



FINDINGS OF FACT STAFF REPORT

Date: February 27, 2011

OPRD Ocean Shores Coordinator: Tony Stein

OPRD File Number: BA# 670-10

County:

Applicant: Lorlyn Arner et al

Project Location:

Vacant tax lots 10600 and 10500, and residences located at 5730, 5740, 5760 and 5770 Austin Avenue, Tierra Del Mar.
Tillamook County Assessor's Map #T4S-R10W-Section 06 BC, Tax Lots 10600, 10500, 13600, 13500, 13400, 13300 and 13200.

Brief Project
Description:

The proposed project seeks to convert two OPRD Emergency Permits to permanent shoreline protection structures, and also construct a rock step stairway for public beach access in Tierra Del Mar. The project involves the construction of a contiguous riprap revetment approximately 360 feet in length, on 7 separate property ownerships, including the Tillamook County pedestrian beach access at the west end of Guardenia Avenue. Single family residential homes exist on 5 of the tax lots (with the exception of unimproved tax lots 10600 and 10500), and adjacent properties to the north and south of the subject site. An Emergency Permit (BA# 662-10) was issued to Nancy Koski, Thomas Fleming, Mike O'Gorman, and Tom Hilts on February 12th, 2010 and Emergency Permit (BA# 663-10) was subsequently issued to Don Arner and Bonnie Mauck on February 15th, 2010, to address the immediate threat to the upland properties.

The shoreline protection constructed under the two Emergency Permits were blended into the existing riprap to the north (BA# 259-84) and extends approximately 360 feet south along the ocean shore. Riprap rock is 3 to 6 feet in diameter, using smaller pit run rock and Mirafi 700x fabric material underneath as structure backing. The slope of the structure was designed at 2H: 1V and the revetment will extend approximately 15 to 17 feet above the beach level.

In addition, the property owners will incorporate a rock step stairway within the riprap structure on the Tillamook County right-of-way at Guardenia Avenue.

ADMINISTRATIVE RULE STANDARDS AND RELEVANT FACTS

I. GENERAL STANDARDS, OAR 736-020-0010

Project Need – There shall be adequate justification for a project to occur on and alter the ocean shore area.

During the winter months of January and February, 2010, the formation of a large rip embayment just south of Pier Street in Tierra Del Mar contributed to the erosion of the beach, characterized by both a landward retreat of the mean shoreline position and an overall vertical lowering of the beach elevation. Significant rain and wind, coupled with heavy ocean swells and high tides subjected the ocean dune to continuous wave attack. Beach sand eroded rapidly, developing a significant dune scarf along the subject properties. An existing riprap revetment (BA# 259-84) located on tax lots 10700 and 6900 to the north of the two vacant Koski properties (TL 10600 and 10500) were damaged under the same ocean conditions. To prevent flanking erosion on the south end of the existing riprap and to protect the north corner of the Fleming residence, it was determined that a contiguous line of shoreline protection would be required from tax lot 10600 to tax lot 13600 (T. Fleming). On February 2, 2010, the south corner of the Fleming (TL 13600) home foundation to the edge of the bluff was measured at 35 feet. The O’Gorman residence (TL 13500) was measured at 38 feet, and the Hilts residence (TL 13400) at 40 feet respectively. The two vacant Koski tax lots (TL 10600 and 10500) to the north of the Fleming residence also experienced significant dune bank erosion, as well as end cutting at the junction with the existing riprap revetment. The subject properties have lost an estimated 10-15 feet of foredune over the month of January and early February which resulted in a near vertical scarp of 12-14 feet in height. The geologic report by H.G. Schlicker & Associates, dated November 5th, 2010, states “In general, from 1962 to 2008 the vegetation line along the shoreline migrated approximately 25 feet inland, or an average annual erosion rate of 0.5 to 0.6 feet. This eastward migration has primarily been the result of wave erosion of the active dunes which were present west of the homes prior to the recently constructed revetment”.

On February 15, 2010, the south corner of the Arner (TL 13300) home foundation to the edge of the bluff was measured at 42 feet. The Mauck residence (TL 13200) to the south was measured at 41 feet. A septic tank and drain field is located in front of the Mauck home and was estimated at 5 feet from the edge of the dune bluff. The subject properties have lost an estimated 6 feet of foredune over the month of January and early February resulting in a near vertical scarp estimated at 12-14 feet.

Based on the location and proximity of the existing homes and the Mauck septic system, site conditions, and a persistent erosional pattern under El Nino conditions, the subject properties were compromised and there was an immediate threat to the upland residences. In addition, the stability of the southern flank of the existing riprap revetment to the north was compromised with storm surges washing in behind the structure and unraveling riprap onto the ocean shore. H.G. Schlicker & Associates recommends the riprap revetment stating that the structure “should provide mitigation for bluff slope and beach sand erosion at the subject properties”.

A finding of project need follows the review of all other applicable standards and is included in the findings summary at the end of this report.

Protection of Public Rights – Public ownership of or use easement rights on the ocean shore shall be adequately protected.

The proposed riprap fronting the subject properties will extend westward 35 feet out from the existing dune face, occupying up to 12,600 square feet of beach area at the toe of the slope. The riprap will be tapered at the south end of the proposed revetment structure and into the dune face to reduce the occupation of beach area.

The presence of the riprap would not affect public ownership or easement rights on the ocean shore; however, the encroachment would reduce the amount of usable beach area, and could even cause access to be blocked during winter high water events. In evaluating similar riprap projects, OPRD has found this amount of encroachment to be acceptable when the need for the project was considered justified.

Public Laws – The applicant shall comply with federal, state, and local laws and regulations affecting the project.

The Tillamook County Department of Community Development has certified that the project is in compliance with the Tillamook County Comprehensive Plan and Land Use Code. State of Oregon regulations are being addressed under the review of this permit. Federal regulations could potentially involve a U.S. Army Corps of Engineers permit. However, a Corps permit is usually not required for this type of project. A condition of the permit will require that the applicants obtain any required permits from the Corps, if applicable.

Alterations and Project Modifications – There are no reasonable alternatives to the proposed activity or project modifications that would better protect the public rights, reduce or eliminate the detrimental affects on the ocean shore, or avoid long-term cost to the public.

The geologic report considered four potential non-structural methods as potential alternatives to shore protection, including 1) relocation of the homes, 2) improving storm water control, 3) vegetation stabilization, and 4) beach filling or nourishment. The report concludes that the relocation of the existing homes would provide little additional protection from bluff erosion, as ocean wave erosion in the subject vicinity is being driven by a rip current embayment, of which the magnitude is difficult to predict.

Existing homes on tax lots 13600 (Fleming), 13500 (O’Gorman), 13400 (Hilts) and 13300 (Arner) currently have septic tanks and septic fields located east of the home structures. In addition, there is no area available for replacement septic systems on any of these properties. Home relocation is not an option for these properties or tax lot 13200 (Mauck) where the septic system is located west of the home structure..

Vegetative stabilization or sand nourishment would not be sufficient alternatives to substantially slow or halt erosion, or to stabilize the bluff slope. During large storm events with substantial wave surges, significant erosion can occur at the base of the dunes. Established vegetation including trees, shrubs and beach grass which provide some stabilizing root mass to the bluff, are considered insufficient to stop mass wasting of the dune face in a high energy wave environment.

Public Costs – There are no reasonable special measures which might reduce or eliminate significant public costs. Prior to submission of the application, the applicant shall consider alternatives such as nonstructural solutions, provision for ultimate removal responsibility for structures when no longer needed, reclamation of excavation pits, mitigation of project damages to public interests, or a time limit on project life to allow for changes in public interest.

Alternative shore protection methods other than riprap shore protection have been discussed above. These alternatives are not considered reasonable special measures, as they would fail to provide the needed long-term protection for the property.

Compliance with LCDC Goals – The proposed project shall be evaluated against the applicable criteria included within Statewide Planning Goals administered by the Department of Land Conservation and Development.

The Tillamook County Department of Community Development has certified that the project is in compliance with the Tillamook County Comprehensive Plan and Land Use Code, which are acknowledged by LCDC as

meeting the Statewide Planning Goal requirements. Statewide Planning Goal 18 requires that permits for beachfront protective structures can only be issued only where development existed on January 1, 1977. Development is defined as houses, commercial and industrial buildings, and vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lots, and areas where a Goal 18 exception authorizes development generally not allowed by the Goal.. The Tillamook County Comprehensive Plan includes a Goal 18 exception for the Tierra Del Mar community.

II. SCENIC STANDARDS, OAR 736-020-0015

Natural Features – The project shall retain the scenic attraction of key natural features, for example, beaches, headlands cliffs, sea stacks, streams, tide pools, bedrock formations, fossil beds and ancient forest remains.

The project would cover the existing dune face, and encroach some distance out onto the ocean shore. The Tierra Del Mar area is a developed community consisting of residential homes, roads and other infrastructure that has been built on the foredune. Many riprap structures are present along the beach to the south and north of the subject site. The beach and dunes in this area experience seasonal fluctuations of sand, with winter storms narrowing the beach as larger waves impinge against the coast, carrying and depositing sand out to offshore sand bars. During the calmer summer months, nearshore sand drifts ashore, and wind blown sand is deposited on the beach and at the base of shoreline structures.

Shoreline Vegetation – The project shall retain or restore existing vegetation on the ocean shore when vital to scenic values.

Introduced European beach grass is established along the top of the dune bluff fronting most of the properties. There is no existing vegetation below the dune scarp that would be affected by the proposed riprap revetment.

View Obstruction – The project shall avoid or minimize obstruction of existing views of the ocean and beaches from adjacent properties.

The riprap will not affect existing ocean or beach views from adjacent properties. Adjacent properties to the south are constructed at the same elevation, and properties to the north are at a slightly elevated position.

Compatibility with Surroundings – The project shall blend in with the existing shoreline scenery (type of construction, color, etc.).

Riprap revetments are located to the north and south of the subject properties, and the proposed project will be similar to these existing structures.

III. RECREATION USE STANDARDS, OAR 736-020-0020

Recreation Use – The project shall not be a detriment to public recreation use opportunities within the ocean shore area except in those cases where it is determined necessary to protect sensitive biological resources such as state or federally listed species.

The riprap would occupy some of the open beach area, but will not significantly affect public recreation use opportunities. During storm events or winter high tides, wave run-up may reach the riprap structure. During seasonal periods of moderate high tides and ocean swells, the existence of the riprap would not be a detriment to typical recreation uses on the beach.

Recreation Access – The project shall avoid blocking off or obstructing public access routes within the ocean shore area except in those cases where it is determined necessary to protect sensitive biological resources such as state or federally listed species.

The project would not extend out onto the ocean shore to cause an obstruction to public access along the shoreline during normal ocean conditions.

IV. SAFETY STANDARDS, OAR 736-020-0030

Structural Safety – The project shall not be a safety hazard to the public due to inadequate structural foundations, lack of bank stability, or the use of weak materials subject to rapid ocean damage.

The proposed design indicates that the riprap will be structurally safe and not an obstructive hazard. Rocks will be placed individually to form an interlocking structure, as is the standard practice for riprap revetment design.

Obstruction Hazards – the project shall minimize obstructions to pedestrians or vehicles going onto or along the ocean shore area.

The beach at this site is typically quite wide, and the proposed riprap is not expected to obstruct pedestrians or vehicles during normal ocean conditions.

Neighboring Properties – The project shall be designed to avoid or minimize ocean erosion or safety problems for neighboring properties.

In order to minimize the chance of enhanced erosion or flank scour on adjoining properties, the riprap design includes a tapering of the riprap height and width at the southern endpoint adjacent to Austin Avenue. This design helps minimize the possibility of end effects or flank scour. The properties to the north of the subject site have existing riprap protection.

Also, H.G. Schlicker & Associates state that the emergency revetment was “designed to minimize obstructions to sand movement along the beach, following the trend of the beach, curving the structure eastward at its southern end and connecting into an existing riprap revetment at the north end. They do not anticipate that sand movement along the shore will be adversely impacted by the riprap revetment because its westward extent is minimal.

Property Protection – Beachfront property protection projects shall be designed to accomplish a reasonable degree of increased safety for the on-shore property to be protected.

The purpose of the revetment is to provide protection to the upland properties.

V. NATURAL AND CULTURAL RESOURCE STANDARDS, OAR 736-020-0030

Fish and wildlife resources including rare, threatened or endangered species and fish and wildlife habitats.

There are no reported fish and wildlife resources that will be impacted by the proposed riprap revetment.

Estuarine values and navigation interests.

The project is not adjacent to an estuary, and does not affect navigable water on the ocean.

Historic, cultural and archeological sites.

Notice of the application was provided to the State Historic Preservation Office, and to the Confederated Tribes of Siletz and the Confederated Tribes of Grand Ronde. There were no reports of historic, cultural, or archeological sites at this location.

Natural areas (vegetation or aquatic features).

There is no existing significant vegetation or aquatic features that will be impacted by the proposed riprap.

Air and water quality of the ocean shore area.

The proposed project will take place above the ordinary high tide line, and will not cause foreign materials or pollutants to enter the water. Riprap placed at the site would be free of debris or foreign materials. The proposed project does not adversely affect water quality on the ocean shore. Air quality will not be affected, except for a negligible amount of exhaust from the use of heavy equipment during the construction period.

Areas of geologic interest, fossil beds, ancient forest remnants.

None of these features have been identified at the site.

When necessary to protect native plant communities or fish and wildlife habitat on the subject or adjacent properties, only native, non-invasive, plant species shall be used for revegetation.

The site is within a developed residential area, and there are no protected native plant communities or fish and wildlife habitat on or adjacent to the subject property.

VI PUBLIC COMMENT

Notice of the proposed project was posted at the site for 30 days in accordance with ORS 390.650. Individual notification and a copy of the application were mailed to government agencies and individuals on OPRD's ocean shore mailing list. OPRD received no requests for a public hearing. One comment was received by the Oregon Department of Fish and Wildlife expressing uncertainty in predicting the precise impacts of individual shoreline protective structures on physical processes and the biological processes found along the ocean shore. ODFW stated that it does not have enough information to evaluate this permit comprehensively and made several recommendations that are outside the scope of this individual application.

VII FINDINGS SUMMARY

Project Need – The proposed riprap is necessary to provide protection from ocean caused erosion. Dune bluff conditions and the proximity of the subject properties have caused the geologist to recommend the riprap revetment. There is evidence of significantly lower beach levels, active erosion and undercutting occurring at the toe of the dune bluff and the subsequent loss of upland vegetation. The dune previously consisted of a gentle westward slope, and was undercut to a near vertical slope with a height range from 15 to 17 feet.

The stability of the southern flank of the existing riprap revetment to the north (BA# 259-84) was compromised with storm surges washing in behind the structure and unraveling riprap onto the ocean shore. The foredune bank fronting the subject properties was also compromised and there was an immediate threat to the upland residences and public beach access.

Alternatives – There are no other reasonable alternatives for controlling the erosion and protecting the subject homes and infrastructure. House relocation and non-structural alternatives are not appropriate due to the physical conditions of the site. Some public costs will be associated with the project. Other types of less structural methods would not provide the protection necessary to control wave erosion at the toe of the slope.

Based on the above considerations, OPRD finds that there is adequate justification for the project to occur on and alter the ocean shore area.

The following checklist summarizes whether the application satisfies the general, scenic, recreation, safety and natural and cultural resource standards as defined in OAR 736-020-0010 through 736-020-0030:

The following checklist summarizes whether the application satisfies the general, scenic, recreation, safety and natural and cultural resource standards as defined in OAR 736-020-0010 through 736-020-0030:

Standard	Yes	No	Standard	Yes	No
Project Need	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Structural Safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Protection of Public Rights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Obstructional Hazards	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public Laws	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Neighboring Properties	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Alteration and Project Modifications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Property Protection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public Costs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fish and Wildlife Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Compliance with LCDC Goals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estuarine Values and Navigation Interests	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Historic, Cultural and Archeological Sites	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Shoreline Vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Natural Areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>
View Obstruction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Air and Water Quality of the ocean shore	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Compatibility with Surroundings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Areas of Geologic Interest	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Recreation Use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Use of Native Plant Species when Necessary	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Recreation Access	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

III. STAFF RECOMMENDATION:

Based on an analysis of the facts and in consideration of the standards evaluated under OAR-736-020-0005 through OAR 736-020-0030, I recommend the following action:

- Approval
- Approval with conditions
- Denial

Tony Stein
Ocean Shores Coordinator