Chapter 24.15 GEOLOGIC HAZARD AREAS

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, debris fan, and rockfall 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)

24.15.013 Geologic Hazards Designated

A. General. Geologically hazardous areas must be designated consistent with the definitions provided in WAC 365-190-030 and 365-190-120. Geologic Hazard Areas shall be identified based on any combination of the following features. Features shall be identified on Thurston County GeoData maps, the Washington Geologic Survey's Landslide Protocol and Landslide Map, the Washington Department of Ecology Channel Migration Zone Spatial Data Catalogue, or by site assessment when deemed necessary by the director or designee.

B. Landslide hazard areas are any areas which meet at least one of the following criteria:

1. Any area with a combination of:
    a. Slopes of fifteen percent or steeper; and
    b. Impermeable subsurface material (typically silt and clay), frequently interbedded with granular soils (predominantly sand and gravel), or with soils classified by the U.S. Department of Agriculture Natural Resources Conservation Service Soil Classification System with a soil erodibility factor (K value) of 0.25 or greater; and

c. Springs or seeping groundwater during the wet season;

2. Slopes of forty percent or greater with at least 15 feet of vertical relief;

3. 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;

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

5. Areas mapped with any of the following features on the Washington Geological Survey Landslide Protocol Map: recent landslides, fans, rock fall scarps, rock fall deposits, scarps, scarps and flanks, landslide deposits, SLIP landslides, SLIP fans, shallow susceptibility, and deep susceptibility;

6. Any area meeting the criteria listed in WAC 365-190-120(6).

C. Erosion hazard areas. Erosion hazard areas are areas which meet any of the following criteria:

1. Areas mapped as channel migration zones on the Washington Department of Ecology Channel Migration Zone Spatial Data Catalogue;

a. When development is proposed to occur within an area designated as a Channel Migration Zone, a geotechnical report verifying that the development will not increase erosion risk shall be required;

2. Slopes 15% or steeper;

3. Any area meeting the criteria listed in WAC 365-190-120(5).

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

A. A Critical Areas Review Permit is required for development on a parcel containing mapped features as designated in section 24.14.013 above, or when development is proposed within 300 feet of these features, unless the proposed development type is allowed without a critical areas permit per TCC Table 24.15-1 below.

B. Development in a landslide and marine bluff hazard areas requires an undisturbed buffer of approved vegetation, except as otherwise provided for in this chapter.

C. For sites with no indicators of landslides or ground failures as shown on the Washington Geologic Survey's Landslide Protocol,(Landslide Hazard Identification Map 2025 or any subsequent revisions, and the 2025 QL1 LiDAR or subsequent revision) but with other mapped site indicators for potential landslide hazards, development occurring entirely outside these buffers shall not require additional geotechnical investigation or reporting for the purpose of landslide or marine bluff hazard review, except for that which is necessary to establish the appropriate buffer, unless deemed necessary by the director or designee due to unique circumstances that could pose a threat to human health and safety. The required buffer shall be the greater amount of the following:

1. Fifty feet from toe (bottom) and top of slope; or

2. A distance measured as follows:

a. 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;

3. 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;

a. Development withing shoreline jurisdiction must also comply with the permitting requirements and use standards set forth in the Thurston County Shoreline Master Program.

D. For sites with no indicators of landslides or ground failures as shown on the Washington Geologic Survey's Landslide Protocol and Map, but with other site indicators for potential landslide hazards, where the development would occur within the buffers described under section 24.15.015(B), the minimum buffer shall be as follows:

1. 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.

E. For sites within 200 feet of a mapped indicator of landslides or ground failures as shown on the Washington Geologic Survey's Landslide Protocol the minimum buffer shall be as follows:

1. 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.

F. The approval of a geological assessment does not constitute approval for development within the required boundaries or buffers established for other designated critical areas or shoreline designations. No development action approved under this chapter may cause a net loss of ecological function to any designated critical area. Development must comply with any other applicable building codes which set forth setback requirements for geologic hazards.

G. 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.

24.15.020 Special hazard overlay districts.

A. Special hazard overlay districts include the following areas of increased geologic hazard; The Nisqually Hillside and Carlyon Beach. The Nisqually hillside overlay district is generally located on the high 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. The Carlyon landslide is located in Northern Thurston County, near Steamboat Island, and is characterized a s a special hazard area due to past landslide events.

B. These areas are depicted on the Thurston County GeoData critical areas maps, which are maintained online by GeoData and is publicly available.

C. The Nisqually hillside 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 GeoData critical areas maps. The actual bluff line is subject to field verification.

1. 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 a qualified professional and accepted by the Thurston County Community Planning and Economic Development Department.

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

24.15.021 Special hazard overlay districts—Standards.

Any development permit within the special hazard overlay districts designated in section 24.15.020 above shall be subject to the following standards:

A. New residential development within this overlay district is prohibited, however, the number of dwelling units, as calculated by the underlying residential zone, 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)

24.15.023 Site Assessment Standards

A. When a site assessment is required under sections 24.15.013, 24.15.015, or 24.15.020 above, it shall meet the following criteria;

1. The assessment shall include the minimum level of geological investigation necessary to ensure that the proposed development is located outside of a designated geologically hazardous area, ~~and~~ or will not cause an increase in landslide or erosion risk to the subject parcel or surrounding parcels. Site assessments shall be prepared by a qualified professional as defined in TCC 24.03.010. Engineer's seals or signatures shall only appear on plans or documents relating to subject matter in which they are qualified by training and experience.

   a. Geotechnical Evaluation Letter – Lowest level of geological investigation. When the development site contains a mapped potential hazard feature as described section 25.15.013 above, but a qualified professional determines that no geologic, landslide, erosion, or marine bluff hazard as designated in this chapter exists within **200 feet of the proposed developmen**t, the site assessment shall take the form of a letter indicating the methods utilized, including the reasoning for determining that no hazard is present.

   b. Geotechnical Evaluation Memorandum – Moderate level of geological investigation. When a geotechnical professional determines that a geologic, landslide, erosion, or marine bluff hazard exists within **200 feet of the proposed development**, the site assessment shall take the form of a study indicating the appropriate standard buffer as described in section 24.15.015(B). The report shall delineate the location of the hazard, the location of the buffer, and show that development occurs outside of the buffer and hazard areas.

   c. Geotechnical Report - Highest level of geological investigation. When development is proposed within the standard buffers described in 24.15.015(B) or within 200 feet of a mapped landslide feature as described in 24.15.013(B)(5), the site assessment shall take the form of a geological report establishing the minimum necessary buffer to ensure the development does not cause an increase in landslide or erosion risk. A geological report shall also be required to establish any required mitigation for unavoidable impacts.

i. When a geological report as described above is required for the approval of a proposed development, the applicant shall record a notice on the title with the Thurston County Auditor that:

(a) Acknowledges that the development is within the standard buffer for a geologically hazardous area, or is within 200 feet of a known landslide hazard that potentially endangers property and life; and

(b) Acknowledges that the owner and all future owners take complete responsibility for development and occupation of the residence or structure and hold Thurston County and its employees harmless for any damage, injury, or loss of life suffered because of geologic hazards; and

(c) Acknowledges that evacuation is the sole responsibility of the owner or occupant and that information on geologic hazards safety is available from local emergency management agencies.

(d) Acknowledges that marine bluffs are geologically active and can change significantly over time, potentially causing structures to be placed in harm that were not previously in jeopardy at the time of construction.

2. The required site assessment shall contain adequate information for county staff to determine that the proposed development meets the requirements of section 24.15.030 of this chapter, and any other applicable use-specific standards set forth in this chapter.

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

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 .	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; Ord. No. 16260, § 2(Att. B, § IV), 3-21-2023)

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 Section 24.15.023 above.

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 approval authority 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)

(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 people with disabilities. 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 or replanted.

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.

E. Any roadway necessarily constructed in steep slopes or landslide areas where drainage infrastructure is required, a drainage maintenance plan is required to mitigate the potential of drainage-induced slope failures.

(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 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 Report 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 non-structural 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) and the Washington Department of Fish And Wildlife publication “Shoreline Design Guidelines” (2014).

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 avoid or minimize adverse impacts on the habitat's functions. Avoidance shall be preferred before minimization.

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 (Hard Armoring) (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 report 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 and there are no feasible alternatives.

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, 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)

24.15.175 Stormwater facilities—Repair and maintenance.

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 Community Planning & Economic Development 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 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 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

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