red cedar, Douglas fir, big leaf maple) and/or large rocks in appropriate locations in Type F or S streams that lack such structure, as determined by the approval authority in consultation with the WDFW and others with expertise. The approval authority may require that a qualified engineer review the proposal to assure that it will function as intended without exacerbating flooding risks. Also see Chapter 24.20 TCC, Frequently Flooded Areas.

   Unless otherwise recommended by a qualified professional consistent with best available science, logs placed in streams between sixteen and thirty-two feet wide shall be at least twenty-two inches in diameter. Trees placed in streams wider than thirty-two feet shall be at least twenty-six inches in diameter.

   Large woody debris shall not be installed in the following locations unless it is anchored:

   1. Streams that have a history or high potential for debris torrents or other mass wasting;

   2. Within fifty feet upstream from culverts or bridges;

3. Confined streams where the width of the valley floor is less than twice the bankfull width;

4. In areas that have a known history of log jams that threaten structures or roads.

(For guidance on tree selection and placement, see the Forest Practices Board Manual, Section 26, dated August 2001, Guidelines for Large Woody Debris Placement Strategies, as amended).

G. Removal of roads within the habitat area and revegetation of the roadbeds with appropriate native vegetation. The approval authority may require soil amendment to enable plant survival and drainage in restored roadbeds.

H. Removal of structures within the habitat area and revegetation of the building sites with appropriate native vegetation. The approval authority may require soil amendment on the compacted building site to enable plant survival and drainage.

I. Removal or replacement of culverts or facilities that are a barrier to fish migration.

J. Elimination of channels and ditches in a habitat area or buffer that convey stormwater to a waterbody and installation of a device (e.g., a perforated pipe) to induce sheet flow of stormwater at the outer edge of the habitat area or buffer, as applicable.

K. Planting native vegetation appropriate and consistent with the surrounding habitat in degraded habitat areas that will provide structural diversity for the habitat and associated species. The plants shall be appropriate to the habitat, native to the area and planted between October 1 and April 1. The applicant shall provide a watering plan indicating how the plants will be watered during the first two years following planting to ensure survival.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.320 Requirements for drainage and erosion control plans.

The applicant shall submit a drainage and erosion control plan that addresses methods to minimize erosion and contain soil within the project boundaries during construction. The plan shall also provide for stormwater management from the site and its surroundings during and after construction consistent with the Chapter 17.15 TCC, Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.330 Requirements for grading plans.

The applicant shall submit a grading plan. This plan shall identify the proposed development project including the movement of material on-site along with the proposed and existing contours of the site, and cross sections thereof. The report shall be prepared by a civil engineer licensed in the State of Washington, consistent with Chapter 14.37 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.340 Wetlands—Length of wetland report validity.

Wetland reports shall be valid for a period of five years, or the duration of the underlying permit. This excludes subdivisions, which are regulated under Title 18 TCC and Chapter 58.17 RCW. A wetland report may be submitted for other types of permits if the report is less than five years old. The approval authority may require the wetland report to be updated if site conditions or regulatory requirements have changed.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.350 Wetlands—Special reports.

A wetland critical area report is required as part of the application for projects proposed to be located on sites containing wetlands and/or associated buffers. If the use or activity is proposed to be located within a wetland or buffer, the applicant shall also submit a wetland mitigation plan (see TCC 24.35.380). The director may waive, or limit the scope of, any special reports with a written finding that the potential for wetland or buffer impacts are low and that the proposed development would not cause significant adverse impacts, or that there is adequate biological/ecological information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.360 Wetlands—Critical area report—Minor projects.

A. A wetland critical area report - minor projects shall be submitted for:

1. Projects with less than five thousand square feet of impervious surfaces that will not encroach into a wetland or buffer; and

2. Other projects on sites containing wetlands or buffers where all of the proposed development would be located at least four hundred feet from all wetlands, as verified in the field. This does not include intensive uses identified in TCC 24.30.200.

B. Applicants for projects exceeding the size limits in this section, involving intensive uses, or all projects that would encroach upon a wetland or associated buffer must comply with TCC 24.35.370.

C. The wetland critical area report - minor projects shall contain the following information as applicable:

1. The applicant's name and contact information.

2. The submitting wetland scientist's name, contact information, and qualifications.

3. The site address and tax parcel number.

4. A vicinity map with driving directions.

5. A site map including:

a. A north arrow and scale;

b. For projects at least four hundred feet from a wetland: The wetland's category, if known, and its approximate location and the approximate location of other critical areas and their buffers on-site and within three hundred feet off-site;

c. For projects within four hundred feet of a wetland: identification of the wetland's category, delineation of the wetland boundary and the recommended buffer consistent with Ecology's Wetland Rating System for Western Washington;

d. Topographic contours at two-foot intervals;

e. All existing physical features, including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies;

f. Property lines, rights-of-way, and easements; and

g. The location of the proposed activity or use, including proposed structures, grading and clearing limits, and any other site modifications.

6. Text outlining:

a. Site acreage and general characteristics;

b. A description of the proposal;

c. For projects within four hundred feet of a wetland: the wetland's hydrogeomorphic class, category, and function scores consistent with Ecology's Wetland Rating System for Western Washington; and the proposed wetland buffer and reasoning; and

d. A description of the wetland review process including when field work was conducted, data that was used, and general observations.

D. Based on the quality and detail of information provided, the site's complexity or the use's potential to impact wetlands and buffers, the approval authority may require additional information listed in TCC 24.35.370 as necessary to make a decision regarding the proposal.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.370 Wetlands—Critical area report.

Applicants for projects that do not qualify under TCC 24.35.360 shall submit a report and accompanying plan/data sheets containing, at a minimum, the information specified in this section.

A. Preparation by a Qualified Professional. Certified professional wetland scientists or non-certified professional wetland scientists with a minimum of five years experience in the field of wetland science, including experience preparing wetland reports, shall prepare wetland critical area reports. The wetland report shall be signed and dated by the primary author.

B. Maps. The report shall contain a vicinity map with detailed driving instructions to the subject site and site map setting forth the following, as applicable:

1. A north arrow and scale.

2. Property lines, rights-of-way, and easements.

3. All existing physical features including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies.

4. The location of wetlands and associated buffers on-site, consistent with TCC 24.30.020. The wetland boundaries shall be staked and flagged. A professional land surveyor shall survey the wetland boundary after the approval authority has determined that it is located correctly. The final wetland and buffer delineations shall be submitted to the approval authority in a format acceptable to the resource stewardship department.

5. Wetlands and buffers off-site within three hundred feet of the site boundaries in as much detail as possible.

6. Topographic contours at two-foot intervals.

7. Patterns and direction of surface water movement and known subsurface water movement into, through, and out of the site.

8. A depiction of the proposed activity or use and other proposed modifications to the site, including grading and clearing limits and proposed stormwater management facilities, including outlets.

9. Identification of areas where proposed impacts to the wetland and buffer would occur, the size of the impacted wetland and buffer in square feet, and discussion of potential impacts, including any anticipated hydro period alterations.

10. The wetland boundary, wetland buffer, and all critical area tracts and easements on the subject site shall be identified on all grading, landscaping, site, utility or other development plans submitted for the project.

C. Text. The report shall contain the following information, as applicable:

1. The applicant's name and contact information;

2. The name, qualifications, and contact information for the primary report author(s);

3. A description of the proposal;

4. Identification of all the local, state, and federal wetland related permit(s) required for the project;

5. The site address and tax parcel number;

6. General site conditions and size;

7. Identification and characterization of all wetlands and buffers on-site and within three hundred feet of the site proposed for development. If the affected property owner does not grant access to the area within three hundred feet of the project site, the wetland scientist shall estimate the site conditions using the best available information;

8. For each wetland on-site, the wetland's hydrogeomorphic classification, category, and function scores, consistent with the Wetland Rating System for Western Washington, the recommended wetland buffer, consistent with TCC 24.30.035—24.30.065, and the rationale;

9. Documentation of any fieldwork performed on the site such as field data sheets for delineations and functional assessments;

10. A hydrological analysis, including existing surface and known sub-surface flows into and out of the subject wetland(s), the location and condition of inlet/outlets (if they can be legally accessed), estimated water depths within the wetland, and estimated hydroperiod patterns based on visual cues such as algal mats, drift lines, and flood debris;

11. Identification and evaluation of all wetland and buffer functions at the subject site (e.g., removing sediment, excess nutrients and pollutants from water; storing floodwater; moderation of stormwater impacts; providing cover, refuge, foraging and breeding habitat for fish and wildlife; sustaining sensitive plant species; and providing shade that moderates water temperature and produces micro-climate effects), consistent with Ecology's Wetland Rating System for Western Washington;

12. A description of the proposed use or activity's potential direct or indirect impacts to the wetland(s), associated buffer(s) and related functions, including stormwater-related impacts to wetland hydrology; and the size of the impacted area;

13. Demonstration of compliance with applicable provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.380 Wetlands—Special reports—Wetland mitigation plan.

Wetland impacts shall be mitigated consistent with an approved mitigation plan. The applicant shall submit a conceptual wetland mitigation plan generally containing the information listed below, as applicable. The county may require use of a standardized wetland mitigation report format.

If the approval authority approves the conceptual mitigation plan, the applicant shall submit a detailed mitigation plan to the approval authority for review and approval, consistent with the provisions of this section. Prior to submitting detailed wetland mitigation plan, the applicant shall meet with the approval authority to discuss the submittal requirements.

A. Demonstrate Qualifications. A professional wetland scientist shall prepare the mitigation plan. This scientist shall be knowledgeable of wetland conditions within Thurston County and have experience designing wetland mitigation projects, at least some of which have been installed and monitored for a minimum of two years. The design team may include other participants as needed.

   Applicants proposing a wetland mitigation project shall demonstrate that the individuals designing, constructing, and monitoring the project have sufficient expertise, supervisory capability, and financial resources to carry out the proposed project. A project manager shall be named, and the qualifications of each team member involved in preparing the mitigation plan and implementing and supervising the project shall be provided, including educational background, areas of expertise, training, and experience with comparable projects. The approval authority, in consultation with Ecology, shall verify the success of the mitigation

B. Report. Wetland mitigation plans shall include a written report and a site plan, commensurate with the scope of the development proposal, including the relevant components listed below (also see the Draft Guidance on Wetlands Mitigation in Washington State, Washington State Department of Ecology publication number 04-06-013B Part 2, 2004):

1. The applicant's name and contact information;

2. The name, qualifications, and contact information for the primary report author(s);

3. The location and parcel number of proposed mitigation area;

4. Identification of all the local, state, and federal wetland related permits required for the project;

5. A description of the impacted wetland including, at a minimum:

a. The wetland's landscape position and the geomorphology of the impacted site;

b. The wetland's category, consistent with TCC 24.30.030;

c. The wetland's hydrogeomorphic class;

d. A characterization of existing wetland and buffer functions;

e. Existing wetland acreage;

f. Vegetative communities, affected Cowardin classes;

g. Hydrologic characteristics;

h. Soil and substrate conditions; and

i. Topography.

6. A description of the compensation site, if different from the impacted wetland site, including at a minimum:

a. Site size;

b. Plant communities/Cowardin classes present on site, including any invasive plants or noxious weeds;

c. Existing wetland and buffer functions;

d. Soil and substrate conditions; and soils (e.g., soil pit data - hand dug or mechanically trenched, soil boring data; not soil survey data);

e. Topography;

f. General hydrologic patterns on the site including identification of groundwater availability; frequency, depth, duration, and timing of flooding; the field data collected to document existing conditions on which future condition assumptions will be based for the hydroperiod; the site's

relationship to the watershed/water bodies and demonstration that the site will have an hydrogeomorphic class appropriate for its position in the landscape. Hydrologic monitoring and analysis may be required to document that the proposed source of water and predicted hydroperiod are attainable and suitable for the site and will not adversely impact an existing wetland. If the proposed project could affect Category I wetlands, the approval authority may require computer modeling in determining the hydroperiod;

g. For those sites that have been recently altered or degraded, a description of historic conditions;

h. The adjacent site conditions and any known proposed use;

7. An estimate of future conditions at the proposed compensation site if the compensation actions are not undertaken (i.e., how would this site progress through natural succession);

8. A summary of the proposed wetland and buffer impacts and the proposed compensation concept, including:

a. Site selection criteria;

b. Demonstration that the proposed mitigation replaces all lost and diminished wetland and buffer functions;

c. A complete description of the structure and functional relationships sought in the new wetland and buffer;

d. For years 1, 3, 5, 10 and 25, and post-installation, conditions expected from the proposed actions on the compensation site including future hydrogeomorphic types, vegetation community types by dominant species (wetland and upland), and including the succession of vegetation community types and dominants expected;

e. An assessment of the potential changes in wetland hydroperiod due to the proposed project and how the design has been modified to avoid, minimize or reduce adverse impacts to the wetland hydroperiod;

f. The successional sequence of expected changes in hydroperiod for the compensation site(s) for years 1, 3, 5, 10, 25 and post installation;

g. The change in habitat characteristics expected over the same twenty-five-year time period;

h. An analysis of the likelihood of persistence of the created or restored wetland based on such factors as surface and groundwater supply and flow patterns, dynamics of the wetland ecosystem, sediment or pollutant influx and/or erosion, periodic flooding and drought, presence of invasive flora or fauna, and potential human or animal disturbance.

9. Identification of the mitigation goals, objectives, and the performance standards that will be used to evaluate whether the mitigation is achieving the project goals and objectives.

Identification of the reference wetland used to develop the project goals, objectives and performance standards.

The performance standards shall provide a measurable benchmark for determining whether the project is meeting the mitigation goals and objectives at various stages in the project and establish thresholds for triggering remedial action or contingency measures. At a minimum, performance standards shall address the following:

a. Wetland size;

b. The water regime, (e.g., establishment of wetland hydrology, permanently ponded, seasonally inundated); designed hydroperiods; and water quality. Including identification of the proposed method by which the hydroperiod will be evaluated;

c. Vegetative structure and establishment of viable plant communities (e.g., percent cover with wetland species, area of various Cowardin classes, multi-species, mixed canopy community comprised of emergent, scrub-shrub, and tree species); and survival rates of planted vegetation and coverage for each vegetative stratum;

d. Hydric soil formation;

e. If relevant, wildlife habitat (species abundance and diversity targets, habitat diversity indices), or other ecological, geological or hydrological factors;

10. The dates for beginning and completing the project;

11. For wetland restoration and creation projects, a review of the available literature and/or experience to date in restoring or creating the type of wetland proposed;

12. Maintenance plan. A maintenance plan shall be submitted that describes proposed management practices that will protect the wetland and buffer after the project site has been developed. Maintenance includes, but is not limited to, the removal and control of invasive vegetation and noxious weeds, replacement of dead or dying planted vegetation and trash and debris removal;

13. Monitoring and contingency plans. Monitoring and contingency plans shall be submitted consistent with TCC 24.35.017.

C. Construction Plans. If the detailed mitigation plan is approved, the applicant shall submit construction plans consistent with the approved mitigation plan, and a sequence of construction activities. Wetland mitigation shall occur consistent with a schedule approved by the approval authority.

Written specifications and descriptions of compensation techniques shall be provided including, but not limited to, the proposed construction sequence, grading and excavation details, erosion and sediment control features needed for wetland construction and long-term survival, a planting plan specifying plant species, quantities, locations, size, spacing, and density; source of plant materials, propagules, or seeds; water and nutrient requirements for planting; where appropriate, measures to protect plants from predation; irrigation requirements; specification of substrate stockpiling techniques and planting instructions; descriptions of water control structures and water-level maintenance practices needed to achieve the necessary hydrocycle/hydroperiod characteristics;

These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, and topographic maps showing slope percentage and final grade elevations,

and any other drawings appropriate to show construction techniques or the anticipated final outcome. The plan shall provide for elevations which are appropriate for the desired habitat type(s) and which provide sufficient tidal prism and circulation data. The scaled plan sheets for the compensatory mitigation must contain, at a minimum:

1. Existing wetland and buffer boundaries, proposed areas of wetland and/or buffer impacts, location of proposed wetland and/or buffer compensation actions;

2. Approximated site topography before and after alteration at one-foot contour intervals in the zone of the proposed compensation actions if any grading activity is proposed to create the compensation area(s).

3. A planting plan prepared by a wetland specialist including plant selection, planting densities, placement, planting instructions, water and nutrient requirements, and provision for an irrigation system, if necessary, until plants are established.

D. Construction Monitoring. The wetland scientist who designed the mitigation project shall be on-site to provide construction oversight as warranted to ensure that the project is constructed as designed.

E. As-built. Upon completion of construction for the wetland mitigation project, the applicant shall submit an as-built report to the county for review and approval.

F. Budget. A detailed budget for implementing the mitigation plans, including construction, monitoring, maintenance, and contingency phases shall be submitted.

G. Surety. A surety estimate for the entire compensatory mitigation including the following elements: site preparation, plant materials, construction materials, installation oversight, maintenance twice/year for up to five years, annual monitoring field work and reporting, and contingency actions for a maximum of the total required number of years for monitoring. Separate estimates shall be prepared for the installation phase and monitoring and maintenance phase of the project; a surety consistent with Chapter 24.70 TCC is required for the duration of the monitoring period.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.11 Existing Nonconforming Uses, Structures and Lots (Chapter 24.50 TCC)

24.50.010 Purpose.

The purpose of this chapter is to establish provisions governing the development and redevelopment of existing uses, structures and lots affected by critical areas that do not conform to this title. Other requirements in the Thurston County Code and/or state/federal law may also apply that further restrict development of nonconforming uses, structures, and lots.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §N), 12-17-2013)

24.50.020 Alteration or expansion of legally established nonconforming structures—General rules.

Alteration or expansion of legally established nonconforming structures or uses, including structures or uses that do not require a permit, is allowed subject to all of the following:

A. Maintenance. All legally established, nonconforming structures can be maintained (e.g., painting and repairs);

B. Alteration. Legally established nonconforming structures may be altered within their existing building footprint. Additionally, attached decks, porches, and patios may be altered in their existing footprint, excluding the addition of permanent roof structures. If applicable, also see Chapter 24.20 TCC regarding limitations in frequently flooded areas. Legally established, attached nonconforming decks, porches, or patios shall not be enclosed for use as livable space, unless the deck, porch, or patio is already covered by an existing permanent roof structure as determined by the approval authority;

C. Expansion of conforming portions of a legally established nonconforming structure. If only a portion of the structure is nonconforming (e.g., lies within an important habitat area), expansion of the conforming portion of the structure is permitted provided the expansion does not extend into the critical area or associated buffer; and

D. Vertical Additions. Expansion of the established nonconforming portion of the structure is prohibited, except for vertical additions consistent with applicable height regulations in the zoning district. Additions shall not be cantilevered to extend beyond the existing structure's footprint (outside wall at the foundation) into a critical area or associated buffer. Vertical additions to legally established portions of a nonconforming structure are only allowed within marine bluff or landslide hazard areas, or their buffers, if a geological assessment demonstrates that it will not negatively impact slope stability.

E. Cantilevered alterations, expansions or additions to nonconforming portions of structures shall not extend beyond the existing building footprint into the critical area or its associated buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §O), 12-17-2013)

24.50.025 Expansion of impervious surfaces in riparian areas and pond buffers.

The approval authority may allow up to a five hundred square foot expansion of impervious surface, including an existing structure's footprint, within a riparian habitat area or pond buffer if it is determined that:

A. All new impervious surfaces, which include structures, will be sited at a distance that is greater than or equal to the original structure(s) setback from the water body;

B. The expansion would occur at least one hundred feet from a Type "S" or "F" stream and Type "N" stream draining to a Type "S" or "F" stream or marine waters;

C. The area proposed for the expansion was lawfully developed prior to July 24, 2012 or, if not, the unlawful development was not caused by the present landowner or did not occur within the past seven years;

D. If the riparian habitat area or pond buffer on the site between the water body and the primary structure has been degraded, the degraded area, or a portion of the degraded area equal to the size of the expansion, whichever is less, will be restored with native vegetation. The degraded area chosen must be the area nearest the most sensitive habitat as determined by the approval authority;

E. The expansion, coupled with any proposed mitigation, would be at least as effective in protecting all of the riparian habitat or pond buffer's functions as under current conditions;

F. The proposed expansion would be consistent with the shoreline master program for the Thurston Region, as amended, the impervious surface limits in the applicable zoning district, and other applicable provisions of this title;

G. The applicant provides a performance surety consistent with Chapter 24.70 TCC to ensure survival or replacement of plants used in the restoration;

H. No previous expansion has been allowed pursuant to this subsection; and

I. The applicant will record a document with the subject property's title indicating that no further expansion of the structure's footprint or impervious surface is allowed within the riparian habitat area or pond buffer on the property.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §P), 12-17-2013)

24.50.030 Alteration, expansion, repair, and maintenance—Frequently flooded areas.

Repair, maintenance, alteration, or expansion of a lawfully established nonconforming structure in frequently flooded areas shall only be allowed in the one-hundred-year floodplain, channel migration hazard area, or a high groundwater hazard area no development zone (NDZ) when consistent with all of the following:

A. Alteration Within Existing Footprint. Alteration, repair, and maintenance of a legally established nonconforming structure are allowed within the existing building footprint (outside wall at the foundation) including attached decks, porches, and patios. However, within the floodway, repair, maintenance, alteration, expansion or improvements to a structure shall not increase the ground floor area, and the cost of repairs shall not exceed fifty percent of the structure's market value as determined by an accredited appraisal or the Assessor's valuation, at the owner's option. The value shall be determined based on the value of the structure either before the repair, maintenance, alternation, or expansion is started, or if the structure has been damaged, and is being restored, before the damage occurred. Work done on structures to comply with existing health, sanitary or safety codes or to structures identified as historic buildings is not subject to the value limit above. The cumulative value of all past known alterations, repairs, and expansions conducted on or after July 24, 2012, shall be included when determining the cost of a proposed project;

B. Vertical Addition. Expansion of the nonconforming portion of a structure (i.e., the portion of the structure in the critical area) is prohibited with the exception of vertical additions consistent with applicable height regulations in the zoning district and the value limits specified in subsection "A" of this section. However, such additions shall not be cantilevered to extend beyond the existing structure's footprint into a flood or channel migration hazard area;

C. Enclosing Decks, Porches, and Patios. Enclosing legally established nonconforming decks, porches, or patios for use as livable space is not permitted, unless the deck, porch, or patio is already covered by an existing, permitted, permanent roof structure, as determined by the approval authority consistent with the value limits specified in subsection "A" of this section; and

D. Expansion of Conforming Portions of the Structure. If only a portion of the structure is nonconforming, expansion of the conforming portion of the structure is permitted provided the expansion does not extend into the critical area consistent with Chapter 14.38 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §Q), 12-17-2013)

24.50.035 Intensification.

An intensification of a legally established nonconforming use is permitted provided that it is consistent with all of the following:

A. The use is contained within the existing or expanded (per this title for nonconforming structures and uses) structure, or an area that has been legally used to accommodate the use;

B. It is not different in kind from the legally existing nonconforming use; and it would not cause increased harm to the critical area, or increase the risk associated with the hazard, as determined by the approval authority;

C. Intensification of a legally established nonconforming use shall not exacerbate flood or channel migration hazards, or pose an increased risk of water contamination in the event the site is inundated with flood waters, as determined by the approval authority;

D. Intensification of legally established nonconforming uses shall not increase the net amount of impervious surface within a critical area and its associated buffer; and

E. The approval authority may require use of best management practices to avoid potential impacts associated with the more intensive use.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §R), 12-17-2013)

24.50.040 Destruction and restoration.

Restoration or rebuilding of legally established nonconforming structures and/or related appurtenances damaged or destroyed by accident, fire, explosion, act of God, or public enemy may be allowed pursuant to the applicable requirements of this chapter, and the shoreline master program for the Thurston Region, as amended, provided that:

A. Restoration or replacement of legally established nonconforming structures and/or related appurtenances shall not be allowed in the floodway;

B. The structure may be restored or rebuilt in a nonconforming manner to the same extent (e.g., building footprint, impervious surface and square footage) that, but no more than, the pre-existing structure was nonconforming, as determined by the approval authority, unless the nonconforming structure is located in a one-hundred-year floodplain, one-hundred-year channel migration hazard area, or high groundwater flood hazard area NDZ, where restoration or reconstruction of a nonconforming structure is only permitted in accordance with Chapter 14.38 TCC. The

cumulative value of all past known restorations or replacements conducted on or after July 24, 2012, shall be included when determining the cost of a proposed project;

C. The building permit application for repair or reconstruction shall be submitted within twenty-four months of the occurrence of damage or destruction;

D. The building or structure is not voluntarily destroyed; and

E. If the building or structure is proposed to be relocated from the original building site, then the original building site and other degraded areas immediately adjacent to the building site shall be restored with native vegetation as a condition of the relocation, as required by the approval authority. Important wildlife habitats and areas regulated by the shoreline master program, as amended, may have additional vegetation requirements.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §S), 12-17-2013)

24.50.050 Discretionary replacement or relocation of nonconforming structures.

Discretionary replacement of legally established nonconforming structures and/or related appurtenances may be allowed pursuant to the applicable requirements of this chapter, and the shoreline master program for the Thurston Region, as amended, provided that:

A. Discretionary replacement of legally established nonconforming structures within frequently flooded areas, one-hundred-year channel migration hazard areas, and high groundwater flood hazard area NDZ is prohibited;

B. There is no alternative outside of the critical area and associated buffer, or there is not minimally sufficient buildable area (not to exceed three thousand five hundred square feet) on the property outside the critical area and associated buffer to accommodate the building/structure, as determined by the approval authority;

C. The replacement of a nonconforming structure and/or related appurtenances shall be prohibited if located within the shoreline management jurisdiction, unless otherwise permitted by the shoreline master program, as amended;

D. If there is no alternative location outside of the critical area and associated buffer to accommodate the structure, then replacement/relocation would occur consistent with this section and provisions for the development of existing lots in TCC Section 24.50.060 and TCC Section 24.50.065, if applicable;

E. When possible and practical, driveways, patios, and walkways located within a critical area buffer shall be made of pervious materials and roof top runoff shall be dispersed and directed into bioretention facilities. See Chapter 15.05 TCC for additional requirements. In geologic hazard areas, the approval authority may require stormwater to be treated, tight lined and/or infiltrated, as warranted, to avoid destabilizing a slope or bluff (See TCC Section 24.15.170); and

F. If a structure is relocated, the original building site and other degraded habitat immediately adjacent to the original building site shall be restored. The applicant shall submit a restoration plan that employs native trees and vegetation. The applicant shall provide a performance surety consistent with Chapter 24.70 TCC to insure that the vegetation used in the restoration project survives or is replaced.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §T), 12-17-2013)

24.50.060 Development of existing lots—Critical areas excluding frequently flooded areas.

Existing lots with critical areas and their associated buffers, excluding frequently flooded areas, for which a complete application for a short plat, large lot subdivision, or subdivision, as defined in Chapter 18.08 TCC, was submitted before July 24, 2012, and other legally existing lots may be developed as follows with a critical area review permit:

A. Except for seismic, volcanic, and mine hazard areas, all new construction of structures, facilities, utilities, access driveways and appurtenances shall be located outside of the critical area and the associated buffer unless otherwise permitted in this title;

B. New development may be permitted on legal lots containing wetlands or buffers, consistent with other applicable provisions of this title.

C. No new development or construction of structures, facilities, utilities, access driveways and appurtenances shall create a public safety risk, as determined by the approval authority;

D. Enhancement or restoration (mitigation) of the affected critical area or associated buffer shall be required to offset the impacts of the proposed development, as approved by the approval authority;

E. If a legal lot has less than three thousand five hundred square feet of buildable area outside of the critical area and its associated buffer, to accommodate the single family residential development including the primary structure, ordinary appurtenances, landscaping, and accessory structures, the approval authority may, with a critical area review permit, allow development to occupy a portion of the critical area buffer to the minimum extent necessary to provide a development site totaling no more than three thousand five hundred square feet provided:

1. The development site shall be located in the outer fifty percent of the standard critical area buffer, except for wetlands and riparian habitat areas, where the development site shall be located in the outer twenty-five percent of the standard buffer. Development in the critical area and the inner fifty percent of the associated critical area buffer—or inner seventy-five percent of wetland and riparian area buffers—will require a reasonable use exception;

2. The applicant shall demonstrate that due to physical constraints (e.g., topography, soil conditions, or the site's configuration), another configuration would not allow the development to occur without intrusion or with less intrusion into the critical area or buffer than the proposal;

3. The location and scale of existing development on surrounding properties shall not be the basis for granting or determining the location, scale and impact of a single family use allowed under this section;

4. The encroachment into the critical area buffer shall be consistent with other requirements of this section for development on existing lots, requirements for a critical area review permit, and shall not have an adverse impact on species of concern, as determined by the approval authority;

5. Site development, including clearing, grading, construction of structures, utilities, related appurtenances, and landscaping shall occupy the minimum area necessary to accommodate the use;

6. Native tree and vegetation removal shall only be permitted to the minimum extent necessary to accommodate the proposed development, and shall not create a public safety risk;

7. A revegetation plan consistent with this title for disturbed areas shall be submitted with the development application, and shall be completed prior to final occupancy or use;

8. Landscaping shall not extend more than fifteen feet from the primary structure toward the important habitat or wetland;

9. Any new structures within a critical area buffer shall be sited to avoid the creation of hazard trees;

10. The approval authority may establish a construction setback to avoid encroachment into portions of the buffer not authorized for development, consistent with TCC Section 24.01.030;

11. The approval authority may authorize use of additional area to the minimum extent necessary in a critical area buffer to accommodate an onsite sewage disposal system or well, consistent with other requirements of this title, only if there is no alternative;

12. The use of this single-family residential exception shall not be a result of a self-created hardship such as subdividing the property, adjusting a boundary line, or other actions thereby creating the undevelopable conditions after July 24, 2012; and

F. All other development or construction of primary structures, accessory structures, and appurtenances in the critical area and associated buffer is prohibited.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §U), 12-17-2013)

24.50.065 Development of existing lots—Frequently flooded areas.

Existing, undeveloped lots within one-hundred-year channel migration hazard areas, frequently flooded areas and their associated buffers, for which a complete application for a short plat, large lot subdivision, or subdivision, as defined in Chapter 18.08 TCC, was submitted before July 24, 2012 and other legally existing lots may be developed as follows:

A. All new structures, facilities, utilities and appurtenances shall be located out of the one-hundred-year floodplain and area that falls below the base flood elevation;

B. All new nonresidential structures, facilities, utilities and appurtenances shall be located out of the high groundwater flood hazard area;

C. No new construction of structures, facilities, utilities and appurtenances shall create a public safety risk, as determined by the approval authority, and new construction shall be consistent with Chapter 14.38 TCC; and

D. Construction of structures, utilities and appurtenances located in the high groundwater hazard area restricted development zone shall meet the following:

1. All new residential structures shall be constructed to have the lowest floor, materials, and systems susceptible to flood damage, including mechanical support systems, located a minimum of two vertical feet above the base flood elevation;

2. All new non-residential construction shall be elevated a minimum of two vertical feet above the base flood elevation; and

3. Structures shall be located where they are least likely to be flooded.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §V), 12-17-2013)

24.50.070 Replacement of mobile or manufactured home—Discretionary.

A mobile or manufactured home with nonconforming placement may be replaced with a new or improved manufactured home subject to applicable county regulations. However, if the size of the structure is increased by more than six hundred square feet, it shall conform to TCC Section 24.50.050. Mobile or manufactured homes may only be increased in size once pursuant to this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §W), 12-17-2013)

E.12 Subdivision in Critical Areas (Chapter 24.55 TCC)

24.55.010 Generally.

The subdivision of land with designated critical areas, including but not limited to subdivisions, short plats, large lot subdivisions, binding site plans, and conservation lots, requires careful consideration to meet the purposes of this title in addition to other requirements of the Thurston County Code. Some areas may be deemed ineligible for subdivision and others eligible.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.020 Areas not eligible for subdivision.

Lots that are located wholly within a critical area or associated buffer shall not be subdivided, except as otherwise provided for TCC 24.55.030 or in this title. Assessor's plat maps under Chapter 58.18 RCW are not permitted unless it can be demonstrated that enough area exists to permit building sites, structures, and uses that conform to this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.030 Areas eligible for subdivision.

Parcels that are located wholly within critical aquifer recharge areas, erosion hazard areas, volcanic hazard areas, mine hazard areas, seismic hazard areas or partially within other critical areas and associated buffers, may be divided provided the applicant demonstrates all of the following:

A. A contiguous portion of each proposed lot is located outside of the critical area, hazard area or associated buffer that is of sufficient size and configuration to contain all structures and all related appurtenances associated with the allowed use. Sufficient size means the minimum required by the environmental health division for an on-site sewage disposal system. If the lot will be served by sewer, it shall be at least five thousand square feet or the minimum lot size, if less than five thousand square feet;

B. The proposed lots shall be accessible by a legally existing road or a proposed road located outside of critical areas or hazard areas, or as otherwise provided for by this title;

C. If sewer does not serve the site, the proposed lots must also have a suitable sewage disposal system location and a reserve drainfield location outside of the buffer;

D. Where possible, subdivisions must be able to be designed to maintain adequate habitat connectivity, as determined by the review authority; and

E. Also see requirements for critical area tracts and easements (Chapter 24.65 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.040 Minimize risk of damage.

All subdivisions shall be designed in accordance with Chapter 14.38 TCC and located to minimize flood damage without new structural flood protection (structural flood protection may include but is not limited to floodwalls, berms or levees) and shall not exacerbate geologic hazards.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.050 Utilities.

All subdivision of land under this title shall provide for the location and construction of public utilities and facilities, such as sewer, gas, electrical and water systems, in a manner that eliminates or, where that is not possible, minimizes potential for flood damage, consistent with Chapter 14.38 TCC, and avoids adverse impacts to critical areas and their associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.060 Plat map.

See TCC 18.10.050, Contents of application, and TCC 18.16.020, Specific requirements. Base flood elevation data and other critical areas and associated buffers shall be identified on the preliminary and final plat maps of land by a licensed engineer or surveyor. A note shall be placed on the plat identifying any use restrictions on individual lots required pursuant to the Thurston County Critical Areas Ordinance (Title 24 TCC) and indicating that future development may be subject to review for compliance with Chapter 14.38 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.070 Practices for the use of pesticides to protect critical areas.

Residents of subdivisions with more than eight lots and that have critical areas within the subdivision boundaries shall be required to use integrated pest management practices for pest control to protect critical areas and their species. The requirement to use integrated pest management shall be noted on the plat and the title of all lots. As a condition of subdivision approval, the applicant shall provide educational materials pertaining to Integrated Pest Management to each initial home owner in the subdivision.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.080 Landscaping maintenance to protect critical areas.

Washington State University Extension Office best management practices (BMP), Thurston County BMPs or other BMPs accepted by the approval authority shall be used for fertilizing landscaping, and managing weeds near or adjacent to critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.13 Critical Areas Signs and Fencing (Chapter 24.60 TCC)

24.60.010 Generally.

To further the purposes and requirements of this title for protecting critical areas, signs and fencing may be necessary to mark the boundaries of certain designated critical areas. The purpose of critical areas signage and fencing is to note the location of the designated critical area and inform the general public and private land owners about wetlands, fish and wildlife habitat conservation areas, and special hazards designated as critical areas in this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.60.020 Allowed signage.

Within wetlands, fish and wildlife habitat conservation areas and their associated buffers, signs shall be limited to interpretive signage approved by the approval authority, street signs within rights-of-way, critical area identification signs, and survey markers and monuments. (Also see the signage requirements for the applicable zoning district.)

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.60.030 Required signage.

Within wetlands, fish and wildlife habitat conservation areas, landslide hazard areas, marine bluffs and their associated buffers, signs are required as a condition of any permit or authorization issued pursuant to this chapter. Signs and their locations shall be inspected by the director, or designee, prior to commencement of any permitted activity. The applicant shall be required to install permanent signs along the boundary of a critical area tract, delineated critical area, or along the edge of the buffer. Permanent signs shall consist of an enamel-coated metal face attached to a metal post or another non-treated material of equal durability. The signs shall be worded as follows or with alternative language approved by the approval authority.

(Critical Area)

Do Not Disturb

Contact the Thurston County Resource Stewardship Department

Regarding Uses and Restrictions

These signs shall be located at the point where lot lines intersect with the buffer, at corners where the buffer makes a change of direction, and not less than every three hundred feet. The approval authority may allow the signage to be at larger intervals when the sign would be visible from an adjacent sign and installation of a sign at a shorter distance would interfere with reasonable use of the property. The property owner shall maintain the signs.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.60.040 Fencing—Wetlands and geologic hazard areas.

A. Design. Fences shall be designed and placed to minimize impacts to wetlands, geologic hazard areas, wildlife habitat, and wildlife travel. The fence type and height shall be subject to county approval unless superseded by federal or state approvals.

B. Fencing the Perimeter of the Buffer. Fences are permitted along the outer boundary of the wetland buffer and geologic hazard area buffer.

C. Fencing Within the Buffer. Fencing shall not encroach into wetlands, marine hazard areas or buffers except along the perimeter of lawful development within the wetland or buffer. The approval authority may allow fencing along property lines within the wetland, marine bluff hazard areas, and associated buffers only if it would protect wetland and marine bluff functions as determined through review of a critical area permit.

D. Required Fencing/Thorny Shrubs. The approval authority shall require permanent fencing to be placed along the outer boundary of the critical area buffer if it is determined that a proposed use adjoining the buffer poses a threat to the critical area and buffer functions, or there is a public safety issue (e.g., when livestock or people would otherwise enter and damage the area or disturb sensitive wildlife or areas or there is an unstable geologic area). If the approval authority determines that it would better protect wetland and buffer functions, planting of densely spaced, noninvasive, thorny shrubs to restrict access to the buffer may be required, rather than fencing.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.60.050 Fencing—Habitat area or buffer.

A. Fencing the Perimeter of the Habitat Area/Buffer. Fences are permitted along the outer boundary of the important habitat area, unless a buffer is required. In that case, the fence may only be located along the perimeter of the buffer, except as provided for by subsection (B) below.

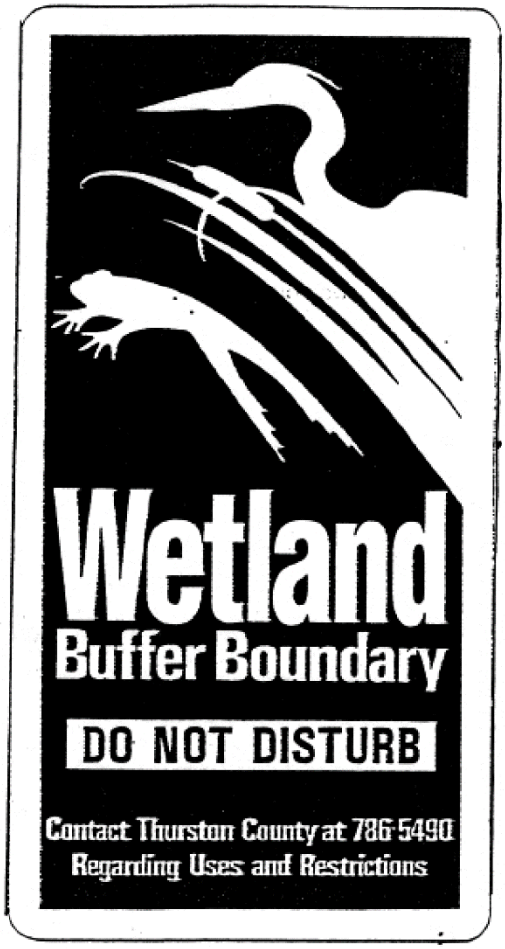
B. Fencing Within the Buffer. Fencing may encroach into the important habitat area along the perimeter of lawful development within the important habitat area and buffer. The approval authority may allow fencing along property lines within the important habitat areas only if it would protect habitat functions.

C. Design. Fences shall be designed and placed to minimize impacts to wildlife habitat, wildlife, and wildlife travel. The fence type and height shall be subject to county approval unless superseded by federal or state approvals. Signs identifying the important habitat area shall be attached to such fencing consistent with this chapter.

D. Required Fencing/Thorny Shrubs. The approval authority shall require permanent fencing to be placed along the outer boundary of the important habitat or the boundary of legally established

development within the important habitat area if s/he determines that a proposed use adjoining the important habitat area poses a threat to the important habitat area (e.g., when livestock or people would otherwise enter and damage the habitat area or disturb sensitive wildlife). If the approval authority determines that it would better protect habitat functions, s/he may require planting of densely spaced, noninvasive, thorny shrubs to restrict access to the habitat/buffer, rather than fencing.

Figure 24.60-1. Buffer Sign Example



(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.14 Critical Area Tracts and Delineations (Chapter 24.65 TCC)

24.65.010 Conservation lots—Generally.

Critical area tracts and delineations allow for conservation of sensitive habitat areas and for ensuring that hazardous areas are not developed with incompatible uses. These shall also include conservation lots exempted under title 18 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.65.020 When required.

A. Applicants for cluster developments, subdivisions under Title 18 TCC, and binding site plans shall create one or more critical area tracts containing all critical areas and associated buffers on the property proposed for development. The tract(s) shall be on a separate lot(s) owned in common by all of the owners of the separate lots within the development, delineated on the face of the applicable plat map or binding site plan, and identified as critical areas. Critical areas one thousand square feet or less that are not adjacent to or functionally connected to another critical area may be delineated on the applicable map or binding site plan rather than a tract, as determined by the director.

B. Applicants for short plats and large lot subdivisions under Title 18 TCC, and development proposals subject to site plan review, special use, and other reviews not otherwise addressed in subsection (A) above, shall establish one or more delineated areas containing all critical areas and their associated buffers on the property under development. The critical areas and their buffers shall be delineated on the face of the applicable plat map, and identified as critical areas. The director may waive this requirement for non-jurisdictional critical areas one thousand square feet or less if it is shown that the critical area is not adjacent to or functionally connected to another critical area, or can be adequately protected through other methods consistent with this title, as determined by the director.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.65.030 Maintenance.

Critical areas and their buffers contained in separate tracts and delineated areas on maps shall be maintained in their existing condition, except as provided for by this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.65.040 Recordation of restrictions and notices.

A. The following note shall appear on the face of all plats, short plats, large lot subdivisions, binding site plans, maps, or lots created to protect critical areas as part of a cluster development containing critical area tracts, critical area easements, delineation areas, lots containing critical areas, conservation areas, or conservation lots:

"Critical area tracts, critical areas and their buffers, or conservation lots containing critical areas and/or associated buffers shall not be altered except as provided for under the Critical Areas Ordinance (Title 24 of the Thurston County Code). The owner(s) of a critical area tract or lot containing critical areas and/or associated buffers is responsible for ensuring that no alterations occur within such tract or lot and that all vegetation remains undisturbed unless the Thurston County Resource Stewardship Department provides express written authorization for such alteration."

B. A map shall be recorded depicting critical area delineations created through a site plan review permit, variance permit, special use permit, or approved site plans where critical areas may be impacted, with the following note appearing of the face of the map:

"Critical areas and/or associated buffers shall not be altered except as provided for under the Critical Areas Ordinance (Title 24 of the Thurston County Code). The owner(s) of a tract or lot containing critical areas and their associated buffers is responsible for ensuring that no alterations occur within such tract or lot and that all vegetation remains undisturbed unless the Thurston County Resource Stewardship Department provides express written authorization for such alteration."

C. A restriction shall be recorded on the title of all critical area tracts and lots containing critical area easements created pursuant to this chapter. The restriction language shall be substantially similar to the following:

"Prior to and during the course of any grading, building construction or other development activity on a lot or development site containing or abutting a critical area and/or associated buffer or conservation area, the area of development activity must be fenced or otherwise marked to the satisfaction of the Thurston County Resource Stewardship Department. The critical area shall be maintained in its existing condition, except as provided for by Title 24 of the Thurston County Code, the Critical Areas Ordinance. Yard waste, debris, fill, equipment, vehicles, and materials shall not be placed within a critical area tract or delineated critical area and associated buffet."

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

E.15 Surety Agreements and Bonds (Chapter 24.70 TCC)

24.70.010 Purpose.

The purpose of this chapter is to establish financial surety requirements for (1) the installment of improvements required by this title to mitigate impacts to critical areas or associated buffers or to restore such area, and (2) to ensure the replacement or repair of such improvements which are damaged during development or over a time specified by the approval authority or hearing examiner as a condition of permit approval.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.020 Surety agreement in lieu of completion of permit approval requirements.

A. Installation.

1. The property owner, applicant, or legal designee, shall install improvements as required by the approval authority as a condition of permit approval under this title and replace any such improvements damaged during development prior to final approval for occupancy and/or use; or

2. If the required improvements are not installed prior to final approval for occupancy and/or use, the property owner, applicant, or legal designee, shall execute and file with the county a surety agreement guaranteeing and covering the completion of such improvements within a time specified by the approval authority. In no case shall final approval for occupancy and/or use be

allowed by the approval authority if improvements remain uninstalled that constitute a hazard to public health and safety as determined by the approval authority.

B. The property owner, applicant, or legal designee, shall execute and file with the county a surety agreement guaranteeing and covering the construction, installation, and monitoring of such improvements together with a reasonable amount to cover possible needed replacements or repairs for a time specified by the approval authority as a condition of permit approval.

C. The director may approve such agreements made under this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.030 Exception.

If the county agrees, by action of the board of county commissioners, to accept the obligation for maintenance or monitoring of the improvements, then the property owner, applicant, or legal designee's obligation to perform maintenance or monitoring functions shall terminate.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.040 Amounts for surety agreements.

A. Surety agreements required under this chapter for installation of improvements shall be an amount equal to one hundred twenty-five percent of the fair market cost of installation, including materials and labor.

B. Surety agreements required under this chapter for monitoring such improvements required by this title shall be an amount equal to one hundred twenty-five percent of the cost of monitoring.

C. Surety agreements required under this chapter for maintenance and repair of such improvements required by this title shall be an amount equal to one hundred twenty-five percent of the cost of installation, including materials and labor.

D. Amounts required for the various surety agreements under this chapter shall be calculated separately.

E. The amount of the surety agreement or bond shall not be accepted by the county if the review authority determines that it will be inadequate to cover the costs related to fulfillment of the conditions of approval for the permit.

F. The approval authority may utilize various methods to calculate the amount necessary for the surety agreement to fulfill the requirements of the permit approval or mitigation plan. The property owner, applicant, or designee shall submit to the approval authority receipts, contractor bids/estimates, or other documentation that establishes the cost.

G. Such agreement shall not relieve the property owner or designee of liability for the substandard or defective condition of any required improvements discovered following the effective term of the surety or bond.

H. If costs incurred are related to issues or circumstances undiscovered or undisclosed at the time the surety agreement is accepted by the county, the property owner or applicant shall be responsible for all additional costs.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.060 Forms of surety agreement.

The property owner, applicant, or designee shall include with the agreement set forth in this chapter one or more of the following at the discretion of the approval authority:

A. A surety bond executed by a surety company authorized to transact business in the State of Washington on a form approved by the prosecuting attorney;

B. Cash, deposited with the Thurston County treasurer;

C. A letter of credit or irrevocable assignment of savings executed by a financial institution stating that the money is held for the stated purpose of the installation, monitoring, and/or maintenance and repair.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.070 Forfeiture of surety.

If the property owner, applicant or designee fails to complete all required work within the period specified, including any approved extensions of time by the approval authority, the county may take steps to demand performance of said obligations within a reasonable time not to exceed ninety days from the date of demand. If the required improvements are not substantially completed within that time, the county may take action to forfeit the financial surety. The county shall be entitled to recover all costs taking of such action, including reasonable attorney fees. The county shall use the financial surety to complete the required improvements and pay the costs incurred. Should the proceeds of the financial security be insufficient for completion of the work and payment of the costs, the county shall be entitled to recover the deficiency from the property owner, applicant, or designee.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.080 Release of surety.

A. The surety agreement shall specify that the surety cannot be terminated or cancelled without written release by the approval authority. The approval authority shall release all or part of the unexpended portion of the surety, as appropriate, upon determining that activities subject to the surety agreement or bond have been completed in compliance with the terms and conditions of the permit and the requirements of this title.

B. Surety agreements for monitoring of such improvements together with any needed replacements or repairs as required under this title shall not be fully released for at least three years, five years for wetlands, following final acceptance of the improvements by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.16 Emergency Authorization (Chapter 24.90 TCC)

24.90.020 Emergencies.

Activities within critical areas by public agencies and utility companies to protect public health or safety in response to an emergency may proceed prior to county authorization. However, such actions are subject to TCC 24.90.050.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.040 Temporary authorization in lieu of critical areas permit.

For emergency situations other than in TCC 24.90.020, the approval authority may issue temporary emergency authorization for an activity otherwise requiring a critical area permit (CAP) to respond to an emergency in a critical area or associated buffer if it is determined that:

A. One or more of the following would likely occur if emergency authorization were not granted:

1. Loss of human life; or

2. Imminent loss or damage of primary structures, such as dwellings and places of business, and structures significant to the continuation of a legally established business, including barns. This does not include minor accessory structures, such as but not limited to tool and equipment sheds; potting sheds; dog houses; tree houses; or

3. Imminent loss or damage of public roads; sole access private roads; bridges; septic systems; wells; or other essential facilities, as determined by the approval authority; or

4. Imminent significant environmental degradation (e.g., a structure at risk of flooding containing hazardous materials that pose a contamination hazard); or

5. Imminent loss or damage to high value wildlife habitat, such as wetlands associated with streams; and

B. The anticipated loss or impact listed above is likely to occur before a CAP can be issued or modified under the procedures otherwise required by this chapter and other applicable laws; and

C. The authorized activities are the minimum necessary to alleviate the emergency, as determined by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.050 Standards during emergencies.

Any emergency activity shall incorporate, to the greatest extent practicable and feasible, but not inconsistent with the emergency situation, the standards and criteria required for nonemergency activities under this title and shall:

A. Be limited in duration to the time required to complete the emergency activity, not to exceed ninety days;

B. Require the restoration of any affected critical area and associated buffer altered as a result of the emergency activity within this ninety-day period, except when the approval authority determines that more time will be needed, based on a written request from the responsible party; and

C. Avoid impacts to adjacent properties.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.060 Permits required.

Within thirty days following the emergency action, the property owner/responsible party shall apply for all required permits and approvals required under this chapter for nonemergency action. The issuance of an emergency authorization by the county does not preclude the necessity to obtain any necessary approvals from appropriate federal and state authorities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.070 Termination.

The emergency authorization may be terminated at any time without prior notice upon determination by the approval authority that the action did not or does not meet the requirements of TCC 24.90.040.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

E.17 Incorporation of Chapter 17.15 TCC

The following sections of Chapter 17.15 TCC, Agricultural Activities Critical Areas, as adopted by Ordinance No. 16260 dated March 21, 2023, are incorporated into this master program per 19.400.115 TCC, and provided here for reference purposes. The Voluntary Stewardship Program does not apply to agricultural uses in shoreline jurisdiction.

E.18 Part 100

17.15.100 - Purpose

It is the policy of Thurston County to accomplish the following in relation to agricultural uses and critical areas:

A. Minimize loss of life, injury, and property damage due to natural hazards such as flooding, landslides, seismic events, and volcanic eruptions, minimize the need for emergency rescue, and avoid the cost of replacing public facilities.

B. Promote innovative programs to protect and enhance the functions and values of critical areas as identified in Title 24 TCC – Critical Areas while maintaining and improving the long-term viability of agriculture.

C. Maintain water quality and quantity to meet human, agricultural, and wildlife needs.

D. Recognize and address cumulative adverse impacts that could degrade or deplete water resources, wetlands or fish and wildlife habitat, or exacerbate flooding and landslide hazards.

E. [Not Incorporated]

F. Carry out the goals and policies of the Washington State Growth Management Act (RCW36.70A) and Thurston County Comprehensive Plan.

G. Ensure compliance and coordination with applicable federal and state protections.

17.15.110 - Applicability
The provisions of this chapter shall apply to agricultural activities, equipment, and facilities where they intersect with critical areas in the unincorporated territory of Thurston County, Washington.

On July 1, 2022, the United States Fish and Wildlife Service (USFWS) approved the Thurston County Habitat Conservation Plan and issued a 30-year Incidental Take Permit that provides Endangered Species Act authorization for six species associated with prairie and wetland/riparian habitats across the County. The species covered include Olympia, Tenino and Yelm pocket gopher, Taylor's checkerspot butterfly, Oregon spotted frog, and Oregon vesper sparrow. Chapter 17.40 TCC shall govern potential impacts on any of these six species and their habitat. If or when Thurston County's USFWS Incidental Take Permit is no longer valid, such impacts shall be regulated by Chapter 17.15 as necessary.

E.19 Part 200

17.15.200 – Definitions
The following definitions and those found in Section 20.03.040 and Chapter 24.03 TCC shall apply to this chapter.

"Adaptive management" means changing approaches for protecting and managing critical areas in response to monitoring and effectiveness results.

"Agricultural activity," "Agricultural equipment," and "Agricultural facilities" has the same meaning as defined under RCW 90.58.065.

"Agricultural activity, existing/ongoing" means agricultural uses and practices that were commenced on or before July 24, 2012.

"Agricultural activity, new" means: (1) Any agricultural or agroforestry activity that was commenced after July 24, 2012; or (2) use of land for agricultural activities after a previously used wetland, critical fish or wildlife habitat area, or flood hazard area, and/or its associated buffer, has lain idle for more than 5 years, unless the idle land is registered in a federal or state soils conservation program; or (3) any actions that serve to expand the existing agricultural activity beyond the original geographic limits and/or causes greater impacts to the functions or values of a wetland, critical fish or wildlife habitat area, or flood hazard area and/or its associated buffer.

"Agricultural ditch maintenance" means the cleaning of a previously existing drainage system where the original outlet, size or elevation will not be changed. This shall also include the replacement of sections of previously existing tile drainage systems.

“Agricultural facility, new” means any construction of animal shelters, agricultural buildings, fences, water conveyance systems, heavy use areas, and roadside stands and on-farm markets for marketing fruit or vegetables within the physical boundaries of an existing/ongoing agricultural activity enrolled in the Voluntary Stewardship Program.

“Agroforestry” means the intentional integration of trees and shrubs into crop and animal farming systems to create environmental, economic, and social benefits, such as alley cropping, forest farming, silvopasture, riparian forest buffers, and windbreaks.

"Animal unit" means one thousand pounds of live weight of any given livestock species or any combination of livestock species. Animal equivalents are calculated for each livestock and poultry sector according to estimated rates of manure production for each species. Common examples of livestock species include, but are not limited to, cattle (beef and dairy), horses, goats, pigs, and llamas. For additional information, refer to the U.S. Department of Agriculture Natural Resource Conservation Service Animal Waste Field Handbook.

“Conservation practices” means tools that agricultural operators can use to reduce soil and fertilizer runoff, properly manage animal waste, diversify habitat, and protect water and air quality on their farms.

“Climate-smart mitigation activities” means conservation practices that deliver quantifiable reductions in greenhouse gas emissions and/or increases in carbon sequestration,

“Farm Conservation Plan” is a site-specific plan for expanded and/or new agricultural activities or facilities that identifies farming or ranching activities and conservation practices to protect and/or enhance critical areas while improving agricultural viability. A Farm Conservation Plan must be developed in accordance with Natural Resource Conservation Service Best Management Practices or other applicable best management practices, and the provisions of Chapter 17.15 TCC.

“Habitat conservation plan” (HCPs) are planning documents required as part of an application for an Incidental Take Permit. They describe the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated; and how the HCP is to be funded. HCPs can apply to both listed and non-listed species, including those that are candidates or have been proposed for listing.

“Individual Stewardship Plan” is a site-specific plan prepared on behalf of existing/ongoing agricultural activities as part of the Voluntary Stewardship Program.

"Prior converted croplands" means wetlands that before December 23, 1985, were drained, dredged, filled, leveled, or otherwise manipulated including the removal of woody vegetation, for the purpose, or to have the effect, of making the production of an agricultural commodity possible and an agricultural commodity has been produced at least once before December 23, 1985. This determination is made by the Natural Resource Conservation Service.

“Technical Service Provider” means an individual, private business, nonprofit organization, tribe, and / or public agency that is certified to offer services to agricultural producers such as farmers, ranchers, and private forest landowners to help plan, design, and implement conservation practices or develop conservation activity plans to improve agricultural operations.

"Thurston HCP**"** means the Thurston County Habitat Conservation Plan dated February 22, 2022, that covers the Olympia pocket gopher, Oregon spotted frog, Oregon vesper sparrow, Taylor's checkerspot butterfly, Tenino pocket gopher, and Yelm pocket gopher, and may be revised from time to time.

"Voluntary Stewardship Plan (VSP)" means a non-regulatory, incentive-based approach to protecting critical areas for existing/ongoing agricultural activities, while maintaining agricultural viability; enabled under the state's Growth Management Act (RCW 36.70A.700) on July 22, 2011.

E.20 Part 300

17.15.300 - General requirements.

A. No Net Loss of Critical Area Functions. All new agricultural activities and new agricultural facilities carried out pursuant to this chapter shall result in equivalent or if the agricultural operator chooses, greater critical area functions and value.

B. Mitigation Sequencing. All new agricultural activities and new agricultural facilities shall be located, designed, and constructed to avoid, minimize to the greatest extent practicable and mitigate for unavoidable adverse impacts to critical areas and associated buffers using Natural Resource Conservation Service (NRCS) approved conservation practices or other applicable best management practices.

C. Monitoring. In addition to the specific monitoring requirements in this chapter, the approval authority may require that permitted agricultural activities and facilities be reviewed at appropriate intervals as necessary to ensure they are functioning consistently with the plan approval and applicable provisions of this chapter. The approval authority may require adaptive management strategies to ensure no net loss of critical area functions.

D. Access to Enable Administration. Property owners shall grant access to the county, or designee, for the purpose of inspecting sites proposed for new agricultural activities or facilities, and performing monitoring required pursuant to this chapter.

E. Construction Activity. Construction activity must occur outside of critical areas and associated buffers unless specifically authorized pursuant to this chapter. No construction, grading, or other ground-disturbing activity shall occur prior to written approval by the review authority.

F. Flood Hazards and Frequently Flooded Areas. Existing/ongoing and new agricultural activities and facilities shall comply with all applicable requirements of Chapter 14.38 TCC—Development in Flood Hazard Areas and Chapter 24.20 TCC—Frequently Flooded Areas.

E.21 Part 400

17.15.400 - Existing/ongoing agricultural activities

A. Agricultural activities established on or before July 24, 2012, are exempt from the critical area requirements of this chapter. This includes repair, maintenance, and replacement of agricultural facilities within the existing footprint.

B. Thurston County opted into the Voluntary Stewardship Program (VSP) as an alternative to regulatory protection of critical areas on agricultural lands with existing/ongoing agricultural activities. A working group comprised of agricultural groups, environmental groups, and tribes developed a work plan that identifies goals and benchmarks to protect critical areas while maintaining the viability of agriculture through voluntary, incentive-based measures (WAC 365-191-010). If the work plan, approved by the Washington State Conservation Commission on April 26, 2017, fails to meet goals, benchmarks, or receive adequate funding, the provisions and policies of this chapter will apply to existing/ongoing agricultural activities (RCW 36.70A.735).

C. [Not Incorporated]

D. Exemption from this chapter shall not be deemed to grant exemption from any other provisions of the Thurston County Code and all applicable state and federal laws including the Federal Clean Water Act, the Washington Water Pollution Control Act, the U.S. Endangered Species Act, and the Washington State Environmental Policy Act.

E.22 Part 500

17.15.500 - New agricultural activities and facilities

A. New agricultural activities and new agricultural facilities that affect the functions and values of critical areas as identified in Title 24 – Critical Areas, shall be permitted to do so either in accordance with:

1. Title 24 TCC - Critical Areas;
2. A Farm Conservation Plan voluntarily prepared on behalf of the agricultural operator and approved by the county pursuant to the provisions of this chapter; or
3. A written decision by the approval authority finding that the agricultural operator's compliance with other state or federal permits provides sufficient protection on the site to satisfy related critical areas requirements of this chapter.

B. [Not Incorporated]

C. [Not Incorporated]

17.15.510 - Administration.

A . Applicability. This section applies to any new agricultural activities or facilities for any property located within Thurston County. Impacts from new agricultural activities or new agricultural facilities that have been reviewed under Title 24 need not be reviewed again under this section.

B. [Not Incorporated]

C. Application Review Procedures

1. It shall be the duty of the department to administer the provisions of this chapter.
2. The approval authority shall review applications, issue permits, impose conditions, and conduct inspections as necessary to assure compliance with the provisions of this chapter.
3. The director shall perform those other duties, as necessary, to implement the purposes and requirements of this chapter.

4. The director may approve alternative measures or procedures to the standards of this chapter on a case by case basis, provided the applicant has sufficiently demonstrated such alternatives provide equal or better results in accomplishing the purposes of this chapter.

D. Application Requirements. Any application for a Farm Conservation Plan subject to review under this chapter will not be deemed complete unless it contains the following, where applicable:

1. A completed "Farm Conservation Plan" form as provided by the department; and
2. A Farm Conservation Plan completed in accordance with Section 17.15.530 TCC; and
3. A completed environmental checklist when required by the State Environmental Policy Act and Chapter 17.09 TCC; and
4. An application fee, as established by resolution from the Thurston County Board of County Commissioners.

E. Application Procedure and General Conditions. The application for a Farm Conservation Plan shall be processed according to the same permitting procedures described in Chapter 20.60 TCC. For purposes of this chapter:

1. A Type I process involves any proposed new agricultural activity or new agricultural facility that requires a county permit but does not require an environmental checklist.
2. A Type II process involves any proposed new agricultural activity or facility that requires a county permit and an environmental checklist.
3. A Type III process involves any proposed new agricultural activity or new agricultural facility associated with any other Type III process provided for by the Thurston County Code.
4. Certificates of Inclusion to the Thurston HCP, issued under Chapter 17.40 TCC, shall also be processed and consolidated in a manner consistent with how Farm Conservation Plan requirements are addressed in this Section.
5. A Farm Conservation Plan approval by the county is valid for a period of three years or the duration of the associated development permit or approval. The county may authorize an extension of one year.
6. The director may approve an amendment to the county's approval if the amendment is consistent with Farm Conservation Plan standards. If granted, the department shall provide a written record of the amendment and will provide a copy of it to the agricultural operator.

17.15.530 - Farm Conservation Plans – general standards and plan requirements

A. Farm Conservation Plans shall identify the farming or ranching activities and facilities, and the conservation practice(s) necessary to avoid, minimize, and/or mitigate their potential negative impacts, such as degradation of riparian areas, or pollution to surface / groundwater from nutrients, pathogens, or sediment. At a minimum Farm Conservation Plans shall:

1. Be developed by an agricultural operator with the assistance of a technical service provider in accordance with the requirements of NRCS conservation practices and other best management practices to ensure no net loss of critical area functions and values.
2. Identify and delineate all critical areas and critical area buffers, both on-site and on adjacent properties, including but not limited to shorelines, wetlands, streams, steep slopes, and special habitats. Off-site information obtained from available county mapping is sufficient,
3. Include baseline condition to establish a benchmark for existing critical area functions and values at the time of application.
4. Include all selected conservation practices to maintain benchmark conditions, including specifications of when implementation will occur relative to project construction.

5. Provide for monitoring and adaptive management on a long-term basis to determine whether the selected conservation practices are successful. The length of time for monitoring and adaptive management should be sufficient to determine if benchmark conditions have been maintained.

B. [Not Incorporated]

C. Other plans prepared for compliance with state or federal regulations (e.g. nutrient management plans), or to obtain an accredited private third-party certification (e.g., GLOBALG.A.P.), or similar plans may be used as part of or in lieu of a Farm Conservation Plan if the approval authority determines they adequately address the requirements of this chapter.

D. Any confidential or proprietary information contained in a Farm Conservation Plan shall be identified by the applicant at the time, a Farm Conservation Plan is submitted to the County. In the event such identified information is the subject of a public records request.

17.15.540 - Farm Conservation Plans - monitoring and compliance.
A. The Farm Conservation Plan shall include self-assessment and certification by the agricultural operator for the first two years after permit issuance, or periodic inspections by the county in accordance with Section 24.01.035(D) TCC. Prior to a site inspection, the county shall provide reasonable notice to the agricultural operator for entry onto private property and afford at least two weeks in selecting a date and time for the visit.

B. The conservation practices described in an approved Farm Conservation Plan to maintain benchmark conditions will be deemed to comply with this chapter so long as the agricultural operator is properly and fully implementing said practices and responding to any adaptive management requirements according to the timeline in the plan. This will be verified through Farm Conservation Plan implementation and monitoring.

C. Agricultural activities shall cease to comply with this chapter when the approval authority determines one of the following three conditions is met. In such an event, a new or revised Farm Conservation Plan may be required, or the noncompliance may be referred for formal compliance action in accordance with Title 26 TCC – Code Enforcement:

1. When implementation of the Farm Conservation Plan fails to protect critical areas. If so, a new or revised plan shall be required to protect the values and functions of critical areas at the benchmark condition.
2. When substantial changes in the proposal have occurred that render the approved Farm Conservation Plan ineffective. Substantial changes are those that degrade conditions below the established benchmark or result either in a direct discharge or potential discharge of pollution to surface or groundwater.

3. When a new or revised Farm Conservation Plan is required, and the new plan has not been provided in the specified time period. After being advised in writing by the approval authority, agricultural operators will be given 90 days to submit a new Farm Conservation Plan with an option to request a 30-day extension for good cause shown and at the sole discretion of the County. Refusal or inability to provide a new plan within the time period shall be sufficient grounds to revoke the approved Farm Conservation Plan and require compliance with the standard provisions of Title 24 TCC – Critical Areas.

E.23 Part 600

17.15.600 - Conversion of agricultural activities.
A. The critical areas provisions of Title 24 TCC– Critical Areas shall apply when an existing/ongoing agricultural activity is being converted to a nonagricultural use.

1. Any critical areas that were on the property prior to the agricultural activity being established shall be restored or mitigated pursuant to Title 24 TCC.
2. If restoration is not possible, onsite or offsite mitigation may be required.

B. Subdivision of land is not included in the definition of agricultural activities in RCW36.70A. Lots created through subdivision of land, short plats, large lots, and binding site plans shall show buildable areas for each lot created that meet the requirements of this title. A notice shall be recorded on the plat map that conversions out of agricultural activities are subject to this title.

E.24 Part 700

17.15.700 – Enforcement
Violations of this title shall be enforced through the provisions of Title 26 TCC.

E.25 Part 800

17.15.800 - Severability

If any section, subsection, sentence, clause, phrase or other portion of this Ordinance or its application to any person is, for any reason, declared invalid, illegal, or unconstitutional in whole or in part by any court or agency of competent jurisdiction, said decision shall not affect the validity of the remaining portions herein.