

STAFF

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STAFF REPORT FOR PLANNING COMMISSION

REQUEST: Amendments to the Coos County Comprehensive Plan for Hazards
STAFF CONTACT: Jill Rolfe, Planning Director
REVIEWING BODY: Coos County Board of Commissioners

APPLICABLE CRITERIA
Coos County Zoning and Land Development Ordinance (LDO), Coos County Comprehensive Plan (CCCP), Oregon Administrative Rule (OAR)

LDO	Article 5.1	Plan Amendments and Rezones – Legislative Amendments Only
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SECTION 5.1.120 Procedure for Legislative Amendment:

The Board of Commissioners shall conduct one or more public hearings with 10 days advance published notice of each of the hearings. The public notice shall state the time and place of the hearing and contain a statement describing the general subject matter of the ordinance under consideration. (ORS 215.060 & ORS 215.223). Notice to DLCD shall be provided 35 days prior to the initial hearing per ORS 197.610. Notice of adoption is subject to ORS 197.615. [OR 04 12 013PL 2/09/05]

This is a legislative and map amendment to the Coos County Comprehensive Plan and Implementing Ordinance. The changes to Section 4.11.125 Special Development Considerations provides updates to the Natural Hazards Section. The changes are also to Section 3.9 of Volume I Part II of the Coos County Comprehensive Plan. This changes are the result of a three year work program with Department of Land Conservation and Development to update the natural hazards section with the most current and relevant information. This also resulted in changes to the Geo-technical report requirements.

II. PROPOSAL

The proposal is to update the hazards sections of Volume I Part 2 of the Coos County Comprehensive Plan and the implementing ordinance.

Meg Reed, DLCD Coastal Shores Specialist, conducted work sessions with Citizen Advisory, Planning Commission (January of 2018) and the Board of Commissioners to receive input on the revisions. Since that time the Beat the Tsunami Evacuation Facilities Plan has been completed. The reason for the delay of this project was to search for better wildfire data but we were unable to find any better data that what was currently being utilized. All the text was in completed form by September 2019 and the drafts were posted online. The Post Acknowledgment Plan Amendment forms were submitted in October and the hearings scheduled for December.

Attached to the staff report are the changes to the ordinances and the replacement portion of the Comprehensive Plan Volume 1, Part II Section 3.9 regarding hazards. Some portions of Section 3.9 were not updated with the latest FEMA Floodplain study so staff has included that for consistency. Other changes beyond the hazards information covered in the work sessions with Ms. Reed are changes to procedures when a notice is required for flood hazards review and any typo's or section references that needed to be corrected.

This hazards section only covers the Balance of County portion of the plan and the estuary portion will be covered it the update to the Coos County Comprehensive Plan which will likely be reviewed early next year. Updating these sections is based on Compliance with Statewide Planning Goal 7. This is also consistent with the County's Hazards

Mitigation Plan that is handled through Emergency Management. Having an updated plan allows certain funding to be obtained for resiliency projects such as increased signage or even monies to retrofit structures.

The Amendments are shown at Attachment A. Attachment B is the Statewide Planning Goal 7 and Attachment C is House Bill 3309 relating to tsunami regulations.

The Planning Commission recommended adoption with some modifications shown in yellow highlighted areas of the amendments.

If you have any questions please contact staff.

COOS COUNTY PLANNING DEPARTMENT

Jill Roble, Planning Director

SECTION 4.11.125 Special Development Considerations:

The considerations are map overlays that show areas of concern such as hazards or protected sites. Each development consideration may further restrict a use. Development considerations play a very important role in determining where development should be allowed in the Balance of County zoning. The adopted plan maps and overlay maps have to be examined in order to determine how the inventory applies to the specific site.

4.11.126 Mineral & Aggregate Plan Implementation Strategies (Balance of County Policy 5.5)

4.11.127 Water Resources (Balance of County Policy 5.8)

4.11.128 Historical, Cultural and Archaeological Resources, Natural Areas and Wilderness (Balance of County Policy 5.7)

4.11.129 Beaches and Dunes (Policy 5.10)

4.11.130 Non-Estuarine Shoreland Boundary (Balance of County Policy 5.10)

4.11.131 Significant Wildlife Habitat (Balance of County Policy 5.6)

4.11.132 . Natural Hazards (Balance of County Policy 5.11)

The Natural Hazards Map *Coos County* has inventoried the following *natural* hazards:

- Flood Hazards
 - Riverine flooding
 - Coastal flooding
- Landslides *and Earthquakes*
- Earthquakes
 - *Landslide Susceptibility*
 - Liquefaction potential
 - Fault lines
- Tsunamis
- Erosion
 - Riverine streambank erosion
 - Coastal
 - Shoreline and headlands
 - Wind
- Wildfire
 - High Wildfire hazard
 - Gorse fire

Purpose Statements:

Coos County shall regulate development in known areas potentially subject to natural disasters and hazards, so as to minimize possible risks to life and property. Coos County considers natural disasters and hazards to include river and coastal flooding, landslides, liquefaction potential due to earthquakes, fault lines, tsunamis, river bank erosion, coastal erosion along shorelines and headlands, coastal erosion due to wind, and wildfires, including those areas affected by gorse.

This strategy shall be implemented by enacting special protective measures through zoning and other implementing devices, designed to minimize risks to life and property associated with new development

and substantial improvements. The determination of whether a property is located in one of the above referenced potentially hazardous areas shall be made by the reviewing body (Planning Director, Planning Commission, Board of Commissioners, or any designee based upon adopted inventory mapping). A specific site may not include the characteristics for which it is mapped. In these circumstances staff shall apply ~~§5.11.100.2.m~~ **4.11.132.ii.2m**.

~~Hazard review shall not be considered applicable to any application that has received approval and is requesting an extension to that approval, or any application that was deemed completed as of the date this ordinance effective (need date). If a land use authorization has expired the applicant will be required to address any applicable hazards.~~

- a. Flooding: Coos County shall promote protection of valued property from risks associated with river and coastal flooding along waterways in the County through the establishment of a floodplain overlay zone (FP) *that conforms to the requirements for participation in the National Flood Insurance Program. See Sections 4.11.211-257 for the requirements of this overlay zone.*
- ~~a. Landslides: Areas subject to landslides (mass movement) include active landslides, inactive landslides, earth flow and slump topography, and rockfall and debris flow terrain as identified on the 2015 Coos County Comprehensive Plan Hazards Map (mapped as the very high existing landslides).~~

~~Coos County shall permit the construction of new structures in an inventoried Landslide hazard area (earth flow/slump topography/rock fall/debris flow) through a conditional use process subject to a geological assessment review as set out in Article 5.11.~~

b. Landslides and Earthquakes

Landslides: Coos County shall promote protection to life and property in areas potentially subject to landslides. New development or substantial improvements proposed in such areas shall be subject to geologic assessment review in accordance with section 4.11.150. Potential landslide areas subject to geologic assessment review shall include all lands partially or completely within “very high” landslide susceptibility areas as mapped in DOGAMI Open File Report O-16-02, “Landslide susceptibility map of Oregon.”

Earthquakes: Coos County shall promote protection of life and property in areas potentially subject to earthquake hazards. New development or substantial improvements in mapped areas identified as potentially subject to earthquake induced liquefaction shall be subject to a geologic assessment review as set out in this section. Such areas shall include lands subject to “very high” and “high” liquefaction identified in DOGAMI Open File Report O-13-06, “Ground motion, ground deformation, tsunami inundation, co-seismic subsidence, and damage potential maps for the 2012 Oregon Resilience Plan for Cascadia Subduction Zone Earthquakes.”

Coos County shall continue to support Oregon State Building Codes to enforce any structural requirements related to landslide and earthquakes. Staff will notify Oregon State Building Codes by providing a copy of the geologic assessment report with the Zoning Compliance Letter.

- c. Tsunamis: Coos County shall promote increased resilience to a potentially catastrophic Cascadia Subduction Zone (CSZ) tsunami through the establishment of a Tsunami Hazard Overlay Zone

(THO) in the Balance of County Zoning. See Sections 4.11.260-270 for the requirements of this overlay zone.

- d. ~~Earthquakes: Areas subject to earthquakes include fault lines and liquefaction potential, as identified on the 2015 Coos County Comprehensive Plan Natural Hazards Map.~~

~~Coos County shall permit the construction of new structures in known areas potentially subject to earthquakes (fault line and liquefaction potential) through a conditional use process subject to a geologic assessment review as set out in Article 5.11. Coos County shall support Oregon State Building Codes to enforce any structural requirements related to earthquakes. Staff will notify Oregon State Building Codes by providing a copy of the geologic assessment report at the time of review. RESERVED~~

- e. Erosion: Coos County shall promote protection of property from risks associated with shoreline, headland, and wind erosion/~~deposition~~ *and deposition* hazards.

Coos County shall promote protection of property from risks associated with bank erosion along rivers and streams through necessary erosion-control and stabilization measures, preferring non-structural solutions when practical.

Any proposed structural development within a wind erosion/deposition area, within 100 feet of a designated bank erosion area, or on a parcel subject to wave attack, including all oceanfront lots, will be subject to a geologic assessment review as set out in *Section 4.11.150. There is a setback of 100 feet from any rivers or streams that have been inventoried in the erosion layer. If a variance is requested, a geologic assessment will be required.*

Planning Commission suggested language change: *If a variance is applied for to the 100 foot setback a geotechnical report will be required to cover the area of development.*

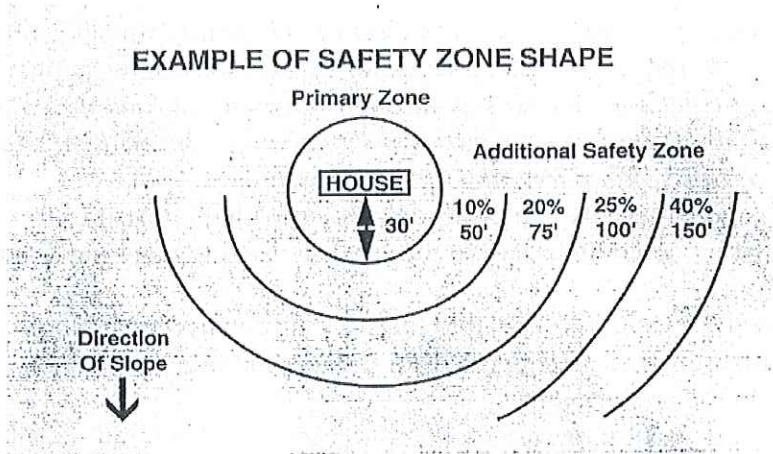
- f. Wildfires: Coos County shall promote protection of *life and* property from risks associated with wildfires and ~~gorse fires~~ by requiring all new dwellings, permanent structures, and replacement dwellings and structures. *New development or substantial improvements shall, at a minimum, meet the following standards, on parcels designated or partially designated as "High" or "Moderate" risk on the Oregon Department of Forestry 2013 Fire Threat Index Map for Coos County or as designated as at-risk of fire hazard on the 2015 Coos County Comprehensive Plan Natural Hazards Map:* shall at a minimum, meet the following standards on every parcel designated or partially designated as at-risk of fire hazard on the ~~2015 Coos County Comprehensive Plan Natural Hazards Map:~~

1. The dwelling shall be located within a fire protection district or shall be provided with residential fire protection by contract. If the dwelling is not within a fire protection district, the applicant shall provide evidence that the applicant has asked to be included within the nearest such district or is provided fire protection by contract.
2. When it is determined that these standards are impractical, the Planning Director may authorize alternative forms of fire protection that shall comply with the following:
 - a. The means selected may include a fire sprinkling system, onsite equipment and water storage or other methods that are reasonable, given the site conditions, as established by credible documentation approved in writing by the Director;

- b. If a water supply is required for fire protection, it shall be a swimming pool, pond, lake, or similar body of water that at all times contains at least 4,000 gallons per dwelling or a stream that has a continuous year round flow of at least one cubic foot per second per dwelling;
 - c. The applicant shall provide verification from the Water Resources Department that any permits or registrations required for water diversion or storage have been obtained or that permits or registrations are not required for the use; and
 - d. Road access shall be provided to within 15 feet of the water's edge for firefighting pumping units. The road access shall accommodate the turnaround of firefighting equipment during fire season. Permanent signs shall be posted along the access route to indicate the location of the emergency water source.
3. Fire Siting Standards for New Dwellings:
- a. The property owner shall provide and maintain a water supply of at least 500 gallons with an operating water pressure of at least 50 PSI and sufficient $\frac{3}{4}$ inch garden hose to reach the perimeter of the primary fuel-free building setback.
 - b. If another water supply (such as a swimming pool, pond, stream, or lake) is nearby, available, and suitable for fire protection, then road access to within 15 feet of the water's edge shall be provided for pumping units. The road access shall accommodate the turnaround of firefighting equipment during the fire season. Permanent signs shall be posted along the access route to indicate the location of the emergency water source.
4. Firebreak:
- a. A firebreak shall be established and maintained around all structures, including decks, *on land owned or controlled by the applicant* for a distance of at least 30 feet in all directions.
 - b. This firebreak will be a primary safety zone around all structures. Vegetation within this primary safety zone shall be limited to mowed grasses, low shrubs (less than ground floor window height), and trees that are spaced with more than 15 feet between the crowns and pruned to remove dead and low (less than 8 feet from the ground) branches. Accumulated needles, limbs and other dead vegetation should be removed from beneath trees.
 - c. Sufficient garden hose to reach the perimeter of the primary safety zone shall be available at all times.
 - d. The owners of the dwelling shall maintain a primary fuel-free break area surrounding all structures and clear and maintain a secondary fuel-free break on land surrounding all structures that is owned or controlled by the owner in accordance with the provisions in "Recommended Fire Siting Standards for Dwellings and Structures and Fire Safety Design Standards for Roads" dated March 1, 1991, and published by Oregon Department of Forestry and shall demonstrate compliance with Table 1.

Table 1 – Minimum Primary Safety Zone

Slope	Feet of Primary Safety Zone	Feet of Additional Primary Safety Zone Down Slope
0%	30	0
10%	30	50
20%	30	75
25%	30	100
40%	30	150



- e. All new and replacement structures shall use non-combustible or fire resistant roofing materials, as may be approved by the certified official responsible for the building permit.
 - f. If a water supply exceeding 4,000 gallons is suitable and available (within 100 feet of the driveway or road) for fire suppression, then road access and turning space shall be provided for fire protection pumping units to the source during fire season. This includes water supplies such as a swimming pool, tank or natural water supply (e.g. pond).
 - g. The structure shall not be sited on a slope of greater than 40 percent.
 - h. If the structure has a chimney or chimneys, each chimney shall have a spark arrester.
 - i. Except for private roads and bridges accessing only commercial forest uses, public roads, bridges, private roads, and driveways shall be constructed so as to provide adequate access for firefighting equipment. Confirmation shall be provided from the Coos County Road Department or local fire protection district that these standards have been met.
5. **Designated** Wildfires inside urban growth boundaries. Certain areas inside urban growth boundaries may present special risks and may be made subject to additional or different standards and requirements jointly adopted by a city and the county in the form of code requirements, master plans, annexation plans, or other means.

4.11.150 GEOLOGICAL HAZARDS SPECIAL DEVELOPMENT REVIEW STANDARDS

(NOTE TO READER THIS SECTION WAS MOVED FROM ARTICLE 5.11 WHICH WILL BE DELETED AND LEFT WITH A RESERVED ONCE APPROVAL IS GRANTED)

Applications for a geologic hazard review may be made concurrently with any other type of application required for the proposed use or activity. A review of the property must be conducted prior to any ground disturbance. All geologic hazard assessment reports shall include a description of the qualification of the licensed professional or professionals that prepared the assessment.

The applicant shall present a geologic hazard assessment report (geologic assessment) prepared by a qualified licensed professional competent in the practice of geosciences, at the applicant's expense, that identifies site specific geologic hazards, associated levels of risk, and the suitability of the site for the use and/or activity in view of such hazards. *The geologic assessment shall include the required elements of this section and one of the following:*

- a. A statement that the use and/or activity can be accomplished without measures to mitigate or control the risk of geologic hazard to the subject property resulting from the proposed use and/or activity;
- b. A statement that there is an elevated risk posed to the subject property by geologic hazards that requires mitigation measures in order for the use and/or activity to be undertaken safely sited on the property; or
- c. A certification that there are no **high or very high** geological hazards present on site. If such is certified by a licensed **engineering geologist** profession then an application is not required. Coos County is not liable for any type of certification that a geological hazard is not present on site.

4.11.155 GEOLOGICAL ASSESSMENT REVIEW

Geologic Assessment Review: The applicant(s) shall complete the following review to determine compliance with this section. This type of review requires a conditional use application and shall follow the administrative procedures for conditional uses found in Article 5 of the CCZLDO.

1. *Except for activities identified in Subsection 2 of this section, as exempt, any new development or substantial improvement in an area subject to the provisions of this section shall require a Geologic Assessment Review.*
2. *The following development activities are exempt from the requirement for a Geologic Assessment Review:*
 - a. *Maintenance, repair, or alterations to existing structures that do not alter the building footprint or foundation and do not constitute substantial improvement as defined in Chapter II.*
 - b. *An excavation and/or fill which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;*
 - c. *Exploratory excavations under the direction of a certified engineering geologist or registered geotechnical engineer;*
 - d. *Construction of structures for which a building permit is not required;*
 - e. *Yard area vegetation maintenance and other vegetation removal on slopes less than 25%;*

- f. *Forest operations subject to regulation under ORS 527 (the Oregon Forest Practices Act);*
 - g. *Maintenance and reconstruction of public and private roads, streets, parking lots, driveways, and utility lines, provided the work does not extend outside of the previously disturbed area;*
 - h. *Maintenance and repair of utility lines, and the installation of individual utility service connections;*
 - i. *Emergency response activities intended to reduce or eliminate an immediate danger to life, property, or flood or fire hazard;*
 - j. *Construction/erection of beachfront protective structures subject to regulation by the Oregon Parks and Recreation Department under OAR 736, Division 20; and*
 - k. *Any development or activity to be conducted on a site for which a certified engineering geologist has determined that there are no high or very high geologic hazards present. Coos County is not liable for any type of certification that a geologic hazard is not present on site.*
3. *Application, review and appeals for a Geologic Assessment Review shall be in accordance with the requirements for administrative conditional use review as set forth in Article 5.2. Applications for a Geologic Assessment Review may be made prior to or concurrently with any other type of application required for the proposed use or activity. Geologic Assessment Review shall be completed prior to any ground disturbance.*
4. *All applications for Geologic Assessment Review shall be accompanied by an engineering geologic report prepared by a certified engineering geologist at the applicant's expense.*

A. **ENGINEERING GEOLOGIC REPORTS**

1. *Engineering geologic reports required pursuant to this section shall be prepared by a certified engineering geologist licensed in the State of Oregon. Such reports shall be prepared consistent with standard geologic practices and employing generally accepted scientific and engineering principles. The content of such reports shall be generally consistent with the applicable provisions of "Guideline for Preparing Engineering Geologic Reports," 2nd Edition, 5/30/2014, published by the Oregon Board of Geologist Examiners.*
2. *Properties abutting the ocean shore that are located in a mapped regulated hazard area shall include the following additional information :*
- a. *Site description:*
 - i. *The geological history and stabilization measures of the site including any previous riprap or dune grading, erosion events, or exposed trees on the beach.*
 - ii. *Topography, including elevations and slopes on the property itself.*
 - iii. *Vegetation cover.*
 - iv. *Subsurface materials – the nature of the rocks and soils.*
 - v. *Conditions of the seaward front of the property, particularly for sites having a sea cliff.*
 - vi. *Description of streams or other drainage that might influence erosion or locally reduce the level of the beach.*
 - vii. *If the site is located on or adjacent to a estuarine water body or Coastal Lake including the Coastal Shoreland Boundary the following additional information shall be included:*
 - 1. *Presence of drift logs or other flotsam on or within the property.*
 - 2. *Proximity of nearby headlands that might block the longshore movement of beach sediments, thereby affecting the level of the beach*

- in front of the property.*
 - 3. *Description of any shore protection structures that may exist on the property or on nearby properties.*
 - 4. *Presence of pathways or stairs from the property to the beach.*
 - 5. *Existing development including modification of soil or vegetation on the site, particularly any which might alter the resistance to wave attack.*
 - 6. *Average widths of the beach during the summer and winter.*
 - 7. *Median grain size of beach sediment.*
 - 8. *Average beach slopes during the summer and winter.*
 - 9. *Elevations above mean sea level of the beach at the seaward edge of the property during summer and winter.*
 - 10. *Presence of rip currents and rip embayments that can locally reduce the elevation of the fronting beach.*
 - 11. *Presence of rock outcrops and sea stacks, either offshore or within the beach zone.*
 - 12. *Information regarding the depth of beach sand down to bedrock at the seaward edge of the property.*
 - b. *Analyses of Erosion and Flooding Potential on the site:*
 - i. *Analysis of DOGAMI beach monitoring data for the site (if available,) all activities affecting shoreline erosion and possible mass wasting, including weathering processes, land sliding or slumping.*
 - ii. *Calculation of wave run-up beyond mean water elevation that might result in erosion of the sea cliff or foredune (see Stockdon, 2006).¹*
 - iii. *Evaluation of frequency that erosion-inducing processes could occur, considering the most extreme potential conditions of unusually high water levels together with severe storm wave energy.*
 - iv. *For areas subject to dune-backed shorelines, use an established geometric model to assess the potential distance of property erosion, and compare the results with direct evidence obtained during site visits, aerial photo analysis, or analysis of DOGAMI beach monitoring data.*
 - v. *For bluff-backed shorelines, use a combination of published reports, such as DOGAMI bluff and dune hazard risk zone studies, aerial photo analysis, and fieldwork to assess the potential distance of property erosion.*
 - vi. *Description of potential for sea level rise, estimated for local area by combining local tectonic subsidence or uplift with global rates of predicted sea level rise.*
 - c. *Determination of legal restrictions of shoreline protective structures (Goal 18 prohibition, local conditional use requirements, priority for non-structural erosion control methods).*
 - d. *Assessment of potential reactions to erosion events, addressing the need for future erosion control measures, building relocation, or building foundation and utility repairs.*
 - e. *The assessment should include recommendations:*
 - i. *Use results from the above analyses to establish setbacks (beyond any*

¹ Stockdon, H. F., Holman, R. A., Howd, P. A. and Sallenger, A. H., 2006, Empirical parameterization of setup, swash, and runup: Coastal Engineering, 53, p 573-588.

minimums set by this section or the underlying zone), building techniques, or other mitigation measures to ensure an acceptable level of safety and compliance with all local requirements.

- ii. Recommend a foundation design, or designs, that render the proposed structures readily moveable.*
 - iii. Recommend a plan for preservation of vegetation and existing grade within the setback area, if appropriate.*
 - iv. Include consideration of a local variance process to reduce the building setback on the side of the property opposite the ocean, if this reduction helps to lessen the risk of erosion, bluff failure or other hazard.*
 - v. Recommend methods to control and direct water drainage away from the ocean (e.g. to an approved storm water system); or, if not possible, to direct water in such a way so as to not cause erosion or visual impacts.*
- 3. Engineering geologic reports required by this section shall include a statement from the preparer of the report that all of the applicable content requirements of this subsection have been addressed or are not applicable to the review.*
 - 4. Engineering geologic reports required by this section shall be valid for a period of five years from the date of preparation of such report. No extensions to this time line shall be granted.*

B. DECISIONS ON GEOLOGICAL ASSESSMENT REVIEWS

A decision on a Geologic Assessment Review shall be based on the following standards:

- 1. The engineering geologic report shall meet the content standards set forth in within this Section.*
- 2. In approving a Geologic Assessment Review, the decision maker may impose any conditions which are necessary to ensure compliance with the provisions of this section or with any other applicable provisions of the Coos County Zoning and Land Development Ordinance.*
- 3. In the event the decision maker determines that additional review of the engineering geologic report by an appropriately licensed and/or certified professional is necessary to determine compliance with this section, Coos County may retain the services of such a professional, **at the County's expense**, for this purpose. The applicant shall be responsible for all costs associated with the additional review. The results of that evaluation shall be considered in making a decision on the Geologic Assessment Review.*

C. DEVELOPMENT STANDARDS FOR USES SUBJECT TO GEOLOGIC ASSESSMENT REVIEW

In addition to the conditions, requirements and limitations imposed by a required engineering geologic report, all uses subject to a geologic assessment review shall conform to the following requirements:

- 1. Historical, Cultural, and Archaeological Resources: All activities and uses subject to Geologic Assessment Reviews proposed for areas of historical, cultural, or archaeologically sensitive areas, as identified on the Coos County Comprehensive Plan Map, shall require consultation with the appropriate local Tribe prior to the commencement of any and all ground disturbing activity. Proof of this consultation shall be provided as a part of application submission.*
- 2. Hazard Disclosure Statement: All applications for new development or substantial improvements subject to Geologic Assessment Review shall provide a Hazard Disclosure Statement signed by the property owner that acknowledges:*
 - a. The property is subject to potential natural hazards and that development thereon is subject to risk of damage from such hazards;*
 - b. The property owner has commissioned an engineering geologic report for the subject property, a copy of which is on file with Coos County Planning Department, and that*

the property owner has reviewed the engineering geologic report and has thus been informed and is aware of the type and extent of hazards present and the risks associated with development on the subject property;

- c. The property owner accepts and assumes all risks of damage from natural hazards associated with the development of the subject property.*
- 3. Mitigation measures: If on-site structural mitigation measures are required as a condition of approval, the applicant shall, prior to the issuance of a zoning compliance letter, record on the title to the subject property a notification that includes a description of the measures or improvements and that also specifies the obligation of the property owners to refrain from interfering with such measures or improvements and to maintain them.*
- 4. Site requirement: All new structures shall be located within the area suitable for development based on the least exposure to risk from hazards as determined by an engineering geologist as part of an engineering geologic report prepared in accordance with Section 4.11.150 through 4.11.155. Notwithstanding the provisions of the underlying zone, as necessary to comply with this requirement, any required yard or setback may be reduced by up to 50% without a variance.*
- 5. Certification of compliance: Permitted development shall comply with the recommendations in the required engineering geologic report. Certification of compliance shall be provided to the director by the applicant as follows:*
 - a. Plan Review Compliance: Building, construction or other development plans shall be accompanied by a written statement from a certified engineering geologist stating that the plans comply with the recommendations contained in the engineering geologic report for the approved Geological Assessment Review.*
 - b. Inspection Compliance: Upon the completion of any development activity for which the engineering geologic report recommends an inspection or observation by a certified engineering geologist, the applicant shall provide to the director a written statement from the certified engineering geologist indicating that the development activity has been completed in accordance with the applicable engineering geologic report recommendations.*
 - c. Final Compliance: Upon completion of development requiring an engineering geologic report, the applicant shall submit to the director:*
 - i. A written statement by a certified engineering geologist indicating that all performance, mitigation, and monitoring measures specified in the report have been satisfied; and,*
 - ii. If mitigation measures incorporate engineering solutions designed by a licensed professional engineer, a written statement of compliance by the design engineer.*

OVERLAY ZONE:

- **SECTION 4.11.200 Purpose:**
- **OVERLAY ZONE: FLOODPLAIN**
- **DESIGNATION: /FP**
- **SECTION 4.11.211 AUTHORIZATION**
- **SECTION 4.11.212 FINDINGS OF FACT**

- SECTION 4.11.214 METHODS OF REDUCING FLOOD LOSSES
- SECTION 4.11.220 DEFINITIONS

SECTION 4.11.231 LANDS TO WHICH THIS OVERLAY ZONE APPLIES

- SECTION 4.11.232 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD
- SECTION 4.11.233 INTERPRETATION

SECTION 4.11.235 ESTABLISHMENT OF DEVELOPMENT PERMIT

1. Application

An application shall be made on the forms furnished by the Planning Department and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures which may be submitted by a registered surveyor;
- Elevation in relation to mean sea level of floodproofing in any structure;
- Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 4.11.252; and
- Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.
- Plot plan drawn to scale showing the nature, location and dimensions and elevation referenced to mean sea level, or NAVD 88, whichever is applicable, of the area in question including existing and proposed structures, fill, storage of materials, and drainage facilities. Applicants shall submit certification by an Oregon registered professional engineer or land surveyor of the site's ground elevation and whether or not the development is located in a flood hazard area. If so, the certification shall include which flood hazard area applies, the location of the floodway at the site, and the 100 year flood elevation at the site. A reference mark shall be set at the elevation of the 100 year flood at the site. The location, description, and elevation of the reference mark shall be included in the certification; and
- Any other information required to ~~make a determination~~ *to show compliance*.
- Applications for variance, water course changes or staff determinations will be noticed with an opportunity to appeal in the same manner as a conditional use (see Chapter V). Non discretionary determination of compliance with the standards will be processed in the same manner as a Compliance Determination (see Article 5.10)*

SECTION 4.11.242 DESIGNATION OF THE LOCAL ADMINISTRATOR

The Coos County Planning Director *or designated staff* is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

- **SECTION 4.11.243 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR**
- **SECTION 4.11.244 VARIANCE PROCEDURE**
- **SECTION 4.11.251 GENERAL STANDARDS**
- **SECTION 4.11.253 BEFORE REGULATORY FLOODWAY**
- **SECTION 4.11.254 FLOODWAY**
- **SECTION 4.11.255 STANDARDS FOR SHALLOW FLOODING AREAS (AO ZONES)**
- **SECTION 4.11.256 COASTAL HIGH HAZARD AREAS**
- **SECTION 4.11.257 CRITICAL FACILITY**

TSUNAMI HAZARD OVERLAY ZONE:

4.11.260 Tsunami Hazard Overlay Zone (Background)

The Tsunami Hazard Overlay zone is designed to serve as the principal implementation mechanism for land use measures addressing tsunami risk. As the name indicates, it is designed to be applied in the form of an overlay zone, i.e. in combination with underlying base zones. The boundaries of the overlay would correspond to the area of the jurisdiction subject to inundation from a local source tsunami indicated in § 4.11.265 below.

Oregon Statewide Planning Goal 7 envisions a process whereby new hazard inventory information generated by federal and state agencies is first reviewed by the Department of Land Conservation and Development (DLCD). DLCD then notifies the County of the new information, and the County has three years to respond to the information by evaluating the risk, obtaining citizen input, and adopting or amending implementation measures to address the risk. The County has not received notice from DLCD but has taken the proactive role in working with DLCD to address tsunami hazards.

This section of the ordinance places restrictions and limitations on certain categories of uses. These limitations apply primarily to uses which present a high potential for life safety risk, or to uses which provide an essential function during and after a disaster event. ORS 455, which is implemented through the state building code, currently prohibits certain facilities and structures in the tsunami inundation zone as defined by the Oregon Department of Geology and Mineral Industries as indicated in Section 4.11.265 below. The overlay incorporates the requirements that can be limited through the land use program. Nothing in this ordinance is meant to conflict with the State Building Code but will focus on integration of development and improvement of evacuation infrastructure into the land use and development review process.

Coos County does not house the building codes program and; therefore, Coos County lacks certain enforcement authority over the Oregon Structural Specialty Code as explained in OAR 632-005-0070 exemption responsibility. This section of the ordinance is not meant to obstruct the authority of the structural code.

These provisions establish requirements to incorporate appropriate evacuation measures and improvements in most new development, consistent with ~~an overall evacuation plan for the community. It is important to note that effectiveness of this component to the overlay is largely dependent up on the development and adoption of an Evacuation Route Plan~~ *the Coos County's Tsunami Evacuation Facilities Improvement Plan*. Coos County Planning has worked with Coos County Emergency Management in planning for emergency preparedness and developing hazard mitigation plans.

The maps that will be used to implement this section of the Coos County Zoning and Land Development ordinance are the 2012 [Tsunami Inundation Maps](#) produced by Oregon Department of Geology and Mineral Industries. The maps will be printed and filed as part of the Coos County Comprehensive Plan.

The series of maps consists of a Small (S), Medium (M), Large (L), Extra Large (XL) and Extra-Extra Large (XXL), with the XXL indicating the worst case scenario. When a size is identified in the section it includes all smaller sizes. For an example if a facility is regulated ~~in~~ *within* an L tsunami inundation event then it includes all M and S tsunami inundation mapped areas.

4.11.265 Tsunami Hazard Overlay (THO) Zone (Definitions)

Definitions ~~those are~~ applicable to the tsunami hazard overlay zone

As used in ~~tsunami hazard overlay zone~~ *Section 4.11.270*:

1. "Essential Facilities" means:
 - a. Hospitals and other medical facilities having surgery and emergency treatment areas;
 - b. Fire and police stations;
 - c. Tanks or other structures containing, housing or supporting water or fire-suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures;
 - d. Emergency vehicle shelters and garages;
 - e. Structures and equipment in emergency preparedness centers;
 - f. Standby power generating equipment for essential facilities; and
 - g. Structures and equipment in emergency preparedness centers.
2. "Hazardous facility" means structures housing, supporting or containing sufficient quantities of toxic or explosive substances to be of danger to the safety of the public if released.
3. "Special occupancy structures" means:
 - a. Covered structures whose primary occupancy is public assembly with a capacity greater than 300 persons;
 - b. Buildings with a capacity of greater than 250 individuals for every public, private or parochial school through secondary level or child care centers;
 - c. Buildings for colleges or adult education schools with a capacity of greater than 500 persons;
 - d. Medical facilities with 50 or more resident, incapacitated persons not included subsection (a);
 - e. Jails and detention facilities; and
 - f. All structures and occupancies with a capacity of greater than 5,000 persons. (~~Note: The above definitions are taken from~~ *see* ORS 455.446)

4. “Substantial improvement” means any repair, reconstruction, or improvement of a structure which exceeds 50 percent of the real market value of the structure.
5. “Tsunami vertical evacuation structure” means a building or constructed earthen mound that is accessible to evacuees, has sufficient height to place evacuees above the level of tsunami inundation, and is designed and constructed with the strength and resiliency needed to withstand the effects of tsunami waves.
6. “Tsunami Inundation Maps (TIMs)” means the map, or maps in the DOGAMI Tsunami Inundation Map (TIM) Series, published by the Oregon Department of Geology and Mineral Industries, which cover(s) the area within Coos County.

4.1.1.2570 Tsunami Hazard Overlay Zone (*Purpose, Applicability and Uses*)

1. Purpose

The purpose of the Tsunami Hazard Overlay Zone is to increase the resilience of the community to a local source (Cascadia Subduction Zone) tsunami by establishing standards, requirements, incentives, and other measures to be applied in the review and authorization of land use and development activities in areas subject to tsunami hazards. The standards established by this section are intended to limit, direct and encourage the development of land uses within areas subject to tsunami hazards in a manner that will:

- a. Reduce loss of life;
- b. Reduce damage to private and public property;
- c. Reduce social, emotional, and economic disruptions; and
- d. Increase the ability of the community to respond and recover.

Significant public and private investment has been made ~~in development~~ *to developed* areas which are now known to be subject to tsunami hazards. It is not the intent or purpose of this section to require the relocation of or *to* otherwise regulate existing development within the Tsunami Hazard Overlay Zone. However, it is the intent of this section to control, direct and encourage new development and redevelopment such that, ~~overtime~~ *over time*, the community’s exposure to tsunamis will be reduced.

2. Applicability of Tsunami Hazard Overlay Zone

The Tsunami ~~Inundation~~ **Hazard Overlay** Zone is applicable to all Balance of County Zoning Districts and any zoning districts located within the Coos Bay Estuary and Coquille Estuary Management Plans when the Estuary Policies directly reference this section. ***Areas of inundation depicted on the*** Tsunami Inundation Map(s) (TIM) published by the Oregon Department of Geology and Mineral Industries (DOGAMI) are subject to the requirements of this section ***as follows:***

- a. Except as provided in subsection (b), all lands identified as subject to inundation from the XXL magnitude local source tsunami event as set forth on the applicable Tsunami Inundation Map(s) (TIM) published by the Oregon Department of Geology and Mineral Industries (DOGAMI) are subject to the requirements of this section.
- b. Lands within the area subject to inundation from the XXL magnitude local source tsunami event as set forth on the applicable Tsunami Inundation Map(s) (TIM) published by the Oregon Department of Geology and Mineral Industries (DOGAMI) that have a grade elevation, established by fill or other means, higher than the projected elevation of the XXL magnitude local source tsunami event are exempt from the requirements of this section. Grade elevations shall be established by an elevation survey performed by a Professional Land Surveyor licensed in Oregon.

3. Uses

In the Tsunami Hazards Overlay Zone, except for the prohibited uses set forth in subsection 5 4, all uses permitted pursuant to the provisions of the underlying zone map *may* be permitted, subject to the additional requirements and limitations of this section. *The Tsunami Hazard Overlay Zone does not establish any new or additional review processes. Application of the standards and requirements of the Tsunami Hazard Overlay Zone is accomplished through the applicable review processes of the underlying zone.*

4. Prohibited Uses

Unless authorized in accordance with subsection 4 5, the following uses are prohibited in the specified portions of the Tsunami Hazard Overlay Zone:

- a. In areas identified as subject to inundation from the L magnitude local source tsunami events set forth on the TIM, the following uses are prohibited:
 - i. Hospitals and other medical facilities having surgery and emergency treatments areas ~~as~~;
 - ii. Fire and police stations;
 - iii. Hospital and other medical facilities having surgery and emergency treatment areas;
 - ~~iv. Fire and police stations;~~
 - v. Structures and equipment in government communication centers and other facilities required for emergency response;
 - vi. Buildings with a capacity greater than 250 individuals for every public, private or parochial school through secondary level or childcare centers;
 - vii. Buildings for colleges or adult education schools with a capacity of greater than 500 persons; and
 - viii. Jails and detention facilities.
- b. In areas identified as subject to inundation from the M magnitude local source tsunami event as set forth on the Tsunami Inundation Map (TIM), the following uses are prohibited:
 - i. Tanks or other structures containing, housing or supporting water or fire-suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures;
 - ii. Emergency vehicle shelters and garages;
 - iii. Structures and equipment in emergency preparedness centers;
 - iv. Standby power generating equipment for essential facilities;
 - v. Covered structures whose primary occupancy is public assembly with a capacity of greater than 300 persons;
 - vi. Medical facilities with 50 or more resident, ~~in-capacitated~~ *incapacitated* patients;
 - vii. Manufactured home parks, of a density exceeding 10 units per acre; and
 - viii. Hotels or motels with more than 50 units.
- c. Notwithstanding the provisions of Article 5.6 of the Coos County Zoning and Land Development Ordinance, the requirements of this subsection shall not have the effect of rendering any lawfully established use or structure nonconforming. The Tsunami Hazard Overlay is, in general, not intended to apply to or regulate existing uses or development.

5. Use Exceptions

A use listed in subsection (4) of this section ~~maybe~~ *may be* permitted upon authorization of a Use Exception in accordance with the following requirements:

- a. Public schools may be permitted upon findings that there is a need for the school to be within the boundaries of a school district and fulfilling that need cannot otherwise be accomplished.
- b. Fire or police stations ~~maybe~~ *may be* permitted upon findings that there is a need for a

strategic location.

- c. Other uses prohibited by subsection (4) of this section may be permitted upon the following findings:
 - i. There are no reasonable, lower-risk alternative sites available for the proposed use;
 - ii. Adequate evacuation measures will be provided such that life safety risk to building occupants is minimized;
 - iii. The buildings will be designed and constructed in accordance with the Oregon Structural *Specialty* Code to minimize the risk of structural failure during the design earthquake and tsunami event; and
 - iv. Developers of new essential facilities, hazardous facilities, and major structures, and special occupancy structures that are located in an identified tsunami inundation zone, as described in subsection (1)(a)(E), (b) and (c) of ORS 455.447 and new special occupancy structures described in subsection (1)(e)(A), (D) and (F) of ORS 455.447 that are located in an identified tsunami inundation zone shall consult with the State Department of Geology and Mineral Industries for assistance in determining the impact of possible tsunamis on the proposed development and for assistance in preparing methods to mitigate risk at the site of a potential tsunami. Consultation shall take place prior to submittal of design plans to the building official for final approval. The process for construction of certain facilities and structures in tsunami inundation zones including establishment of zones, rules and exceptions are set out in ORS 455.446. The provision of ORS 455.446 does not apply to water-dependent and water-related facilities, including but not limited to docks, wharves, piers and marinas. Decisions made under ORS 455.446 are not land use decisions.

Applications, reviews, decisions and appeals for Use Exceptions authorized by this subsection with the exclusion of subsections iii and iv shall be in accordance with the requirements for an administrative conditional use procedure as set forth in Article 5.2 – Conditional Uses.

6. *Evacuation Route Improvement Requirements.*

Except single family dwellings on existing lots and parcels, all new development, substantial improvements and land divisions in the Tsunami Hazard Overlay Zone shall incorporate evacuation measures and improvements, including necessary vegetation management, which are consistent with and conform to the adopted Tsunami Evacuation Facilities Improvement Plan. Such measures may include:

- a. *On-site improvements:*
 - i. *Improvements necessary to ensure adequate pedestrian access from the development site to evacuation routes designated in the Tsunami Evacuation Facilities Improvement Plan in all weather and lighting conditions.*
 - ii. *Frontage improvements to designate evacuation routes that are located on or contiguous to the proposed development site, where such improvements are identified in the Tsunami Evacuation Facilities Improvement Plan. Such improvements shall be proportional to the evacuation needs created by the proposed development.*
 - iii. *Where identified in the Tsunami Evacuation Facilities Improvement Plan as the only practicable means of evacuation, tsunami evacuation structure(s) of sufficient capacity to accommodate the evacuation needs of the proposed development.*
- b. *Off-site improvements: Improvements to portions of designated evacuation routes that are needed to serve, but are not contiguous to, the proposed development site, where*

such improvements are identified in the Tsunami Evacuation Facilities Improvement Plan. Such improvements shall be proportional to the evacuation needs created by the proposed development.

- c. *Evacuation route signage consistent with the standards set forth in the Tsunami Evacuation Facilities Improvement Plan. Such signage shall be adequate to provide necessary evacuation information consistent with the proposed use of the site.*
- d. *Evacuation route improvements and measures required by this subsection may include the following:*
 - i. *Improved streets and/or all-weather surface paths of sufficient width and grade to ensure pedestrian access to designated evacuation routes in all lighting conditions;*
 - ii. *Improved streets and paths shall provide and maintain horizontal clearances sufficient to prevent the obstruction of such paths from downed trees and structure failures likely to occur during a Cascadia earthquake; and*
 - iii. *Such other improvements and measures identified in the Tsunami Evacuation Facilities Improvement Plan. See Volume I, Part 2 Section 3.9. 400 of the Coos County Comprehensive Plan*

7. Tsunami Evacuation Structures

- a. All tsunami evacuation structures shall be of sufficient height to place evacuees above the level of inundation for the XXL local source tsunami event.
- b. Tsunami evacuation structures are not subject to the building height limitations of this chapter.

8. Flexible Development Option

- a. The purpose of the Flexible Development Option is to provide incentives for, and to encourage and promote, site planning and development within the Tsunami Hazard Overlay Zone that results in lower risk exposure to tsunami hazard than would otherwise be achieved through the conventional application of the requirements of this chapter. The Flexible Development Option is intended to:
 - i. Allow for and encourage development designs that incorporate enhanced evacuation measures, appropriate building siting and design, and other features that reduce the risks to life and property from tsunami hazard; and
 - ii. Permit greater flexibility in the siting of buildings and other physical improvements and in the creation of new lots and parcels in order to allow the full realization of permitted development while reducing risks to life and property from tsunami hazard.
- b. The Flexible Development Option may be applied to the development of any lot, parcel, or tract of land that is wholly or partially within the Tsunami Hazard Overlay Zone.
- c. The Flexible Development Option may include any uses permitted outright or conditionally in any zone, except for those uses prohibited pursuant to subsection § 4 of this section.
- d. Overall residential density shall be as set forth in the underlying ~~one~~ *zone* or zones. Density shall be computed based on total gross land area of the subject property, excluding street right-of-way.
- e. Yards, setbacks, lot area, lot width and depth, lot coverage, building height and similar dimensional requirements may be reduced, adjusted or otherwise modified as necessary to achieve the design objectives of the development and fulfill the purposes of this section.
- f. Applications, review, decisions, and appeals for the Flexible Development Option shall be in accordance with the requirements for an administrative conditional use procedure as

set forth in Article 5 of the Coos County Zoning and Land Development Ordinance.

- g. Approval of an application for a Flexible Development Option shall be based on findings that the following criteria are satisfied:
 - i. The applicable requirements of sub-paragraphs *(b)* and *(d)* of this subsection are met; and
 - ii. The development will provide tsunami hazard mitigation and/ or other risk reduction measures at a level greater than would otherwise be provided under conventional land development procedures. Such measures may include, but are not limited to:
 - 1. Providing evacuation measures, improvements, evacuation way finding techniques and signage;
 - 2. Providing tsunami evacuation structure(s) which are accessible and provide capacity for evacuees from off-site;
 - 3. Incorporating building designs or techniques which exceed minimum structural specialty code requirements in a manner that increases the capacity of structures to withstand the forces of a local source tsunami; and
 - 4. Concentrating or clustering development in lower risk portions or areas of the subject property, and limiting or avoiding development in higher risk areas.