

4.11.129 BEACHES AND DUNES (POLICY 5.10)

The Beaches and Dunes map has inventoried the following:

- Beaches and Dunes
 - Suitable for most uses; few or no constraints (Does not require a review)
 - Limited Suitability; special measures required for most development
 - Not Suitable for Residential, commercial or Industrial Structures

Purpose Statement:

Coos County shall base policy decisions for dunes on the boundaries for these areas as identified on the plan map titled “Development Potential within Ocean Shorelands and Dunes” and the boundaries delineates following specific areas "Suitable", "Limited Suitability" and "Not Suitable" areas of development potential.

- a. Limited Suitability: “Beach and Dune Areas with Limited Development Suitability” includes all dune forms except older stabilized dunes, active foredunes, conditionally stable foredunes that are subject to ocean undercutting or wave overtopping, and interdune areas (deflation plains) subject to ocean flooding.

The measures prescribed in this policy are specifically required by Statewide Planning Goal #18 for the above-referenced dune forms; and that this strategy recognizes that designated mitigation sites must be protected from other uses.

Implementation shall occur through an Administrative Conditional Use process, which shall include submission of a site investigation report that addresses this subsection, by a qualified registered and licensed geologist or engineer.

- i. Coos County shall permit development within areas designated as "Beach and Dune Areas with Limited Development Suitability" only upon the establishment of findings that consider at least:
 - a) The type of use proposed and the adverse effects it might have on the site and adjacent areas;
 - b) The need for temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;
 - c) The need for methods for protecting the surrounding area from any adverse effects of the development; and
 - d) Hazards to life, public and private property, and the natural environment which may be caused by the proposed use.

- ii. Further, Coos County shall cooperate with affected local, state and federal agencies to protect the groundwater from drawdown, which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of saltwater into water supplies. Coos County shall cooperate with state and federal agencies in regulating the following actions in the beach and dune areas with limited development potential:
 - a) Destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage);
 - b) The exposure of stable and conditionally stable areas to erosion;
 - c) Construction of shore structures which modify current air wave patterns leading to beach erosion; and
 - d) Any other development actions with potential adverse impacts.
- b. Unsuitable: Coos County shall prohibit residential development and commercial and industrial buildings within areas designated as "Beach and Dune Areas Unsuitable for Development". The "Beach and dune Areas Unsuitable for Development" includes: active foredunes; other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping; and interdune areas (deflation plains) that are subject to ocean flooding.

The measures prescribed in this policy are specifically required by Statewide Planning Goal #18 for the above referenced dune forms, and that is important to ensure that development in sensitive beach and dune areas is compatible with or can be made compatible with, the fragile and hazardous conditions common to such areas.

Implementation shall occur through an Administrative Conditional Use process, which shall include submission of a site investigation report by a registered civil engineer or geologist that addresses this subsection. Coos County shall permit other developments in these areas only:

- i. When specific findings have been made that consider at least:
 - a) the type of use proposed and the adverse effects it might have on the site and adjacent areas;
 - b) the need for temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;
 - c) the need for methods for protecting the surrounding area from any adverse effects of the development, and

- d) hazards to life, public and private property, and the natural environment, which may be caused by the proposed use, and
- ii. When it is demonstrated that the proposed development:
 - a) is adequately protected from any geologic hazards, wind erosion, undercutting, ocean flooding and storm waves; or is of minimal value; and
 - b) is designed to minimize adverse environmental effects, and
- iii. When breaching of foredunes is contemplated the following specific criteria has to be addressed:
 - a) the breaching and restoration is consistent with sound principles of conservation, and either
 - b) the breaching is necessary to replenish sand supply in interdune areas, or
 - c) the breaching is done on a temporary basis in an emergency (e.g., fire control, cleaning up oil spills, draining farm lands, and alleviating flood hazards).
- iv. Coos County shall cooperate with affected local, state and federal agencies to protect the groundwater from drawdown which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of saltwater into water supplies. Coos County shall cooperate with state and federal agencies in regulating the following actions in the beach and dune areas with limited development potential:
 - a) Destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage);
 - b) The exposure of stable and conditionally stable areas to erosion;
 - c) Construction of shore structures which modify current air wave patterns leading to beach erosion; and
 - d) Any other development actions with potential adverse impacts.

4.11.150 Geological Hazards special development Review Standards

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 professional then an Administrative Conditional Use 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 an 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 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.

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.

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 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. Safest site requirement: All new structures shall be located within the area most 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.