Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

1510 – B Third Street
Tillamook, Oregon 97141
www.tillamook.or.us

Building (503) 842-3407
Planning (503) 842-3408
On-Site Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1 (800) 488-8280

Land of Cheese, Trees and Ocean Breeze

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER:
ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE,
IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER

Notice to Property Owner

Date: May 11, 2021

NOTICE OF PUBLIC QUASI-JUDICIAL HEARINGS
TILLAMOOK COUNTY PLANNING COMMISSION
TILLAMOOK COUNTY BOARD OF COMMISSIONERS REGARDING:

GOAL 18 EXCEPTION & FLOODPLAIN DEVELOPMENT PERMIT

Notice is hereby given that public hearings will be held by the Tillamook County Planning Commission at 7:30p.m. on Thursday, May 27th, 2021 and at 7:30pm on Thursday, June 24, 2021 in the Board of County Commissioners Meeting Rooms A & B of the Tillamook County Courthouse, 201 Laurel Avenue, Tillamook, OR 97141, and public hearings on this matter will also be held by the Tillamook County Board of Commissioners at 10:30a.m. on Wednesday, July 28, 2021 and at 2:00p.m. on Monday, August 16, 2021 in the Board of County Commissioners Meeting Rooms A & B of the Tillamook County Courthouse, 201 Laurel Avenue, Tillamook, OR 97141, to consider the following:

#851-21-000086-PLNG-01: A Goal Exception request for approval of an exception to Statewide Planning Goal 18, Implementation Measure (IM) 5; approval of a comprehensive plan amendment for a "committed" exception and/or a "reasons" exception to Goal 18, Implementation Measure 5 for the construction of shoreline stabilization along the westerly lots of the Pine Beach Subdivision and five oceanfront lots to the north located within the Barview/Twin Rocks/Watseco Unincorporated Community Boundary together with Floodplain Development Permit Request #851-21-000086-PLNG for the installation of a beachfront protective structure (rip rap revetment) within an active eroding foredune east of the line of established vegetation in the Coastal High Hazard (VE) zone, an Area of Special Flood Hazard within the Flood Hazard Overlay Zone. The subject properties are Lots 11-20 of the Pine Beach Replat Unit #1, designated as Tax Lots 114 through 123, of Section 7DD, and Tax Lots 3000, 3100, 3104, 3203 and 3204 of Section 7DA all in Township 1 North, Range 10 West of the Willamette Meridian, Tillamook County, Oregon. There are multiple property owners and applicants.

Notice of public hearing, a map of the request area, applicable specific request review criteria as well as a general explanation of the requirements for submission of testimony is included in this letter and has been mailed to all property owners within 250 feet of the exterior boundary of the subject property for which application has been made at least 10 days prior to the date of the first evidentiary hearing.

A copy of the application, along with a map of the request area and the applicable criteria for review are available for inspection on the Tillamook County Department of Community Development website; https://www.co.tillamook.or.us/commdev/landuseapps and is also available for inspection at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141.

The Staff Report will be available for inspection 7 days prior to the hearing on the Tillamook County Department of Community Development website: https://www.co.tillamook.or.us/commdev/landuseapps and will also be available for inspection at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141. The application and related materials may be purchased from the Department of Community Development at a cost of 25 cents per page.

PUBLIC HEARING INFORMATION

Due to Governor Brown's Order limiting the number of persons allowed for public gatherings and to adhere to social distancing requirements, the courthouse is not accessible to the public for these hearings. All hearings will take place virtually and will be livestreamed to ensure the public is able to participate. The hearings can be accessed via teleconference, attended via Microsoft Teams meetings and by live video through tctvonline.com.

Planning Commission Hearings: To access the live video and the Microsoft Teams virtual meeting link, please visit https://www.co.tillamook.or.us/commdev where links will be provided the evening of the hearings. **Microsoft Teams must be installed for virtual meeting access.* For teleconference access the evening of the hearing, please call 971-254-3149. Conference ID: 162 123 896#.

Board of County Commissioner Hearings: Please visit https://www.co.tillamook.or.us/bocc/page/board-commissioners-meeting-schedule for access information for Board of County Commissioner meetings.

Oral testimony can be heard at the hearings on May 27, 2021 at the Tillamook County Planning Commission first evidentiary hearing and July 28, 2021 at the Board of County Commissioner hearing. For instructions on how to provide oral testimony at the May 27, 2021 and July 28, 2021 hearings, please visit the Tillamook County Community Development homepage at https://www.co.tillamook.or.us/commdev for instructions and protocol or email Allison Hinderer, DCD Office Specialist, at ahindere@co.tillamook.or.us.

Written testimony may be submitted to the Tillamook County Department of Community Development, 1510-B Third Street, Tillamook, Oregon, 97141 prior to 4:00 p.m. on the date of the May 27, 2021 Planning Commission hearing and prior to 9:00am on the date of the July 28, 2021 hearing. If submitted by 4:00 p.m. on May 19, 2021 the testimony will be included in the packet mailed to the Planning Commission the week prior to the May 27, 2021 hearing.

Failure of an issue to be raised in a hearing, in person or by letter, or failure to provide sufficient specificity to afford the decision-maker an opportunity to respond to the issue precludes appeal to the Land Use Board of Appeals on that issue. Please contact Sarah Absher, CFM, Director, Tillamook County Department of Community Development, sabsher@co.tillamook.or.us as soon as possible if you wish to have your comments included in the staff report that will be presented to the Planning Commission.

The applicable criteria include Tillamook County Land Use Ordinance (TCLUO) Section 3.510: Flood Hazard Overlay Zone, TCLUO Article 9: Amendment, Oregon Statewide Planning Goal 18, Administrative Rule: OAR-660-015-0010(3), Oregon Revised Statutes ORS 197.732, Statewide Planning Goals 1 through 19 and the Tillamook County Comprehensive Plan. Only comments relevant to the approval criteria are considered relevant evidence.

The documents and submitted application are also available on the Tillamook County Department of Community Development website (https://www.co.tillamook.or.us/commdev/landuseapps) or at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141. A copy of the application and related materials may be purchased from the Department of Community Development at a cost of 25 cents per page. The staff report will be available for public inspection on May 20, 2021. Please contact Allison Hinderer for additional information ahindere@co.tillamook.or.us or call 1-800-488-8280 x3423.

In addition to the specific applicable review criteria, the Tillamook County Land Use Ordinance, Tillamook County Comprehensive Plan, Oregon Administrative Rules, Oregon Revised Statutes and Statewide Planning Goals which may contain additional regulations, policies, zones and standards that may apply to the request are also available for review at the Department of Community Development.

Sincerely,
Tillamook County Department of Community Development

Sarah Absher

Sarah Absher, CFM, Director

Enclosures: Request area maps

The Tillamook County Courthouse is handicapped accessible. If special accommodations are needed for persons with hearing, visual, or manual impairments who wish to participate in the hearing, please contact 1-800-488-8280 ext. 3303, at least 24 hours prior to the hearing in order that appropriate communications assistance can be arranged.

#851-21-000086-PLNG-01: GOAL EXCEPTION

TILLAMOOK COUNTY LAND USE ORDINANCE
SECTION 9.030(3) AMENDMENT CRITERIA

(a) If the proposal involves an amendment to the Comprehensive Plan, the amendment must be consistent with the Statewide Planning Goals and relevant Oregon Administrative Rules;
(b) The proposal must be consistent with the Comprehensive Plan. (The Comprehensive Plan may be amended concurrently with proposed changes in zoning);
(c) The Board must find the proposal to be in the public interest with regard to community conditions; the proposal either responds to changes in the community, or it corrects a mistake or inconsistency in the subject plan or ordinance; and
(d) The amendment must conform to Section 9.040 Transportations Planning Rule Compliance.

OREGON REVISED STATUTES
ORS 197.732
https://www.oregonlegislature.gov/bills_laws/ors/ors197.html

197.732 Goal exceptions; criteria; rules; review. (1) As used in this section:
(a) "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.
(b) "Exception" means a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that:
(A) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;
(B) Does not comply with some or all goal requirements applicable to the subject properties or situations; and
(C) Complies with standards under subsection (2) of this section.
(2) A local government may adopt an exception to a goal if:
(a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal;
(b) The land subject to the exception is irrevocably committed as described by Land Conservation and Development Commission rule to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or
(c) The following standards are met:
(A) Reasons justify why the state policy embodied in the applicable goals should not apply;
(B) Areas that do not require a new exception cannot reasonably accommodate the use;

(C) The long term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(D) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

(3) The commission shall adopt rules establishing:

(a) That an exception may be adopted to allow a use authorized by a statewide planning goal that cannot comply with the approval standards for that type of use;

(b) Under what circumstances particular reasons may or may not be used to justify an exception under subsection (2)(c)(A) of this section; and

(c) Which uses allowed by the applicable goal must be found impracticable under subsection (2) of this section.

(4) A local government approving or denying a proposed exception shall set forth findings of fact and a statement of reasons that demonstrate that the standards of subsection (2) of this section have or have not been met.

(5) Each notice of a public hearing on a proposed exception shall specifically note that a goal exception is proposed and shall summarize the issues in an understandable manner.

(6) Upon review of a decision approving or denying an exception:

(a) The Land Use Board of Appeals or the commission shall be bound by any finding of fact for which there is substantial evidence in the record of the local government proceedings resulting in approval or denial of the exception;

(b) The board upon petition, or the commission, shall determine whether the local government's findings and reasons demonstrate that the standards of subsection (2) of this section have or have not been met; and

(c) The board or commission shall adopt a clear statement of reasons that sets forth the basis for the determination that the standards of subsection (2) of this section have or have not been met.

(7) The commission shall by rule establish the standards required to justify an exception to the definition of "needed housing" authorized by ORS 197.303.

(8) An exception acknowledged under ORS 197.251, 197.625 or 197.630 (1) (1981 Replacement Part) on or before August 9, 1983, continues to be valid and is not subject to this section. [1983 c.827 §19a; 1995 c.521 §3; 2005 c.67 §1; 2007 c.71 §68; 2011 c.354 §6]

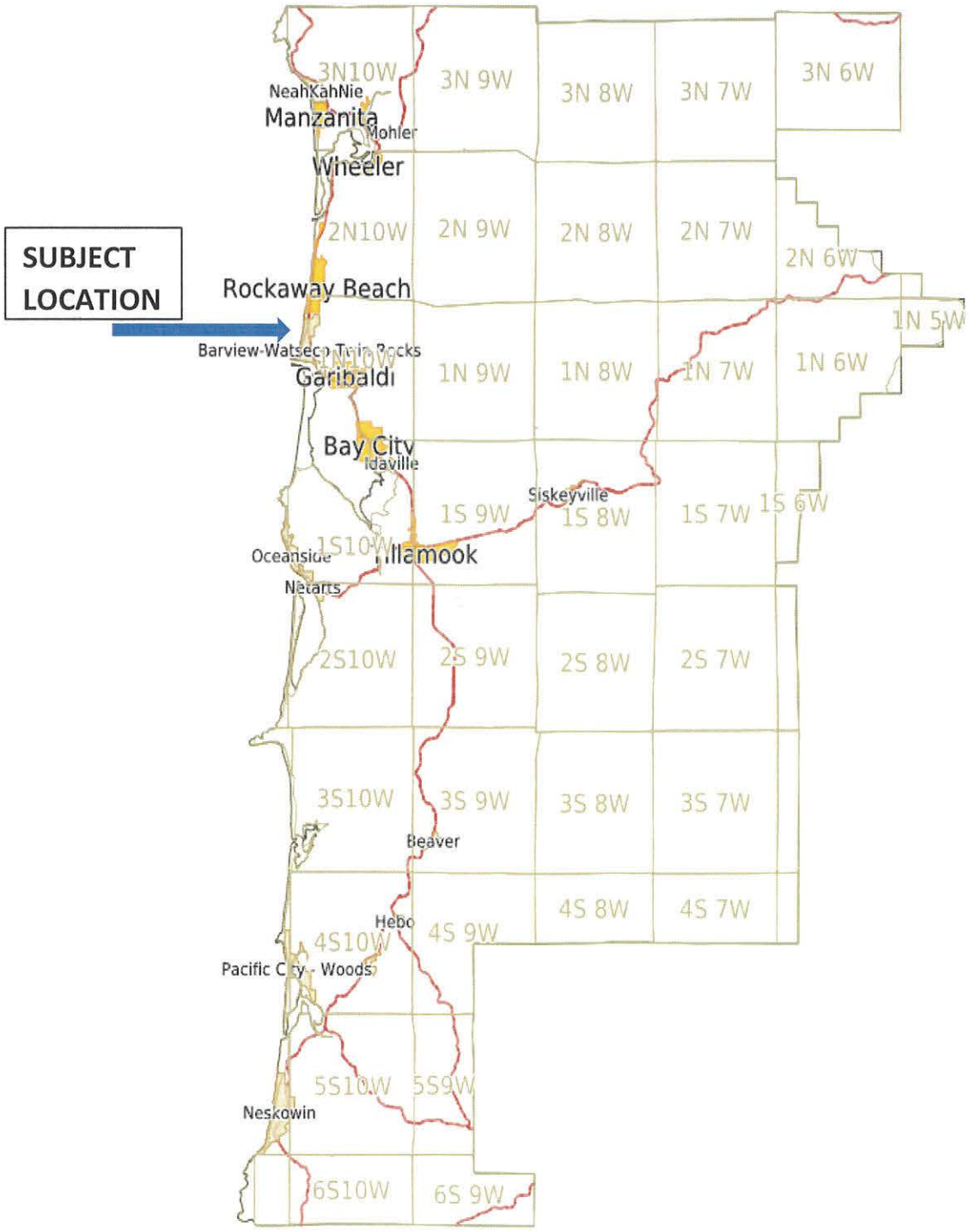
OREGON ADMINISTRATIVE RULE
OREGON ADMINISTRATIVE RULE OAR-660-015-0010(3)
https://secure.sos.state.or.us/oard/displayCompilation.action?compRsn=81
***Large Document- Click of Division 660 to Download**

#851-21-000086-PLNG: FLOODPLAIN DP

TILLAMOOK COUNTY LAND USE ORDINANCE
SECTION 3.510(14)(b) DEVELOPMENT PERMIT REVIEW CRITERIA

(1) The fill is not within a Coastal High Hazard Area.
(2) Fill placed within the Regulatory Floodway shall not result in any increase in flood levels during the occurrence of the base flood discharge.
(3) The fill is necessary for an approved use on the property.
(4) The fill is the minimum amount necessary to achieve the approved use.
(5) No feasible alternative upland locations exist on the property.
(6) The fill does not impede or alter drainage or the flow of floodwaters.
(7) If the proposal is for a new critical facility, no feasible alternative site is available.
(8) For creation of new, and modification of, Flood Refuge Platforms, the following apply, in addition to (14)(a)(1-4) and (b)(1-5)… (N/A)

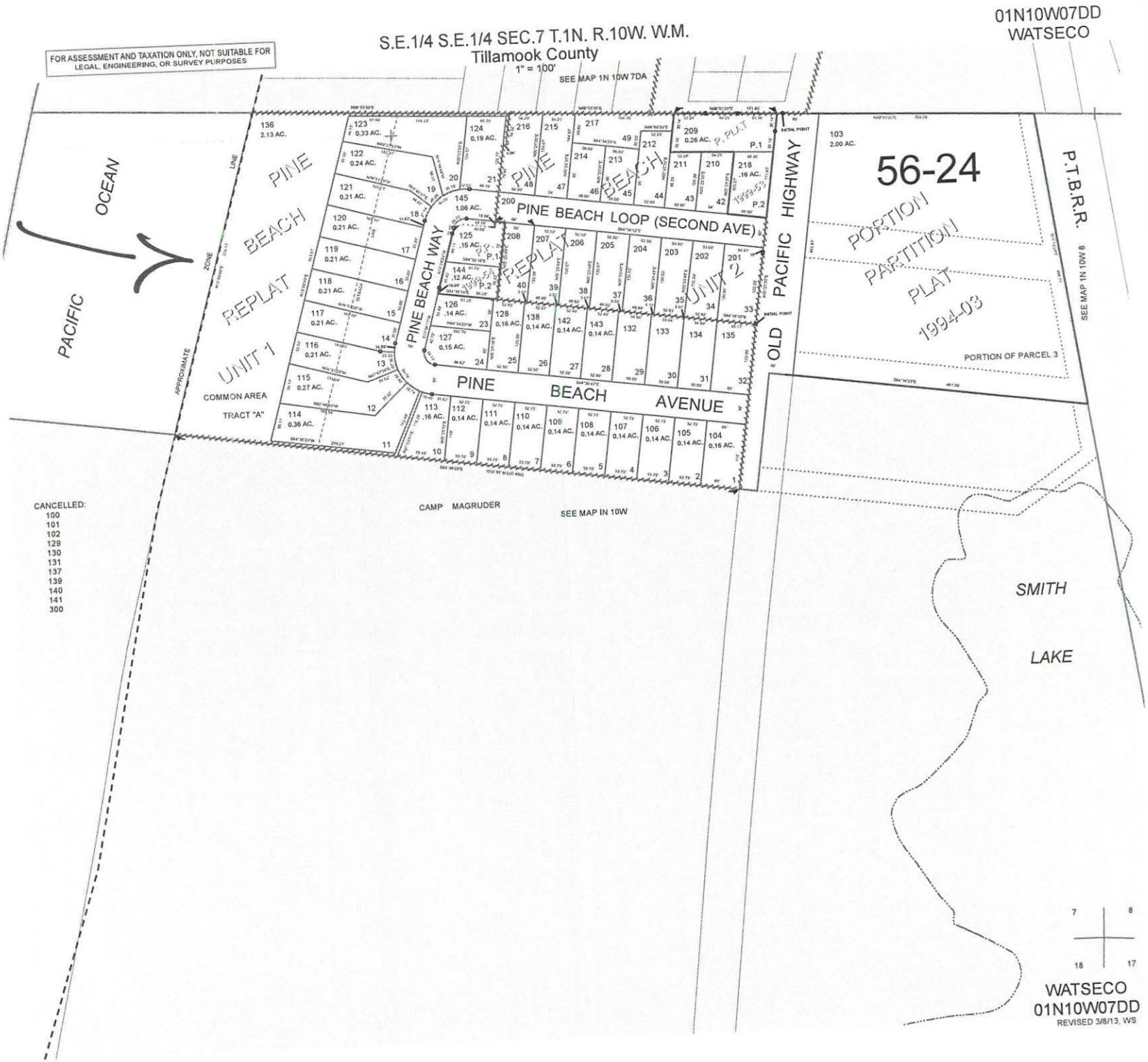
VICINITY MAP

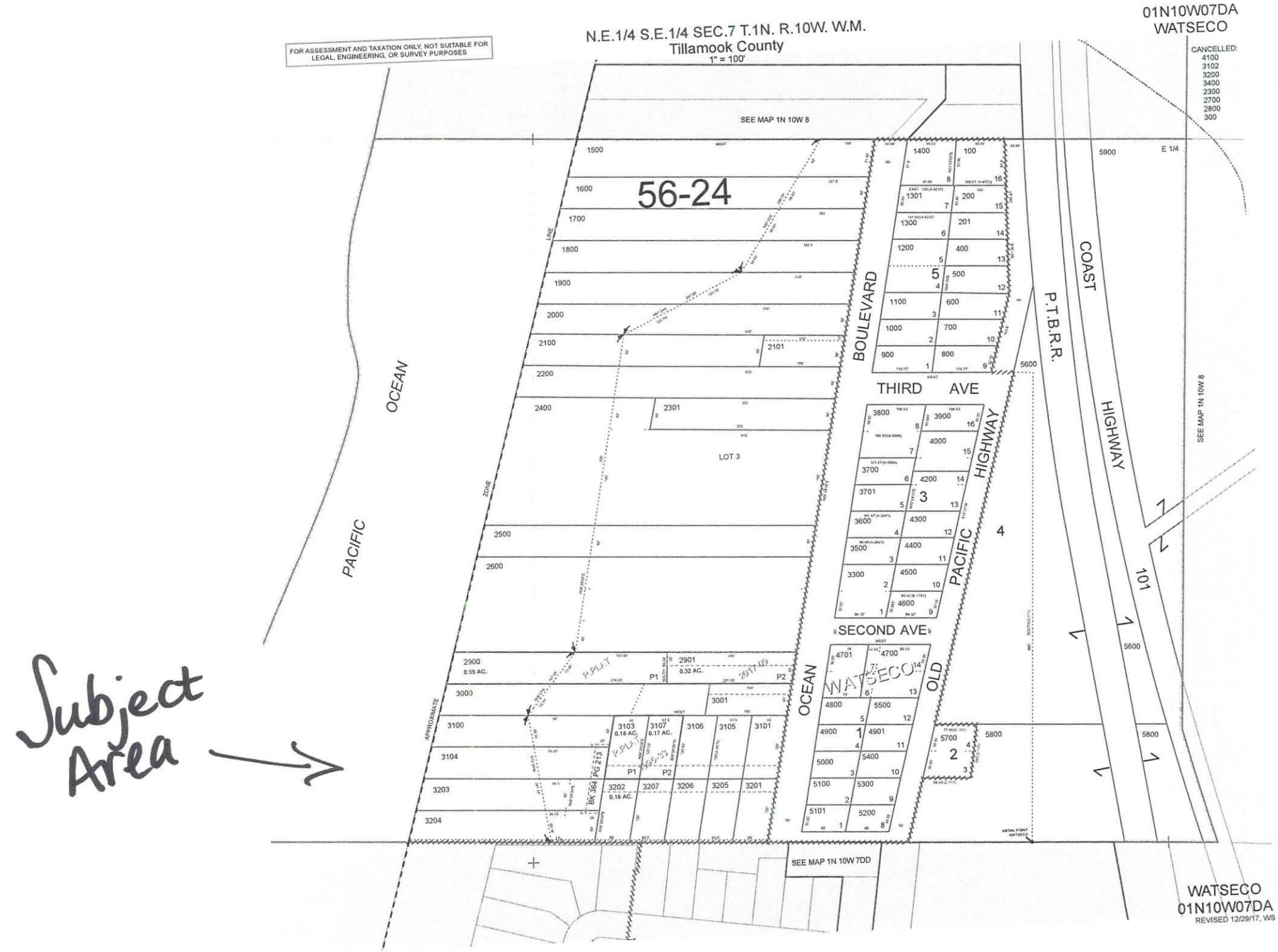


#851-21-000086-PLNG & #851-21-000086-PLNG-01

GOAL EXCEPTION & DEVELOPMENT PERMIT REQUEST

Subject Area





Subject Area →

Map

Generated with the GeoMOOSE Printing Utilities

Tillamook County Department of Community Development
1510-B Third Street. Tillamook, OR 97141 | Tel: 503-842-3408 Fax: 503-842-1819
www.co.tillamook.or.us

PLANNING APPLICATION

OFFICE USE ONLY
Date Stamp: 3/29/21
☐Approved ☐Denied
Received by: SS
Receipt #:
Fees: 5326.00
Permit No: 851-21-000086-PLNG-01

Applicant ☒ *(Check Box if Same as Property Owner)*

Name: Phone:

Address:

City:

Email:

Please see attached table for applicant/property owner contact info.

Property Owner

Name:

Address:

City: State: Zip:

Email:

Request: Precautionary approval of an exception to Statewide Planning Goal 18, Implementation Measure (IM) 5; precautionary approval of a comprehensive plan amendment for a "committed" exception and/or a "reasons" exception to Goal 18, IM 5.

Type II	Type III	Type IV
☐ Farm/Forest Review	☐ Appeal of Director's Decision	☐ Appeal of Planning Commission Decision
☐ Conditional Use Review	☐ Extension of Time	☐ Ordinance Amendment
☐ Variance	☐ Detailed Hazard Report	☐ Large-Scale Zoning Map Amendment
☐ Exception to Resource or Riparian Setback	☐ Conditional Use (As deemed by Director)	☐ Plan and/or Code Text Amendment
☐ Nonconforming Review (Major or Minor)	☒ Ordinance Amendment	
☐ Development Permit Review for Estuary Development	☐ Map Amendment	
☐ Non-farm dwelling in Farm Zone	☒ Goal Exception	
☐ Foredune Grading Permit Review		
☐ Neskowin Coastal Hazards Area		

Location:

Site Address: Please see attached table for site descriptions.

Map Number:

Township Range Section Tax Lot(s)

Clerk's Instrument #: _____

Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

Property Owner Signature (Required) Please see attached applicant/property owner signatures.

Applicant Signature Date

List of Applicant/Property Owner Contact Info and Site Descriptions

Applicant/Property Owner Name	Mailing Address	Phone	Email	Site Address	Site Description
Bill and Lynda Cogdall	39455 NW Murtaugh Rd. North Plains, OR 97133	(503) 789-5770	lcogdall@aol.com	17300 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 114
Michael and Christine Rogers	17231 NW Dairy Creek Rd. North Plains, OR 97133	(503) 314-2758	mjr2153@aol.com	17320 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 115
David and Frieda Farr	17340 Pine Beach Way Rockaway Beach, OR 97136	(503) 703-1044	dfarrwestproperties@gmail.com	17340 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 116
Jon Creedon	7501 SE 17th St. Vancouver, WA 98664	(503) 253-0345	jcc@pacifier.com	No situs address	T1N, R10W, Section 07DD, TL 117
Don and Barbara Roberts; David Hayes	503 Rhododendron Dr. Vancouver, WA 98661; 600 Rhododendron Dr. Vancouver, WA 98661	(360) 921-9187	donrobertsemail@gmail.com; robertsfm6@gmail.com; tdavidh1@comcast.net	17380 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 118
Michael Munch (Applicant/Trustee); 17420 Pine Beach Way LLC (Owner)	5012 Dogwood Dr. Lake Oswego, OR 97035	(503) 430-7860	michaelmunch@comcast.net	No situs address	T1N, R10W, Section 07DD, TL 119
				17420 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 120
Jeffrey and Terry Klein	12230 SW Riverview Ln Wilsonville, OR 97070	(503) 682-8998	jeffklein@wvmeat.com	17440 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 121
Rachael Holland	3136 NE 45th Ave. Portland, OR 97213	(503) 750-1543	rachael@pacificopportunities.com	17460 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 122
Michael Ellis	2614 Q St. Vancouver, WA 98663	(503) 577-2760	mikeellispdx@gmail.com	17480 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 123
Angela and David Dowling	19712 Bennington Ct. West Linn, OR 97068	(406) 459-5361	adowling521@gmail.com	17560 Ocean Blvd. Rockaway Beach, OR 97136	T1N, R10W, Section 07DA, TL 3000
Evan Danno	144 Highland Ridge Dr. Kalispell, MT 59901	n/a	evandanno@hotmail.com	17490 Ocean Blvd. Rockaway Beach, OR 97136	T1N, R10W, Section 07DA, TL 3100
Mark and Alice Kemball (Applicants/Trustees); Mary Ann Lockwood Family Trust (Owner)	3515 SW 86th Ave. Portland, OR 97885	(503) 853-4367	kemball@easystreet.net	17488 Ocean Blvd. Rockaway Beach, OR 97136	T1N, R10W, Section 07DA, TL 3104
Megan Steck Berg	337 Somerset Ave. Sarasota, FL 34243	n/a	meganberglaw@aol.com	No situs address	T1N, R10W, Section 07DA, TL 3203
Heather Steck VonSeggern	337 Somerset Ave. Sarasota, FL 34243	n/a	heather.vonseggern@img.education	No situs address	T1N, R10W, Section 07DA, TL 3204

Site Description(s)

17300 Pine Beach Wav
Rockaway Beach, OR 97136

T1N. R10W. Section 07DD, TL 114

Signature(s)

3-20-21
Applicant/Property Owner Date

Linda Caydall 3-20-21
Applicant/Property Owner Date

Site Description(s)

17320 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 115

Signature(s)

3-21-21
Applicant/Property Owner Date

Christina M Rogers 3-21-21
Applicant/Property Owner Date

Site Description(s)

17340 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 116

Signature(s)

3/19/21
Applicant/Property Owner Date

Frieda Lam 03/19/2021
Applicant/Property Owner Date

Site Description(s)

No situs address

T1N, R10W, Section 07DD, TL 117

Signature(s)

3-19-21
Applicant/Property Owner Date

Site Description(s):

17380 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 118

Signature(s):

(Property Owner signature if required)

Applicant Signature — Date: 3/20/21

Barbara Roberts — Applicant Signature — Date: 3/20/21

Site Description(s)

17380 Pine Beach Way
Rockaway Beach, OR 97136

Signature(s)

Applicant/Property Owner — Date: 3/19/21

T1N, R10W, Section 07DD, TL 118

Site Description(s)

17420 Pine Beach Way
Rockaway Beach, OR 97136

Signature(s)

Applicant/Property Owner — Date: 3-21-21

T1N, R10W, Section 07DD, TL 119 & 120

Site Description(s)

17440 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 121

Signature(s)

Applicant/Property Owner — Date: 3-19-2021

Applicant/Property Owner — Date: 3-19-2021

Site Description(s)

17460 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 122

Signature(s)

Rachael Holland — 3/19/2021
Applicant/Property Owner — Date

Site Description(s)

17480 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 123

Signature(s)

Applicant/Property Owner — 3/22/21 Date

Site Description(s)

17560 Ocean Blvd.
Rockaway Beach, OR 97136

T1N, R10W, Section 07DA, TL 3000

Signature(s)

Applicant/Property Owner — 3/21/2021 Date

Applicant/Property Owner — 3/21/2021 Date

Site Description(s)

17490 Ocean Blvd.
Rockaway Beach, OR 97136

T1N, R10W, Section 07DA, TL 3100

Signature(s)

Evan F. Danno, Trustee
Evan Danno — March 20, 2021
Applicant/Property Owner — Date

Site Description(s)

17488 Ocean Blvd.
Rockaway Beach, OR 97136

T1N, R10W, Section 07DA, TL 3104

Signature(s)

N Kimball, TTE — 3/22/21
Applicant/Property Owner — Date

Alva P. Kimball — 3/23/21
Applicant/Property Owner — Date

Site Description(s)

No situs address

Signature(s)

3/22/2021
Applicant/Property Owner Date

T1N, R10W, Section 07DA, TL 3203

Site Description(s)

No situs address

Signature(s)

Heather VanSeggen 3/22/20
Applicant/Property Owner Date

T1N, R10W, Section 07DA, TL 3204

Tillamook County Department of Community Development
1510-B Third Street. Tillamook, OR 97141 | Tel: 503-842-3408 Fax: 503-842-1819
www.co.tillamook.or.us

DEVELOPMENT PERMIT

OFFICE USE ONLY
Date Stamp: 3/29/21
☐Approved ☐Denied
Received by: SS
Receipt #:
Fees: 615.00
Permit No: 851-21-000084PLNG

Applicant ☒ *(Check Box if Same as Property Owner)*

Name: Phone:

Address:

City:

Email:

Please see attached table for applicant/property owner contact info.

Property Owner

Name:

Address:

City: State: Zip:

Email:

Description of Work: Installation of a beachfront protective structure (rip rap revetment) within an active eroding foredune east of line of established vegetation line in VE zone.

Location:

Site Address:

Map Number:

Please see attached table for site descriptions.

Township Range Section Tax Lot(s)

Complete all applicable fields:

Regulatory Floodway: ☐ Estuary: ☐ Floodplain: ☑	
New: ☑ Addition: ☐ Replacement: ☐ Remodel: ☐ Demolish: ☐	
Dwelling:	Accessory Structure: BPS
Culvert Diameter: Length:	Bridge Length: Width:
Fence Height:	Retaining Wall Height:
Streambank Stabilization:	Other:
Fill/Removal/Grading: CY	Vegetation Removal: CY

See Technical Memorandum (Exhibit F) and narrative.

Structure/Damage $:	5 Year Construction $:
Substantial improvement/damage threshold 50% cost vs. value	

Flood Insurance Rate Map (FIRM) Panel Info

Tillamook County	Panel Number: 410196 379
Effective Date: 9/28/2018	Property Flood Zone(s): VE west portions none east portions
Floodway: Y ☐ N ☑	Project Flood Zone(s): VE
Stream/Waterbody Name: Pacific Ocean	

Elevation Data (NAVD 88)

Base Flood Elevation: 25.6	First Habitable Floor:
Lowest Floor/Horizontal Member:	
Enclosed Area:	Flood Vent Area:

Other Required Permits

Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

Property Owner Signature (Required) Date

Please see attached applicant/property owner signatures

Applicant Signature Date

Conditions of Approval

- The applicant shall obtain all applicable Federal, State, and Local permits prior to the start of any development.

-The property owner shall comply with all submitted plans and descriptions of the project.

-The property owner shall comply with all 'Zone ___' flood hazard construction standards per FEMA requirements. All construction shall adhere to the standards for residential structure in the '___' flood zone per TCLUO Section '_____". This shall be reviewed and verified by this Department during the Building Permit process.

- The dwelling shall comply with all of the Building Code requirements for Anchoring, Construction Materials and Methods, and Utilities for residential structure located in the '_____' flood zone.

-The property owner shall submit a Flood 'Pre-Elevation' certificate at the time of Building Permit application. A 'Post-Elevation' certificate shall be submitted during the construction process. Both shall be completed by a registered surveyor and shall be provided on the current FEMA form.

- This approval becomes null and void two years post approval date unless all conditions are met, or an extension is requested from and approved by this Department.

Additional Staff Comments and Conditions

Planner Signature

Date

List of Applicant/Property Owner Contact Info and Site Descriptions

Applicant/Property Owner Name	Mailing Address	Phone	Email	Site Address	Site Description
Bill and Lynda Cogdall	39455 NW Murtaugh Rd. North Plains, OR 97133	(503) 789-5770	lcogdall@aol.com	17300 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 114
Michael and Christine Rogers	17231 NW Dairy Creek Rd. North Plains, OR 97133	(503) 314-2758	mjr2153@aol.com	17320 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 115
David and Frieda Farr	17340 Pine Beach Way Rockaway Beach, OR 97136	(503) 703-1044	dfarrwestproperties@gmail.com	17340 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 116
Jon Creedon	7501 SE 17th St. Vancouver, WA 98664	(503) 253-0345	jcc@pacifier.com	No situs address	T1N, R10W, Section 07DD, TL 117
Don and Barbara Roberts; David Hayes	503 Rhododendron Dr. Vancouver, WA 98661; 600 Rhododendron Dr. Vancouver, WA 98661	(360) 921-9187	donrobertsemail@gmail.com; robertsfm6@gmail.com; tdavidh1@comcast.net	17380 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 118
Michael Munch (Applicant/Trustee); 17420 Pine Beach Way LLC (Owner)	5012 Dogwood Dr. Lake Oswego, OR 97035	(503) 430-7860	michaelmunch@comcast.net	No situs address	T1N, R10W, Section 07DD, TL 119
				17420 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 120
Jeffrey and Terry Klein	12230 SW Riverview Ln Wilsonville, OR 97070	(503) 682-8998	jeffklein@wvmeat.com	17440 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 121
Rachael Holland	3136 NE 45th Ave. Portland, OR 97213	(503) 750-1543	rachael@pacificopportunities.com	17460 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 122
Michael Ellis	2614 Q St. Vancouver, WA 98663	(503) 577-2760	mikeellispdx@gmail.com	17480 Pine Beach Way Rockaway Beach, OR 97136	T1N, R10W, Section 07DD, TL 123
Angela and David Dowling	19712 Bennington Ct. West Linn, OR 97068	(406) 459-5361	adowling521@gmail.com	17560 Ocean Blvd. Rockaway Beach, OR 97136	T1N, R10W, Section 07DA, TL 3000
Evan Danno	144 Highland Ridge Dr. Kalispell, MT 59901	n/a	evandanno@hotmail.com	17490 Ocean Blvd. Rockaway Beach, OR 97136	T1N, R10W, Section 07DA, TL 3100
Mark and Alice Kemball (Applicants/Trustees); Mary Ann Lockwood Family Trust (Owner)	3515 SW 86th Ave. Portland, OR 97885	(503) 853-4367	kemball@easystreet.net	17488 Ocean Blvd. Rockaway Beach, OR 97136	T1N, R10W, Section 07DA, TL 3104
Megan Steck Berg	337 Somerset Ave. Sarasota, FL 34243	n/a	meganberglaw@aol.com	No situs address	T1N, R10W, Section 07DA, TL 3203
Heather Steck VonSeggern	337 Somerset Ave. Sarasota, FL 34243	n/a	heather.vonseggern@img.education	No situs address	T1N, R10W, Section 07DA, TL 3204

Site Description(s)

17300 Pine Beach Wav
Rockaway Beach, OR 97136

T1N. R10W. Section 07DD, TL 114

Signature(s)

3-20-21
Applicant/Property Owner Date

Lynda Caydall 3-20-21
Applicant/Property Owner Date

Site Description(s)

17320 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 115

Signature(s)

3-21-21
Applicant/Property Owner Date

Christine M Rogers 3-21-21
Applicant/Property Owner Date

Site Description(s)

17340 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 116

Signature(s)

3/19/21
Applicant/Property Owner Date

03/19/2021
Applicant/Property Owner Date

Site Description(s)

No situs address

T1N, R10W, Section 07DD, TL 117

Signature(s)

3-19-21
Applicant/Property Owner Date

Site Description(s):

17380 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 118

Signature(s):

Property Owner Signature (if required)

Applicant Signature — Date: 3/20/21

Barbara Roberts — Applicant Signature — Date: 3/20/21

Site Description(s)

17380 Pine Beach Way
Rockaway Beach, OR 97136

Signature(s)

Applicant/Property Owner — Date: 3/19/21

T1N, R10W, Section 07DD, TL 118

Site Description(s)

17420 Pine Beach Way
Rockaway Beach, OR 97136

Signature(s)

Applicant/Property Owner — Date: 3-21-21

T1N, R10W, Section 07DD, TL 119 & 120

Site Description(s)

17440 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 121

Signature(s)

Applicant/Property Owner — Date: 3-19-2021

Applicant/Property Owner — Date: 3-19-2021

Site Description(s)

17460 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 122

Signature(s)

Rachael Holland — 3/19/2021
Applicant/Property Owner — Date

Site Description(s)

17480 Pine Beach Way
Rockaway Beach, OR 97136

T1N, R10W, Section 07DD, TL 123

Signature(s)

[signature] — 3/22/21
Applicant/Property Owner — Date

Site Description(s)

17560 Ocean Blvd.
Rockaway Beach, OR 97136

T1N, R10W, Section 07DA, TL 3000

Signature(s)

[signature] — 3/21/2021
Applicant/Property Owner — Date

[signature] — 3/24/2021
Applicant/Property Owner — Date

Site Description(s)

17490 Ocean Blvd.
Rockaway Beach, OR 97136

T1N, R10W, Section 07DA, TL 3100

Signature(s)

Evan F. Danno, Trustee
Evan Danno — March 20, 2021
Applicant/Property Owner — Date

Site Description(s)

17488 Ocean Blvd.
Rockaway Beach, OR 97136

T1N, R10W, Section 07DA, TL 3104

Signature(s)

[signature] — 3/22/21
Applicant/Property Owner — Date

[signature] — 3/23/21
Applicant/~~Property Owner~~ — Date

Site Description(s)

No situs address

T1N, R10W, Section 07DA, TL 3203

Signature(s)

Applicant/Property Owner — Date: 3/22/2021

Site Description(s)

No situs address

T1N, R10W, Section 07DA, TL 3204

Signature(s)

Applicant/Property Owner — Date: 3/22/20

Pine Beach
Combined Application for
Shoreline Protection

Narrative

TABLE OF CONTENTS

I. APPLICATION INFORMATION

DATE: **March 26, 2021**

REQUEST: Approval of a Floodplain Development and Zoning Permit to allow placement of a beachfront protective structure within an active eroding foredune approximately 10' landward of the existing vegetation line and within the rear yards of lots 11-20 of the Pine Beach Subdivision. (Pine Beach Way; Tax Lots 114-123, Map 1N10W07DD (adjacent and north of Camp Magruder)) and within the rear yards of Tax Lots 3000, 3100, 3104, 3203 and 3204 ("George Shand Tract"/"Ocean Boulevard properties") of Assessor's Map 1N10W07DA. The Applicants' properties were "developed" platted subdivision lots on January 1, 1977 and so are entitled to shoreline protection. As a precaution, this application also seeks a Goal 18 exception to approve the requested shoreline protection. In this regard, TCLUO Section 3.530(4)(A)(4)(b) requires Applicants to also obtain an exception to Statewide Planning Goal 18, Implementation Measure (IM) 5. Consequently, as a precaution to the extent necessary and to the extent the existing committed exception for the area is not viewed as being enough, then the Applicants also request approval of a comprehensive plan amendment for a "Committed" Exception and/or a "Reasons" Exception to Goal 18 Implementation Measure 5. Because the proposed protective structure is east of the statutory vegetation line and east of the line of established vegetation, OPRD's authority is not invoked.

APPLICANTS: Mike and Chris Rogers, Bill and Linda Cogdall, Dave and Frieda Farr, Jon Creedon, Don and Barbara Roberts, David Hayes, Michael Munch, Jeff and Terry Klein, Mike Ellis, Rachael Holland, Heather Steck VonSeggern, Megan Steck Berg, Mark and Alice Kemball, Evan Danno, and Angela and David Dowling

OWNERS: Owners of lots 11-20 of the Pine Beach Replat Unit #1, (Tax Lots 114-123 of T1N, R10W, Section 07DD)
Owners of Tax Lots 3000, 3100, 3104, 3203 and 3204 of R10W Section 07DA

REPRESENTATIVE: Wendie L. Kellington
Kellington Law Group PC
P.O. Box 159
Lake Oswego, OR 97034

LEGAL DESCRIPTION: Lots 11-23 of the Pine Beach Replat Unit #1, (Tax Lots 114-123 of T1N, R10W, Section 07DD)

Tax Lots 3000, 3100, 3104, 3203, and 3204 of T1N, R10W Section 07DA.

LOCATION: Pine Beach Loop and Ocean Boulevard, approximately two miles south of Rockaway Beach, OR and north of Camp Magruder

ZONING: CR-2 (Community Medium Density Residential) with Beach and Dune Overlay (BD) and Flood Hazard Overlay (FH)

II. COMBINED APPLICATION FOR SHORELINE PROTECTION

This is a combined application for shoreline protection for 15 lots in the Barview-Watseco-Twin Rocks Community Growth Boundary, an unincorporated community, in Tillamook County. The subject properties are in the Pine Beach Replat Unit 1 and George Shand Tracts. All of the proposed shoreline protection is east of the statutory vegetation line and east of the "line of established vegetation." That means that this application does not implicate the authority of the Oregon Parks and Recreation Department (OPRD). An image of the subject properties is Exhibit A.

This application seeks shoreline protection as of right and also seeks a precautionary application for a Goal 18 exception to allow the requested shoreline protection. Findings addressing the Goal 18 exception are provided in Section VIII.B. below. Findings addressing the County's requirements for beachfront protective structures are provided in Sections VIII.C. and D. below.

The homes on the subject properties are now in harm's way; although they were not in danger at the time their underlying subdivisions were approved, or when the homes were established. King Tides in 2020 and 2021 saw ocean water reaching these homes and indeed snaking around them, gunning for the street system and homes located further landward. Here, the subdivision developers did everything right – all of the homes in the Pine Beach Replat and all of the Ocean Boulevard properties are setback at least 237.6' east of the statutory vegetation line. While at the time the subject properties were developed the ocean was literally hundreds of feet away, now the statutory vegetation line itself is fully in the ocean and the ocean is getting perilously close. Moreover, at the time the subdivisions and homes on the subject properties were approved, the ocean was depositing sand – adding land – not taking it away, and certainly did not reach landward as far as now. This fact makes this application significantly different from others that may seek a Goal 18 exception. To repeat it, when developed, **the subject properties had seen a 70-year period of ocean progration – deposing sand and adding land -** not taking it away as has occurred more recently.

Approving this application will immediately save 11 homes, the public water and sewer infrastructure that serves them *and* this area, and the supporting road system.

III. SUBJECT PROPERTIES ARE ENTITLED TO SHORELINE PROTECTION AS OF RIGHT – AS DEVELOPED SUBDIVISION LOTS.

The subject properties should be entitled to shoreline protection as of right. On January 1, 2977, all of the properties were in platted subdivisions which were served by streets and had "provision of utilities," depending upon how the latter term is interpreted. Specifically, the properties within the Pine Beach Replat were within the Pine Beach Subdivision platted in 1934. Exhibit B. The Ocean Avenue properties were within the "George Shand Tracts" platted in October 1950. Exhibit C. The George Shand Tracts abutted the town of Watseco and were served by Ocean Boulevard and, by January 1, 1977, water was provided via the predecessor to the Watseco-Barview Water District and individual septic systems. Similarly, the Pine Beach subdivision was served by Old Pacific Highway, and the predecessor to Watseco-Barview Water District's infrastructure in Watseco abutted and was certainly available to serve the Pine Beach subdivision as were individual septic systems. An example of this is Exhibit D, which is the building permit approval for the house just north of the subject properties on TL 2900, the building permit for which was approved in 1974 and indicated "Watseco Water" would be used and a "septic tank."

Moreover, the version of Goal 18 in effect on January 1, 1977 did not require subdivision lots to be served by roads or utilities at all. Rather, until 1984, Goal 18 simply required that land be "developed" and provided the following definition of "development" and "developed":

> "Develop" - To bring about growth or availability to construct or alter a structure, to conduct a mining operation, to make a physical change in the use or appearance of land, to divide land into parcels, or to create or terminate rights of access. (State Planning Goals and Guidelines)
>
> "Development" - The act, process, or result of developing. (State Planning Goals and Guidelines)

Under the standards that applied to the two subdivisions in 1977, both the Pine Beach and Ocean Boulevard properties were "developed" – divided to bring about growth or availability to construct a structure – on January 1, 1977, and therefore should be entitled to shoreline protection under that original Goal 18 standard. It was only in 1984, that Goal 18 was amended to define development to mean subdivision lots with roads and the "provision of utilities." But, by then the subject properties existed as subdivision lots and reasonably should be entitled to shoreline protection. The new Goal 18 regulations about lots entitled to shoreline protection should not be applied to lots, like the subject properties, that were established before the effective date of the new (1984) Goal 18 definition of "developed."

IV. SUBJECT PROPERTIES ARE ENTITLED TO SHORELINE PROTECTION BECAUSE THEY ARE SUBJECT TO A COMMITTED EXCEPTION THAT ALLOWS RESIDENTIAL DEVELOPMENT ON A DUNE THAT IS NOW SUBJECT TO OCEAN UNDERCUTTING AND OVERTOPPING.

The subject properties, and the public water and sewer lines and road system that serve them and others, are all urban development on a dune. The subject properties are subject to an existing statewide planning goal exception that allows that residential development outside of an UGB, on that dune. At the time the subject properties were approved, those dunes were not subject to ocean undercutting or wave overtopping. Now they are. And their existing committed exception protects them. This is because it is a goal exception that allows residential development on dunes subject to such wave action.

In this regard, Goal 18, Implementation Measure (IM) 5 expressly allows shoreline protection to be established on property if a goal exception allows residential development on a dune with such characteristics. Therefore, it is tautological that the existing exception that applies to the subject properties is an exception to the prohibition that otherwise applies (viz.) the prohibition on housing on a dune subject to ocean undercutting or wave overtopping. Accordingly, since the subject properties already have a Goal 18 exception that allows their residential development on a dune subject to overtopping and undercutting, they have a right to shoreline protection. That is the reason why this Goal 18 exception is precautionary only. We appreciate that their existing goal exception does not expressly reference Goal 18. But it need not do so. Nothing says that an exception allowing residential development on a dune with overtopping and undercutting characteristics as here, can only be deemed an exception to Goal 18's prohibition on such development if it uses magic words specifically identifying each goal to which it applies. What is legally significant is the substance, not the title, of the particular exception. *See South of Sunnyside Neigh. League v. Clackamas County*, 280 Or 3, 21 (1977) ("No particular form is required, and no magic words need be employed" for findings supporting plan amendments.) And what is legally significant here is that the County's exception that applies to the subject properties allows residential development on the dune on which they are situated which is now subject to ocean undercutting and wave overtopping.

V. DLCD CLAIMS GOAL 18 EXCEPTIONS AS PROPOSED HERE ARE APPROPRIATE.

In 2019, DLCD established a so-called Goal 18 focus group to discuss whether the current Goal 18, Implementation Measure 5 prohibition on protective structures made any sense. The final report of that group did not answer that question. However, the final report does flag that DLCD thinks that the existing Goal 18 exception process "already exists" and anyone "can pursue this option now". Exhibit E (Goal 18 Report), p. 11. The report opines that the Goal 18 exception process is "underutilized" (p. 11) and that "there is no evidence" that Goal 18 process would not "work" to allow protective structures where needed. Exhibit E, p. 18. The report also explains that applications to protect more than one property ("batch exceptions") are allowed. Exhibit E, p. 18. Accordingly, this application that establishes compliance with all requirements to take a precautionary exception to Goal 18, Implementation Measure 5, to protect residentially developed property on a dune, subject to ocean undercutting and wave overtopping, in an area committed to residential development, and it should easily be approved.

VI. APPLICABLE EXCEPTION STANDARDS

A. *Applicable Oregon Statewide Planning Goals, State Law & Administrative Rules*

1. Oregon Statewide Planning Goal 18 (OAR 660-015-0010(3))
2. ORS 197.732(2)(b) (aka,"committed exception") (*see also* OAR 660-004 0028)
3. ORS 197.732(2)(c) (aka,"reasons exception") (*see also* OAR 660-004-0020 through 660-004-0022) and OAR 660-004-0022(11) Goal 18 Foredune Development Reasons Exception Requirements)
4. Statewide Planning Goals 1 through 19

B. *Applicable County Comprehensive Plan and Land Use Ordinance Regulations*

1. **Tillamook County Comprehensive Plan.** Relevant Elements include provisions from:

   Goal 7 Hazards Element
   Goal 16 Estuarine Resources Element
   Goal 18 Beaches and Dunes Element

2. **Tillamook County Land Use Ordinance**

   Section 3.014 Community Medium Density Urban Residential Zone (CR-2)
   Section 3.510 Floodway Hazard Overlay Zone
   Section 3.510(5) General Standards
   Section 3.510(10) Specific Standards for Coastal High Hazard Areas (V, VE, or V1-V30 Zones)
   Section 3.510(14) Development Permit Procedures
   Section 3.530 Beach and Dune, (BD)Overlay Zone
   Section 3.530(2) Applicability
   Section 3.530(3) Categories
   Section 3.530(4)(A)(2)(a) & (b) Accessory Structures
   Section 3.530(4)(A)(4)(b) & (c), (5)-(7) Beachfront Protective Structures
   Section 3.530(5)(B) Dune Hazard and Modified Dune Hazard Reports
   Section 9.030 Text Amendment Procedure
   Section 9.040 Transportation Planning Rule Compliance

VII. AFFECTED JURISDICTIONS

Tillamook County Sheriff
Tillamook People's Utility District
Watseco/Barview Water District
Twin Rocks Sanitary District
Garibaldi Fire District

VIII. FINDINGS

A. General Information

1. The Applicants have submitted a development permit application to construct and install a revetment structure, (i.e., a beachfront protective structure ("BPS")), on private property located on what has become an active eroding foredune. Tillamook County Land Use Ordinance ("TCLUO") Section 3.530(4)(A)(4)(b) requires the subject properties to take an exception to Statewide Planning Goal 18 ("Goal 18") Implementation Measure 5 if the structures to be protected were not in "developed" on January 1, 1977. As explained above, the Applicants do not believe that a Goal 18 exception is required here, either because their property was "developed" on January 1, 1977 or because it is subject to an existing goal exception that allows residential development on the dune on which they are situated. Hence, what follows is precautionary only.

   Applicants request alternatively, or in combination, a "Committed" Exception and/or a "Reasons" Exception to Goal 18 Implementation Measure 5.[1]

   The location of the primary beachfront protective structure is approximately 10 feet landward of the existing vegetation line and within the rear yards of Tax Lots 114-123, the western-most lots, of the Pine Beach subdivision and within the rear yards of Tax Lots 3000, 3100, 3104, 3203 and 3204, the "Ocean Boulevard properties". Exhibit F, Attachment 2, Sheet 3. The structure will be located approximately 185 feet landward of the "Oregon Ocean Shore Line." The beachfront protective structure will run the width of the Pine Beach subdivision properties and adjacent Ocean Boulevard properties, with a maximum elevation of 3 feet above ground level (23.8 feet elevation) and a bottom elevation of 12.0 feet, which is underground. The structure consists of a 6-foot thick rock revetment with an 18-inch rock filter base and will be backfilled with sand at no greater than a 1 to 1.5 slope. The area will be revegetated, monitored and revegetated if needed. The primary revetment material will consist of large rocks, 3- to 4-feet in diameter (granular filter option). The total width of the underground structure will be approximately 30 feet. The eastern edge of the beachfront protective structure will be mere feet from the existing houses. *See*, e.g., Exhibit F (West Consultants Technical Memorandum), Attachment 2, Sheet 3. The proposal also includes ecology block walls that extend from the main revetment structure along the northern-most and southern-most boundaries of Tax Lots 3000 and 114, respectively – the "end caps" of the revetment. (*See* Exhibit F, Attachment 2, sheet 3).

   The subject Tax Lots consist of 15 lots, with homes on 11 lots, and 4 undeveloped lots, all of which have ocean-front rear yards facing a rapidly eroding vegetation line. *See* Exhibit F, Figure 2. It is critical to stop this rapidly advancing coastal

[1] As noted in the introduction, the subject properties already have a committed exception to residential development on their dune and this application is precautionary only, without waiving it is unnecessary.

erosion because, in recent years, these properties have been threatened by coastal flooding during high tides, combined with high wave run-up during winter King Tides, such as those that occurred on February 8-12, 2020. During that event, the maximum still water level reached the oceanfront homes and went past the southern-most home for a distance of about 45 feet. As stated by West Consultants' Chris Bahner, PE, in his Technical Memorandum, there is a high level of risk for future damage to the subject 11 structures in the Pine Beach subdivision and on Ocean Boulevard. Furthermore, an additional 40 or more homes are also threatened by coastal flooding. In addition, the Pine Beach and Ocean Boulevard properties' water and sewer infrastructure, and Pine Beach Way and Ocean Boulevard are also at risk if no action is taken to stop future erosion should it continue.

Tillamook County approved a subdivision replat for the Pine Beach subdivision in 1994. The staff report for the replat states that Element 14 of the County Comprehensive Plan established a Twin Rocks/Watesco/Barview Community Growth Boundary that includes the Pine Beach subdivision replat properties. Exhibit G, p. 3. It also explained that it did so because the County had concluded that the area met the Goal 14 definition of an "urban area" and the County recognized it as a "functionally urban area" that has developed infrastructure and residential densities at urban levels. Exhibit G, p. 4. The staff report also indicated that the Goal 18 element of the Comprehensive Plan recognized that residential development is appropriate on younger and older stabilized dunes and will not create any adverse effects or hazards on the site or in surrounding areas. Exhibit G, p. 4. The staff report also explained that an exception for Goal 17 (Shorelands) had already been taken. Exhibit G, p. 3. The staff report said that no specific Goal 18 exception had been taken. Exhibit G, p. 3.[2] However, the County did not need to take a specific Goal 18 exception for the Pine Beach Replat, at that time. The subdivision was located where Goal 18 said it should be, well away from the shoreline and with a broad expanse of foredune between permitted development and the beach, on a dune not subject to ocean undercutting or wave overtopping. Exhibit G, p. 5.

The dune hazard report ("DHR") prepared for the 1994 Pine Beach Replat application describes the dune and shoreline history and the conditions at the time of the approval. (*See* Exhibit H). Ronald Larson, PE, PLS with Handforth Larson & Barrett, Inc., explained that in 1973, a study identified the area as younger stabilized dunes with some inclusions of open dune sand conditionally stable ("OSC"). Exhibit H, p. 1. A subsequent study by the same evaluator in 1993 explained: "Since the time of dune mapping (1973) the shrub and tree species have essentially filled in the map inclusion areas of OSC, that are east of the setback line at 180 feet." Exhibit H, p. 1-2. That latter report went on to explain: "No active

[2] As explained above, for a Goal 18, Implementation Measure 2 exception to be taken, it is unnecessary that the exception recite any particular magic words. They key is whether the exception authorizes residential development on dunes subject to its terms. There is an exception that covers the subject properties that allows residential development on the dunes described in Goal 18, Implementation 2. That means under Goal 18, Implementation Measure 5, that the subject property is already entitled to shoreline protection under that existing exception. Hence, this exception is precautionary only and without waiving it is wholly unnecessary.

foredune occurs in the reach today[.]" Exhibit H, p. 2. At the time of the Pine Beach Replat subdivision application, no development was proposed for areas identified as open dune sand conditionally stable – that was where the subdivision's common area (Tract "A") was located – and all development was proposed within a younger stabilized dune classified area that was not subject to undercutting or overtopping. Exhibit G, p. 2, 5.

The DHR also evaluated the history of accretion and erosion of the beach at the location of the Pine Beach Replat property. Exhibit H, p. 2-3. The DHR explained that a review of U.S. Army Corps of Engineers ("CoE") and Oregon State Highway Department ("OSHD") aerial photos from 1939 through 1984 "show a steady increase in vegetation over the entire property. Exhibit H, p. 2. They showed that the most westerly line of vegetation had moved westward during that period. Exhibit H, p. 2. The DHR also noted other studies by individuals that described the erosion process at that location "as being cyclical with an overall net accretionary trend in this area." Exhibit H, p. 2.

The DHR also incorporated analysis by Paul D. See and Associates, Inc. Exhibit H, p. 2, 11-13. Paul See, a registered professional geologist, explained that the beach "has experienced a net accretion over the past 70 years" despite periodic severe storms that had eroded the dune front. Mr. See explained:

> "Notwithstanding the periodic erosion by storm surf, records confirm that this segment of shoreline has been prograding since at least 1939. Because of the trans[]ient and unpredictable episodes of regression, no consistent rate of accretion can be applied. However, between 1917 and this date, the shoreline has accreted westerly at least 1000 feet. Cooper (1) depicts an average of 300 meters of post-jetty accretion between 1917 and 1939. Stembridge (2) notes that the least prograding between the Nehalem River and Tillamook Bay totals more than 30 feet between 1939 and 1975." (Exhibit H, p. 11).

Mr. See's analysis also addressed velocity (storm wave) limits. He noted that, in 1994, the shoreline remains at risk from severe episodic storm wave overtopping due to its elevation, but that recent modelling indicated that the limit of velocity flooding would fall well short of the proposed construction setback by 70 to 130 feet. Exhibit H, p. 12. Mr. See concluded:

> "In conclusion, the property appears to be relatively safe from long-term net erosion and shoreline regression. Current modelling of Velocity flooding will not impact the area proposed for development. The Tillamook Bay north jetty will continue to present a barrier to southerly offshore sand transport, causing a continued net accretion along this beach. No evidence exists to suggest reversal of a trend that has continued for more than 70 years." Exhibit H, p. 12.

The Dune Hazard Reports for the George Shand Tract/Ocean Boulevard properties

concluded similarly. *See* Exhibit L (TL 3000), p. 10 (Dune Hazard Study by Paul D. for Tax Lot 3000, dated September 15, 1988); Exhibit M, p. 17-18 (TL 3100); Exhibit N, p. 18 (TL 3104); Exhibit O, p. 8 (TL 3203); and Exhibit P, p. 8 (TL 3204). The development of these properties pre-dates the Pine Beach Replat approval. *See,* e.g. Exhibit J, p. 1 (1994 Photograph showing the Ocean Boulevard properties' streets laid before development of Pine Beach Subdivision). To summarize, the 70-year period of beach prograding that predated the subdivision approvals also existed for the Ocean Boulevard properties, and as Paul D. See explained, as early as September 1988, there was no evidence in any record to indicate that there would be any reversal in the prograding trend that had continued for over 70 years. Exhibit L, p. 10. Like the Pine Beach Replat subdivision lots, the George Shand Tract/Ocean Boulevard development was approved and located precisely where Goal 18 said they should be and for which Goal 18 anticipated no beachfront protection measures should ever be necessary.

The historical analyses conducted as part of the various dune hazard reports is entirely consistent with the Tillamook County Comprehensive Goal 18 maps 7 and 8, which show the shoreline along the Pine Beach Subdivision and George Shand Tracts/Ocean Boulevard developments as a "Prograding" shoreline change area. *See* Exhibit I.

West Consultants estimate that in 1994, the vegetation line was approximately 221 feet from the western edge of the oceanfront homes along the Pine Beach development and Ocean Blvd. properties, well away from the younger stabilized dune where the dwellings on the subject properties are located and on the western edge of the Common Area for the subdivision. Exhibit F, p. 3.

2. TCLUO Section 3.530(4)(A)(4)(b), which implements Goal 18 Implementation Measure 5, allows beachfront protective structures in Developed Beachfront Areas where development existed as of January 1, 1977, or where beachfront protective structures are authorized by an Exception to Goal 18. Here, a precautionary Exception to Goal 18 Implementation Measure 5 is sought in the event the County decides that the proposed beachfront protective structure requires it. The current version of Goal 18's IM 5 limits the issuance of permits for beachfront protective structures ("BPS") like rip rap only to areas where development existed on January 1, 1977, stating:

> *"Permits for beachfront protective structures shall be issued only where development existed on January 1, 1977. Local comprehensive plans shall identify areas where development existed on January 1, 1977. For the purposes of this requirement and Implementation Measure 7 "development" means houses, commercial and industrial buildings, and vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lot and includes areas where an exception to (2) above has been approved. The criteria for review of all shore and beachfront protective structures shall provide that:*

"(a) visual impacts are minimized;

"(b) necessary access to the beach is maintained;

"(c) negative impacts on adjacent property are minimized; and

"(d) long-term or recurring costs to the public are avoided."

Applicants seek an exception only from the January 1, 1977 limitation contained in Implementation Measure 5; the proposal complies with the other Goal 18 criteria. An exception would exempt the subject properties from the 1977 date requirement of Goal 18, IM 5, to the extent that their committed exception does not already do so.

3. OAR 660-004-0005 defines an "Exception" as a comprehensive plan provision, to include an amendment to an acknowledged comprehensive plan. Consequently, the taking of an exception to Goal 18 Implementation Measure 5 is a quasi-judicial amendment to the comprehensive plan because the exception must become part of the plan. The application should be processed under Type III procedures (*see* TCLUO Table 10.1) and the standards for a site-specific plan amendment.

4. According to TCLUO Section 3.510(5) and (10), all new construction, (such as the proposed protective structure), must provide evidence from a professional engineer (PE) or other suitable professional demonstrating that the proposed structure encroachment into the floodway shall be anchored to prevent flotation and/or lateral movement, and not result in an increase in flood levels during a base flood discharge event. The subject site is in a "VE" zone, which FEMA defines as coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. To that end, the applicant has provided evidence from Chris Bahner, PE, West Consultants, Inc. demonstrating that the proposal complies with Section 3.510(5) and (10). *See* Exhibit F.

5. According to TCLUO 3.530(4)(A)(2), accessory structures for ocean front protection or stabilization, (such as the proposed beach front protective structure), must provide a Dune Hazard Report pursuant to Section 3.530(5)(B). All proposed beach front protection structures must be designed in substantial conformance with TCLUO 3.530(4)(A)(4). To that end, the Applicants have provided evidence from Chris Bahner, PE, West Consultants, Inc. demonstrating that the proposal complies TCLUO Sections 3.530(4)(A)(2), 3.530(4)(A)(4) and 3.530(5)(B). *See* Exhibit F.

6. Access to the lots subject to this Goal 18 Exception is either via Pine Beach Loop or Ocean Boulevard. Each in turn provides access to Old Highway 101 and Highway 101. There are two beach accesses in the exception area. One beach access runs between Tax Lots 123 and 3204 to the beach. *See* Exhibit Q, p. 2. The other beach access runs from Pine Beach Loop between Tax Lots 113 and 114, and then along the southern boundary of Tax Lot 114 to the subdivision's common area and the beach. The subject parcels are served with public water and sewer services.

B. Applicable Oregon Statewide Planning Goals, State Law & Administrative Rules

1. Oregon Statewide Planning Goal 18 (OAR 660-015-0010(3)), and Implementation Measure 5.
2. Committed Exception: ORS 197.732(2)(b) (*see also,* OAR 660-004-0028 (implementing regulations))
3. Reasons Exception: ORS 197.732(2)(c) (*see also,* OAR 660-004-0020 through 660-004-0022; and OAR 660-004-0022(11), Goal 18 Foredune Development (implementing regulations))
4. Statewide Planning Goals 1 through 19

Applicants address below under Section B the various state standards (statutes, administrative rules and Statewide Planning Goals) necessary for taking an exception and for demonstrating state-level consistency for a comprehensive plan amendment. Subsection 1 below provides background information about the exceptions process and Goal 18, Implementation Measure 5. Subsections 2 and 3 address the requested committed exception standards and reasons exception standards, respectively. Subsection 4 addresses the proposal's consistency with each of the Statewide Planning Goals.

Section C below demonstrates consistency with the relevant local Comprehensive Plan provisions, and Section D below demonstrates compliance with all applicable Land Use Ordinance standards.

1. *Oregon Statewide Planning Goal 18*

INTRODUCTION:

Because the most significant issue is whether the proposed shoreline protection satisfies the requirements for an exception to Goal 18, Implementation Measure 5, this application narrative begins with a summary and analysis of the statutory and administrative rule requirements for a goal exception.

The following paragraphs demonstrate how the subject proposal to construct a beachfront protective structure meets all of the relevant and applicable state standards and criteria for both a Goal 18 "committed" exception and a "reasons" exception. If successful, the Applicants will be permitted to construct a shoreline revetment to stem the tide of the ocean's onward march eastward towards the rear yards of the 15 lots along the west side of Pine Beach Way and Ocean Boulevard. But first, it is important to focus on the preamble of Goal 18, which sets forth its overarching policies, and, secondly, to demonstrate how the subject proposal directly supports those overarching policies.

Oregon Statewide Planning Goal 18 (OAR 660-015-0010(3)) applies to coastal beach and dune areas and stipulates where development and other uses can occur

in those areas. Goal 18 provides the following purpose statements:

> *"To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and*
>
> *"To reduce the hazard to human life and property from natural or man-induced actions associated with those areas."*

APPLICANTS COMMENT:

As shown in Exhibit F, West Consultants proposes to install a revetment that will allow for the planting of beach grasses and native vegetation on the structure itself, and by so doing, allow native vegetation to flourish, thereby restoring the natural resource that has been rapidly eroding away. Therefore, based on the above-stated evidence, the proposed revetment will *"conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas[.]"*

As also shown on Exhibit F, West Consultants states on page 1 of its February 5, 2021 Technical Memorandum that:

> *"The landowners along the oceanfront have been losing portions of their property from coastal erosion, and experience coastal flooding during high tides combined with high wave run-up as was the case with the King Tides on February 8-12, 2020. During this event, the maximum stillwater level reached the ocean front homes, and went past the southernmost home for a distance of about 45 feet. There is a high level of risk for future damage to structures in the Pine Beach subdivision and the area to the north, which will be referred to as the 'Ocean Boulevard properties' in this memorandum."*

On page 7 of the report, under Section 5.1, Purpose, West Consultants goes on to state that:

> *"There is a high level of risk for future damage to structures, lots and infrastructure in the Pine Beach subdivision and Ocean Boulevard properties. There are 15 lots and 11 homes (4 lots are undeveloped) that are significantly threatened by coastal erosion and flooding, and an additional thirty-two homes threatened by coastal flooding. Coastal flooding will also have an adverse impact on the water and sewer systems that Pine Beach subdivision and the Ocean Boulevard properties. Furthermore, if erosion is allowed to continue unchecked by the recommended revetment, the Pine Beach and Ocean Boulevard properties' water and sewer infrastructure is at risk as is Pine Beach*

Loop, which is the vehicular access to the Pine Beach subdivision development."

Therefore, based on the above-stated evidence, it is evident that the subject 15 lots and 11 structures, as well as an additional 40 or so homes inland from the oceanfront Pine Beach and George Shand Tracts/Ocean Blvd. properties, have been, and are now, subject to *"hazard to human life and property from natural or man-induced actions associated with those areas."* The proposed revetment, (beachfront protective structure), if approved, will *"reduce the hazard to human life and property from natural or man-induced actions associated with those areas"*, which directly complies with this portion of the above-cited Goal 18 "preamble". In summary, this proposal to protect the Pine Beach Subdivision and Ocean Boulevard's beachfront lots and homes and related infrastructure to conserve, protect and restore the existing resources, is exactly in line with the purposes for which Goal 18 set out to accomplish.

EXCEPTIONS PROCESS:

In terms of process and effect, an exception to a statewide planning goal is essentially a variance. That is, an exception is a comprehensive plan provision which will allow a local government to waive compliance with a Statewide Planning Goal for specific properties or situations.

Statewide Planning Goal 2 gives some guidance on the Exceptions process. Goal 2, Part II defines an "exception" as a comprehensive plan provision, including an amendment to a comprehensive plan, that:

> *"(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;*
>
> *"(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and*
>
> *"(c) Complies with standards for an exception." See also,* ORS 197.732(1)(b) (containing identical definition of "exception").

Goal 2, Part II, describes three types of exceptions – built, committed and reasons – to statewide land use goals that a local government may adopt. This application requests a "committed" exception and/or a "reasons" exception. Exceptions are implemented through a combination of state statutory provisions and LCDC administrative rules. The analysis below address standards set forth under both statutes and rules.

Goal 2, Part II(b) describes a "committed exception" (*see also* ORS 197.732(2)(b) and OAR 660-004-0028) and provides:

> *"(b) The land subject to the exception is irrevocably committed as described by Land Conservation and Development rule to uses not*

allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable;"

Goal 2, Part II(c) describes a "reasons exception" (*see also* ORS 197.732(2)(c) and OAR 660-004-0020 through 660-004-0022) and provides:

"(c) The following standards are met:

"(A) Reasons justify why the state policy embodied in the applicable goals should not apply;

"(B) Areas that no not require a new exception cannot reasonably accommodate the use;

"(C) The long term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

"(D) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts."

APPLICANTS COMMENT:

As discussed in the findings above, Goal 18 Implementation Measure 5 and its local implementing regulation at TCLUO 3.530(4)(A)(4)(b) prohibit beachfront protective structures for development that did not exist on January 1, 1977 or that do not have a goal exception to allow residential development. We explain previously that the subject properties should qualify for shoreline protection being "developed" on January 1, 1977 under the original terms of Goal 18 and also being subject to an existing goal exception that allows residential development exactly where their residential development is situated. However, if the County disagrees (or does not wish to reach that issue) then this exception is justified and should be approved.

The Applicants believe that taking a "committed" exception and/or a "reasons" exception to Goal 18, IM 5's January 1, 1977 requirement is consistent with the second purpose of Goal 18 discussed above. That purpose is to reduce the hazard to human life and property from natural actions associated with coastal beach and dune areas, (i.e., to reduce the hazard to beachfront homes, and to human life that occupies those homes, from natural erosive and destructive wave action by allowing beachfront protective structures to be installed). As the record demonstrates and as discussed herein, the Pine Beach Subdivision and the Ocean Boulevard properties were lawfully approved and developed based upon evidence that the shoreline was

prograding and that "no evidence exists to suggest reversal of a trend that has continued for more than 70 years", as the dunes hazard report for the application concluded. *See* Exhibit H. Approval of this precautionary exception is entirely consistent with the purpose and intent of Goal 18.

In subsections 2 and 3 below, the Applicants provide analysis and evidence to demonstrate that the proposal to install the subject beachfront protective structure, complies with the above-cited "committed" and "reasons" exceptions statutory and administrative rule requirements. The subsequent Sections C and D address Tillamook County Comprehensive Plan Policies and Land Use Ordinance requirements, respectively.

Before turning to the exception standards, Applicants address the other Goal 18, IM 5 provisions for which an exception is not requested. The demonstration of Goal 18's other Implementation Measures (other than IM 5) is provided in the subsection that addresses the Statewide Planning Goals.

GOAL 18 IMPLEMENTATION MEASURE 5:

Applicants are requesting an exception to the January 1, 1977 date limitation set forth in Goal 18, Implementation Measure 5, which provides:

"Permits for beachfront protective structures shall be issued only where development existed on January 1, 1977. Local comprehensive plans shall identify areas where development existed on January 1, 1977. For the purposes of this requirement and Implementation Measure 7 "development" means houses, commercial and industrial buildings, and vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lot and includes areas where an exception to (2) above has been approved. The criteria for review of all shore and beachfront protective structures shall provide that:

> ***"(a) visual impacts are minimized;***
>
> ***"(b) necessary access to the beach is maintained;***
>
> ***"(c) negative impacts on adjacent property are minimized; and***
>
> ***"(d) long-term or recurring costs to the public are avoided."***

APPLICANTS COMMENT:

As noted above, the "committed" and the "reasons" exceptions analysis to the January 1, 1977 requirement is provided under subsections 2 and 3 below. Also, as explained above, the Applicants seek exception only for the January 1, 1977 limitation provided for under Goal 18, IM 5. As the analysis immediately below demonstrates, the proposal is consistent with the other requirements, (a) through (d) contained in Goal 18, IM 5.

(a) "Visual impacts are minimized." The proposal minimizes visual impacts by locating the beachfront protective structure within the existing foredune and then re-covering it with the sand excavated for the construction. The structure's crest will be at an elevation of 23.8 feet, three feet above the existing foredune crest, the maximum permissible elevation of accessory uses in the zone. The BPS will be re-covered with sand and replanted with native beach grasses and shrubs and will appear, for all intents and purposes, as a natural foredune. The structure and its vegetation will be monitored annually to determine if additional replanting is necessary.

(b) "Necessary access to the beach is maintained." There are two beach accesses in the exception area. One beach access runs between Tax Lots 123 and 3204 to the beach (the "northern beach access"). *See* Exhibit Q, p. 2. The other beach access runs from Pine Beach Loop between Tax Lots 113 and 114, and then along the southern boundary of Tax Lot 114 to the subdivision's common area and the beach (the "southern beach access"). The proposal maintains the northern beach access and improves it with a gravel path and ramp that goes over the rock revetment and allows access to the beach. Exhibit F, p. 9; Exhibit F, Attachment 2, Sheet 3, 5. The southern beach access runs from Pine Beach Loop between Tax Lots 113 and 114 to the southern boundary of the subdivision, and then along Tax Lot 114 to the beach. *See* Exhibit Q, p. 2. The proposal maintains that beach access as well and does not interfere with it.

(c) "Negative impacts on adjacent property are minimized." The proposed beachfront protective structure is designed to minimize the impact to adjacent property. It is designed not to direct additional water to the surrounding properties, will not increase wave heights, wave runup, or total flood water levels, or impact the natural littoral drift of sediment along the coast. Exhibit F, p. 8-9. As the historic Google Earth imagery shows, the Shorewood RV Resort's beachfront protective structure has not had an adverse impact to the surrounding properties due to its proper design. Given that the proposed structure is located farther away from the shoreline and at a higher elevation, the effects should be even less than the RV resort's revetment. Exhibit J (Google Earth Historic Imagery); Exhibit F, p. 8. The West Consultants' Technical Memorandum concludes that the proposed BPS will not have any adverse impacts to surrounding properties. (Exhibit F, p. 9).

(d) "Long-term or recurring costs to the public are avoided." The cost of installing and maintaining the BPS will be borne by the property owners. There will be no long-term or recurring costs to the public, consistent with this requirement.

With the exception of the 1977 date restriction, the proposal is consistent with Goal 18 Implementation Measure 5.

2. ***Committed Exception***

Goal 2, Part II(b) "committed exception" (see also ORS 197.732(2)(b) and OAR 660-004-0028):

As stated above, ORS 197.732(2)(b) requires that the applicant provide substantial evidence to support a conclusion that: "*The land subject to the exception is irrevocably committed as described by Land Conservation and Development rule to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable[.]*"

Based on the above-cited statute, the applicant must next look to the how "irrevocably committed" is "described by Land Conservation and Development rule". The relevant and applicable LCDC rule is OAR 660-004-0028, with which, in the following paragraphs, the Applicants will provide evidence to demonstrate compliance. OAR 660-004-0028 sets forth LCDC's interpretation of the requirements for an "irrevocably committed exception" under Goal 2, Part II(b) (ORS 197.732(2)(b)). OAR 660-004-0028 provides, in relevant part:

> ***"(1) A local government may adopt an exception to a goal when the land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable:"***

APPLICANTS COMMENT:

As discussed in the findings section above, the Pine Beach Replat Subdivision and associated residential development was lawfully approved in 1994 on a younger stabilized dune along a portion of the coast that had seen steady progression for 70 years and where a licensed geologist concluded that there was no evidence to suggest that the continued net accretion along the beach would not continue. The Ocean Boulevard properties had similar findings even prior to that.

With that approval and historic background, the Pine Beach and Ocean Boulevard properties were developed. Not only were residences built on 11 of the 15 oceanfront lots and on the majority of the other lots in the Pine Beach Subdivision and George Shand Tracts/Ocean Boulevard, public water and sewer lines were extended to each lot consistent with the urban residential uses for which the properties were planned.

However, given the entirely unexpected changes in the historic accretion and erosion patterns over the past several years, those lawfully established residential uses are now located on an active foredune that, while conditionally stable, is threatened by ocean undercutting or wave overtopping. Residential development is forbidden on such land under Goal 18, Implementation Measure 2 ("IM 2"),

which provides in relevant part:

> *"Local governments and state and federal agencies shall prohibit residential developments and commercial and industrial buildings on beaches, active foredunes, on other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding."*

The subject properties have an existing exception that they are irrevocably committed to urban levels of residential use, and that those lawfully established uses, approved when consistent with Goal 18's strict requirements, now merit the protections afforded by the proposal. The area proposed for placement of the BPS can be put to no other practical use other than to protect the existing residential structures and public facilities – to include public sewer and water facilities – in a manner not proscribed by Goal 18.

> ***"(a) A 'committed exception' is an exception taken in accordance with ORS 197.732(2)(b), Goal 2, Part II(b), and with the provisions of this rule, except where other rules apply as described in OAR 660-004-0000(1)."***

APPLICANTS COMMENT:

The evidence in the record and the analysis presented here and in other sections of this application narrative demonstrate that the proposal complies with the requirements for a committed exception as provided by ORS 197.732(2)(b), Goal 2, Part II(b), and with the provisions of this rule. No other rules apply as described in OAR 660-004-0000(1).

> ***"(b) For the purposes of this rule, an 'exception area' is that area of land for which a 'committed exception' is taken."***

APPLICANTS COMMENT:

The committed "exception area," as is defined throughout this application narrative, are the western-most lots (subdivision lots 11 through 20) of the Pine Beach Subdivision, (*i.e.* Tax Lots 114-123 of Assessor's Map 1N10W07DD) as well as Tax Lots 3000, 3100, 3104, 3203 and 3204 of Assessor's Map 1N10W07DA ("George Shand Tracts"/"Ocean Boulevard properties"), and the development area for which the exception is needed is on the western, undeveloped portions (the back yards) of the subject tax lots. *See* Exhibit F, Attachment 2, Sheet 3. That is the only area subject to the requested "committed exception" area.

"(c) An 'applicable goal,' as used in this rule, is a statewide planning goal or goal requirement that would apply to the exception area if an exception were not taken."

APPLICANTS COMMENT:

The subject properties have an existing committed exception. This requested committed exception, if required, is specific to Goal 18. As applied to this "committed" exception, Statewide Planning Goal 18, (Beaches and Dunes), and, in particular, the January 1, 1977 existing development cut-off date for which a permit for a beachfront protective structure may be issued under Implementation Measure 5, is the "applicable goal" that would apply to the exception area if an exception were not taken.

"(2) Whether land is irrevocably committed depends on the relationship between the exception area and the lands adjacent to it. The findings for a committed exception therefore must address the following:

"(a) The characteristics of the exception area;"

APPLICANTS COMMENT:

The characteristics of the exception area, which is defined here as Tax Lots 114-123 of Assessor's Map 1N10W07DD (*i.e.*, lots 11 through 20 of the Pine Beach Replat Unit 1) (Exhibit Q, p. 2), and Tax Lots 3000, 3100, 3104, 3203 and 3204 of Assessor's Map 1N10W07DA (George Shand Tract/Ocean Blvd. properties) (Exhibit Q, p. 1), is entirely residential in character. All of the lots within the exception area are zoned Community Medium Density Urban Residential (CR-2) (5,000 square foot minimum lot size). Exhibit K.

The exception area includes a total of 15 beachfront lots, 11 of which are built out with residences (single-family homes) and 4 of which are vacant. *See* Exhibit A. The lot sizes are between 0.21 acres and 0.67 acres, with the average lot size being 0.33 acres (appx. 14,375 sq. ft.). *See* Exhibit Q. The western portions of the beachfront lots (rear yards of the beachfront dwellings) are characterized by sandy, dry beach and a wooded/vegetative shoreline. *See* Exhibit A.

Therefore, based on the above, the characteristics of the Exception Area is one of largely built-out beachfront residential lots.

Because the area has been identified for urban levels of residential development, with a specific Goal 14 exception having been taken for the properties and a committed exception taken before that, the subject parcels are provided with urban levels of public facilities and services. Most relevant are public water and sewer lines that could be adversely impacted by increased ocean encroachment, which

could affect the overall public water and sewer systems. The public roads could also be adversely impacted if an exception is not taken.

Also note that you can see the rapid erosion of the shoreline adjacent to the beachfront Pine Beach subdivision lots when comparing the County Assessment and Taxation Map (Exhibit Q) and Figures 1 and 2 in the West Consultants' Technical Memorandum. (Exhibit F). *See also* Exhibit J (Google Earth Historic Aerial Imagery of beach erosion). That is, the western-most boundary of the subdivision (the western edge of the Common Area, Tract "A" for the Pine Beach Replat Subdivision) on Exhibit Q, p. 2 represents approximately what the August 1994 shoreline was on Figures 1 and 2 in the attached West Consultants' Technical Memorandum (Exhibit F). Furthermore, the western edge of Tax Lots 114-123 is approximately the August 2019 shoreline shown on Figures 1 and 2 in Exhibit A. All residential structures on Tax Lots 114-123 are to the east of the dotted line shown on Exhibit Q, p. 2 (labeled "Setback Line" highlighted in green) and the main portion of the proposed BPS will be located between the western property line and the dotted setback line on Tax Lots 114-123. The Ocean Boulevard properties have already lost extensive portions of their rear yards to erosion. *See* Exhibit A (*compare* rear lot lines of Ocean Blvd. with Exhibit F, Figure 2). Like the Pine Beach Subdivision lots to the south, the Ocean Boulevard lots have houses constructed on the eastern-most portions of the lots, roughly in line with those of the Pine Beach Subdivision. *See* Exhibit A.

Historically, the subject properties were on an established younger stabilized dune with well-established beach grasses, shrubs and trees. *See* Exhibit F, Attachment 1 (field photos showing trees, grasses, shrub and beach area); Exhibit J, (Historical Aerial Images). At the time the Pine Beach Subdivision was built, the common area was an open sand dune conditionally stable area. *See* Exhibit H, p. 14. Due to the estimated 142-foot beach encroachment over the years, the common area is now a dry sand beach. Likewise, the subject properties, while still a well-vegetated younger stabilized dune, are increasingly subject to ocean undercutting and periodic wave overtopping. The same holds true to the adjacent Ocean Boulevard properties.

"(b) The characteristics of the adjacent lands;"

APPLICANTS COMMENT:

The Applicants' representative reviewed Google Earth mapping and County tax maps in evaluating the lands adjacent to the exception area and evaluated the topographic features and land use development patterns of those adjacent lands. *See* Exhibit R, Proposed Exception Area and Adjacent Lands Map.

To the north, and up the northern border of Tax Map 1N1007DA, (which is adjacent to the north border of the Pine Beach Subdivision) (Exhibit Q, p. 1), the topographic features are essentially the same combination of sandy, dry, beach, wooded/vegetative shoreline rear yards of beachfront dwellings, with additional

dwellings eastward of those beachfront dwellings, found with the Pine Beach Subdivision. *See* Exhibit R. The one exception to that landscape and development pattern is the Shorewood RV Resort located approximately 900 feet north of the Pine Beach Subdivision and 60 feet north of Tax Lot 3000. *See* Exhibit R. Although it is an RV park, and presumably "seasonal" in nature, it is still essentially residential in character, because many of the RV spots are occupied with long-term residents, and many of the oceanfront spaces are not occupied with RVs, but with mobile homes, which are more "permanent" than "seasonal". Shorewood RV Resort currently only rents its spaces on an annual lease basis. The RV park also has two permanent condo buildings that are rented as vacation units. The other exceptional feature of the Shorewood RV Resort is a rip-rapped beachfront protective structure along the 15 westernmost, beachfront spots. *See* Exhibit R.

Beyond the northern border of Tax Map 1N1007DA, the topographic features transition to narrower beaches and short, shoreline drainage and streams that flow into the ocean are present. From a land use perspective, the number of residences decreases significantly north of the Shorewood RV Resort. Properties transition into broader swaths of open area, a sewage treatment plant, and the Twin Rocks Friends Conference Center and Camp. The lots within this area are zoned Commercial Medium Density Residential (CR-2) (5,000 square foot minimum lot size) and are part of the Goal 14 exception for the general area that allows urban levels of residential use as well as urban water and sewer services. The land within the above-described area consists of the following built lots and vacant lots:

1. Built Lots: 52
2. Vacant Lots:15
3. Shorewood RV Resort: 2 permanent condo buildings, 105 RV spaces mostly occupied. *See* Exhibit R.

The calculation of built, vacant, and common area acreage are based on a comparison of the Proposed Exception Area and Adjacent Lands Map (Exhibit R) and County Assessment and Taxation Map 1N10W07DA (Exhibit Q, p. 1). Based on the above-stated facts, the northern border of Tax Map 1N10W07DA set the northern, "adjacent lands" border.

To summarize the above, the characteristics of land uses north of the proposed exception area is one of mostly built-out beachfront residential lots and a nearly fully-occupied 105-space RV park that also has two permanent condo buildings. Landward of the northern adjacent lands' beachfront lots, are lots which are mostly developed with some vacant, platted lots. The RV park contains a beachfront protective structure that was apparently eligible under Goal 18 for protection.

To the south of the southern border of Tax Map 1N10W07DD (Exhibit Q, p. 2), the topographic features are essentially the same combination of sandy, dry beach and wooded/vegetative shoreline of a younger stabilized dune. *See* Exhibit R. Beyond the southern limit of the Pine Beach Subdivision lie a few inland residences and the

northern limit of Camp Magruder. Although the topographic features are essentially the same, there is an obvious change in land use pattern from single-family residential beachfront lots to a United Methodist camp, with scattered lodges and cabins, a camp store and other camp features. All of Camp Magruder is zoned Recreation Management (RM). Beyond the southern limits of Camp Magruder is Barview Jetty County Park, the Tillamook Bay-Barview Jetty, and the community of Barview; these areas are also zoned RM. Based on the above-stated facts, the northernmost portions of Camp Magruder, up to the southern border of Tax Map 1N10W07DD, most appropriately sets the southern "adjacent lands" border.

To the west is the shoreline and dry, sandy beach of the Pacific Ocean, which runs for many miles north and south of the adjacent lands described above. However, the beach is interrupted to the south by the Barview Jetty and the entrance to Tillamook Bay, and then the beach continues onward south of the jetty. *See* Exhibit R. Based on the above, the said beach/shoreline is the most appropriate western border of the "adjacent lands" area, because it sets a hard topographic barrier between the Pacific Ocean farther west, and the beachfront residential uses east of the beach/shoreline.

To the east, is the Old Pacific Highway, and eastward beyond that is open, vacant land zoned CR-2, Smith Lake, and Highway 101. *See* Exhibit R. Beyond Highway 101 is some RM-zoned land and forest resource land. Based upon the above, the roadway and right-of-way of Highway 101 is the most appropriate eastern border of the "adjacent lands" area, because it is sets a hard, man-made barrier between the residential uses to the west, and the open land east of the highway.

> ***"(c) The relationship between the exception area and the lands adjacent to it; and"***

APPLICANTS COMMENT:

By design, the subject Pine Beach Subdivision and Ocean Boulevard properties are "self-contained" development, meaning that all of the lots within the subdivision are served by one loop road, (which has three names: Pine Beach Loop/Pine Beach Way/Pine Beach Ave.) or a single access road (Ocean Boulevard). Pine Beach Loop only intersects with Old Pacific Highway along the subdivision's eastern border. Ocean Boulevard roughly parallels the Old Pacific Highway, accessing it via 2nd and 3rd avenues. There are no other through streets and/or alleys that permit vehicular access to adjacent roads. Old Pacific Highway proceeds southward past the Pine Beach Subdivision and terminates into Camp Magruder. Old Pacific Highway intersects with Highway 101 approximately 1/3 of a mile north of the Pine Beach Subdivision. Therefore, based on the above, there is simply one way in and out of the subdivisions to Old Pacific Highway and to Highway 101.

There are two beach accesses in the exception area. One beach access runs between Tax Lots 123 and 3204 to the beach. *See* Exhibit Q, p. 2. The other access runs

from Pine Beach Loop between Tax Lots 113 and 114, and then along the southern boundary of Tax Lot 114 to the subdivision's common area and the beach. Typically, those beach accesses are used by local area residents and are not the type of "public" beach access easily visible to the general public. Those beach accesses connect Pine Beach Loop and Ocean Boulevard to a long stretch of dry sandy beach. *See* Exhibit Q, p. 2; Exhibit F, Attachment 1, field photos. The beach accesses are a unique and defining characteristic of the exception area in its relationship with lands adjacent to it. The proposed structure will improve the northern beach access with a gravel path and ramp that goes over the rock revetment and allows improved access to the beach and the proposal does not interfere with the southern beach access.

In addition to the beach accesses mentioned above, there are two other factors that the proposed exception area shares with adjacent uses to the north – the predominance of beachfront and other residential development eastward of the beach, and the one-way access pattern from those lots to Highway 101. As stated above, the Shorewood RV Resort, beachfront, and other residential development eastward of the beach, are a common land use pattern north of the exception area. The one-way access pattern in this area is that all residential lots, (including the Shorewood RV Resort) have frontage onto, or an access easement to, Ocean Boulevard. Ocean Boulevard intersects with two streets, (2nd and 3rd avenues), which, in turn, intersect with Old Pacific Highway. From 2nd and 3rd avenues, all traffic would flow north to intersect with the Old Pacific Highway/Highway 101 intersection, just like the Pine Beach Subdivision's access.

The only defining development characteristic that the exception area shares with Camp Magruder is the one-way nature of access. As described above, Old Pacific Highway proceeds southward past the Pine Beach subdivision and terminates into Camp Magruder. Therefore, the exit from Camp Magruder is north along Old Pacific Highway to its intersection with Highway 101. Camp Magruder is a United Methodist Church camp zoned Recreation Management (RM); therefore, it does not contain any other similar characteristics of the urban residential uses shared by the exception area.

The exception area and the lands to the north and south of the property share another common feature. As the Google Earth Historic Imagery (Exhibit J) shows, the shoreline for all of the properties south (as well as north) of the Shorewood RV Resort have been eroding at a consistent rate for the past 20-plus years. Granting the requested exception and approval of the beachfront protective structure will prevent further eroding of the subject properties. Significantly, the West Consultants' analysis concludes that there will be no adverse impacts to the surrounding properties from the revetment structure because the design of the revetment does not direct additional water to the adjacent properties, increase wave heights or wave runup, or impact the natural littoral drift of sediment along the coast. Exhibit F, p. 9, 10. Consequently, there will be no adverse impacts to the lands adjacent to the exception area. The effect of the proposal should be like the

Shorewood RV Resort revetment – while it protects the subject property, it does not adversely affect the adjacent properties; the beaches on adjacent properties will prograde and retrograde at natural rates.

In summary, the exception area is a portion of two self-contained subdivisions, that share some landscape sand development characteristics with development to the north, but are largely separated from that development, as they are separated from the development to the south. The primary connective features are the access roads and the beach. The evidence in the record demonstrates that the proposed development within the exception area will not adversely impact the lands adjacent to the exception area.

"(d) The other relevant factors set forth in OAR 660-004-0028(6)."

APPLICANTS COMMENT:

According to OAR 660-004-0028(6), the other relevant factors are as follows:

> ***"(6) Findings of fact for a committed exception shall address the following factors:***
>
> > ***"(a) Existing adjacent uses;"***

APPLICANTS COMMENT:

As discussed in greater detail above and summarized here, the majority of developed uses are located to the north of the exception area. *See* Exhibit R. The existing land uses north of the exception area consist of a nearly fully-occupied 105-space and two-condo RV park, mostly built-out beachfront residential lots, primarily built-out lots eastward of the beachfront lots, and some vacant, platted lots. The RV park contains a beachfront protective structure. *See* Exhibit R. The analysis area consists of 52 built lots, 15 vacant lots, and a nearly fully-occupied 105-space and two-condo RV park as per the 2020 Google Earth photo. *See* Exhibit R.

To the east of the proposed Goal 18 exception area is the remainder of the largely developed Pine Beach Subdivision and residences east of the Ocean Boulevard properties, several additional residential structures further inland and the Old Pacific Highway. South of the proposed exception area are a few residential structures and Camp Magruder. To the west is the beach and Pacific Ocean. *See* Exhibit R.

"(b) Existing public facilities and services (water and sewer lines, etc.);"

APPLICANTS COMMENT:

The subject properties and other area lots, are provided water service by Watseco/Barview Water District, sanitary sewer disposal by the Twin Rocks Sanitary District, and electricity by the Tillamook People's Utility District. Fire Protection services are provided by Garibaldi Fire District, and law enforcement is controlled by the Tillamook County Sheriff.

With regard to the Pine Beach Replat Subdivision, it was platted in 1994, and obtained preliminary and final plat approval from Tillamook County. *See* Exhibit G. The subject properties and associated subdivisions have long been planned for urban levels of residential use because of the long-standing existing level of committed development. During the County review process, the Applicants were required to demonstrate, by substantial evidence in the file record, that all proposed public utilities, (e.g. sewer, water, electric, streets), were adequately sized and/or constructed to County standards for urban residential development. The same is true for all of the residential lots of the Ocean Boulevard properties, which are a part of the George Shand Tracts platted in the 1930s. *See*, e.g., Exhibit V (public water and sewer acknowledgement for Tax Lot 3100).

Therefore, based on the above-stated evidence, the subject lots are adequately served by urban levels of existing public facilities and services (water and sewer lines, etc.).

"(c) Parcel size and ownership patterns of the exception area and adjacent lands:

"(A) Consideration of parcel size and ownership patterns under subsection (6)(c) of this rule shall include an analysis of how the existing development pattern came about and whether findings against the goals were made at the time of partitioning or subdivision. Only if development (e.g., physical improvements such as roads and underground facilities) on the resulting parcels or other factors makes unsuitable their resource use or the resource use of nearby lands can the parcels be considered to be irrevocably committed. Resource and non-resource parcels created and uses approved pursuant to the applicable goals shall not be used to justify a committed exception. For example, the presence of several parcels created for non-farm dwellings or an intensive commercial agricultural operation under the provisions of an exclusive farm use zone cannot be used to justify a committed exception for

the subject parcels or land adjoining those parcels."

APPLICANTS COMMENT:

This standard suggests an intent to require an applicant applying for a Resource Goal Exception, (e.g. Goal 3: Agricultural Lands, Goal 4: Forest Lands), to demonstrate that the historical and current pattern of parcelization, and the historical and current installation of public services justifies taking a "committed" exception to allow an expansion, continuation or change to a non-resource use. One of the reasons why this exception request is precautionary and duplicative, is that such an exception for the subject area has already been taken.

Regardless, the central issue here, as applied to this particular "committed" exception, is whether the specific language of Goal 18 Implementation Measure 5, which sets a specific date for when "development" had to have occurred, (January 1, 1977), and prohibits construction and installation of a beachfront protective structure for any "development" that was not in existence on or before that critical date, should apply to this application for a beachfront protective structure.

In response to the analysis required by this standard, the parcel sizes of the subject properties, indeed for all the subject properties and CR-2-zoned properties to the north and east, is a 5,000 square foot minimum. As explained in the findings and supported by the evidence in the record, at the time the Pine Beach Replat Subdivision and development to the north was approved and developed, the subject properties were on a younger stabilized dune with an extensive common area, identified as an open dune sand conditionally stable, between the residential lots and the vegetation line at the beach. Moreover, it was determined that where the dwellings would be placed was not subject to ocean undercutting or wave overtopping. Consequently, the subject lots were created consistent with Goal 18 and a specific Goal 18 exception (if one is ever required) was not required in order to develop the urban levels of residential use with urban public facilities and services that now exist on the subject dune parcels. Goal exceptions had already been taken for all of the subject properties.

The existing development demonstrates an irrevocable commitment of the exception area for the approved urban level of residential use. This is reflected in numerous acknowledged planning documents, to include the acknowledged community boundary and the existing urban residential zoning that applies. The requested exception seeks to protect and ensure that the acknowledged level of approved residential use and their public facilities, continues.

> *"(B) Existing parcel sizes and contiguous ownership shall be considered together in relation to the land's actual use. For example, several contiguous undeveloped parcels (including parcels separated only by a road or highway) under one ownership shall be considered as one farm or*

forest operation. The mere fact that small parcels exist does not in itself constitute irrevocable commitment. Small parcels in separate ownership are more likely to be irrevocably committed if the parcels are developed, clustered in a large group or clustered around a road designed to serve these parcels. Small parcels in separate ownership are not likely to be irrevocably committed if they stand alone amidst larger farm or forest operations, or are buffered from such operations;"

APPLICANTS COMMENT:

Existing parcel sizes and contiguous ownership are not relevant factors for the requested exception to Goal 18 Implementation Measure 5's 1977 date restriction, given the exception is not requested for uses on farm or forest land and includes lots lawfully created by a subdivision approvals and land use approvals for dwellings.

To the extent that the parcel size and ownership issue may be relevant for this exception, what is significant is that at the time of subdivision and development, the development was separated from the shoreline by the common area. Furthermore, each of the CR-2-zoned lots is less than 5,000 square feet in size, most are developed and clustered around a road designed to serve the lots, and each of the lots is in separate ownership.

"(d) Neighborhood and regional characteristics;

APPLICANTS COMMENT:

As described earlier in the application narrative, the neighborhood is a mix of single-family dwelling beachfront lots and a 105-space and two-condo RV park, (Shorewood RV Resort) to the north, and a United Methodist church camp, (Camp Magruder) to the south. The dwellings are served by a local street network that provides a loop road through smaller, platted subdivisions, (such as Pine Beach and the George Shand Tracts), or short, public streets that all flow towards Old Pacific Highway, which acts as a "collector" street to funnel all traffic out to a single intersect with Highway 101.

Regionally, the area consists of a string of coastal towns north, (*e.g.* Rockaway Beach, Wheeler, Nehalem, Manzanita), and south, (Garibaldi, Tillamook, Pacific City), of the subject site along Highway 101, which is the main access up and down the Oregon coast. Some of the larger coastal towns provide a range of services to the local and frequent visitor populations, (grocery stores, banks, County offices, motels, restaurants, gas stations, marinas), whereas smaller communities, such as Barview, Bay City, Netarts, provide only limited local and visitor services. A characteristic shared with the subject properties, Pine Beach Subdivision and

George Shand Tract neighborhood is clusters of small subdivisions along beachfront lots and lots eastward of the beachfront interspersed around and between the above-mentioned large and smaller coastal towns. The regional development is concentrated along the coast; inland areas are generally in resource use.

> ***"(e) Natural or man-made features or other impediments separating the exception area from adjacent resource land. Such features or impediments include but are not limited to roads, watercourses, utility lines, easements, or rights-of-way that effectively impede practicable resource use of all or part of the exception area;"***

APPLICANTS COMMENT:

As shown on Exhibit K, all of the land immediately north and east of the Pine Beach Subdivision, is zoned CR-2, (Community Medium Residential), which is a non-resource residential zone. Immediately south of the Pine Beach Subdivision are Camp Magruder and the Barview Jetty State Park which are zoned RM, (Recreational Management), which is not a resource zone. Farther afield, a review of the County zoning map substantiates that the closest resource-zoned land to the exception area is the green-colored F, (Forest Zone) area to the east. *See* Exhibit S. That resource zone acreage is approximately 800 feet east of the eastern limit of the Pine Beach Subdivision, with Smith Lake and Highway 101 physically separating that resource zone from the Pine Beach Subdivision and the Ocean Boulevard properties.

If beaches and dunes are considered the "resource land", nothing separates the exception area from the beaches and dunes on the properties to the north and the south of the property. As discussed above, the purpose of the exception is to protect the existing foredune and younger stabilized dune of the subject properties and the residential uses to the east. As discussed above, the evidence in the record establishes that the exception will not interfere with the natural prograding and retrograding of the beaches and dunes on adjacent properties.

> ***"(f) Physical development according to OAR 660-004-0025; and"***

APPLICANTS COMMENT:

OAR 660-004-0025 sets forth LCDC's interpretation of the requirements for a "physically developed exception" under Goal 2, Part II(a) (ORS 197.732(2)(a)), and provides, in relevant part:

> ***"(1) A local government may adopt an exception to a goal when the land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal. Other***

rules may also apply, as described in OAR 660-004-0000(1).[3]

> ***"(2) Whether land has been physically developed with uses not allowed by an applicable goal will depend on the situation at the site of the exception. The exact nature and extent of the areas found to be physically developed shall be clearly set forth in the justification for the exception. The specific area(s) must be shown on a map or otherwise described and keyed to the appropriate findings of fact. The findings of fact shall identify the extent and location of the existing physical development on the land and can include information on structures, roads, sewer and water facilities, and utility facilities. Uses allowed by the applicable goal(s) to which an exception is being taken shall not be used to justify a physically developed exception."***

As applied to this "committed" exception request, the Applicants in this case are not required to determine whether or not ***"the land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal"***, or ***"Whether land has been physically developed with uses not allowed by an applicable goal will depend on the situation at the site of the exception."*** The issue is whether the site is physically developed. It is and acknowledged Tillamook County planning documents already confirm this fact.

The properties where the exception is being requested are developed with urban residential uses served by urban public facilities and services. The footprint where the beachfront protective structure is proposed is residential zoned land, and residential lots committed to residential development that is necessary for the approved residential development to continue.

As has been stated before in this application narrative, the central issue here is the specific language of Goal 18, Implementation Measure 5 that sets a specific date for when "development", (as defined by IM 5), had to have occurred, (January 1, 1977), and the defining prohibition of constructing and installing a beachfront protective structure on any "development" that was not in existence on or before that critical date. Here, the physical development of the subject properties – both the public facilities and services and the residential units as well as the land all around them is committed to residential development and it is necessary for the proposed protective structure to be approved so that they may continue.

> ***"(g) Other relevant factors."***

APPLICANTS COMMENT:

In this instance, the historic background, discussed in part in the findings, constitutes a relevant factor.

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[3] No other rules as described in OAR 660-004-0000(1) apply to the circumstances here.

From a development perspective, it is worth noting that the County has already determined that the subject properties are committed to urban level development and in fact have recognized that the historical and on-going pattern of beachfront development would continue in the subject area when, in 2002, they adopted the Barview/Watseco/Twin Rocks Community Plan. *See* Exhibit T. The subject Pine Beach Subdivision and subject George Shand Tract lots, are contained within this Community Plan area. The County states that the Community Plan area consisted in 2002 of 269 acres and 150 dwellings. That plan recognizes that the *"the community has a wide variety of residential lots"*, that the *"the residential areas are urban in character"*, *"small lots are common"* and that *"the housing stock is mostly 20 years old or older."* In terms of development patterns and potential, the County found that *"the predominant land use in Barview-Watseco-Twin Rocks is and will continue to be residential."*

Even before the 2002 Barview/Watseco/Twin Rocks Community Plan adoption, the County acknowledged in 1994 that beachfront residential development was an urban use that would continue to expand in this area. Contained within the 1994 Tillamook County staff report for the Pine Beach Subdivision Replat, are findings explain that the County long before took Exceptions (committed to urban residential development) to Goals 14 and 17. *See* Exhibit G (1994 staff report). In that, the County states that Element 14 of the County Comprehensive Plan established a Twin Rocks/Watseco//Barview Community Growth Boundary, (which includes the subject Pine Beach Subdivision replat and Ocean Boulevard properties plat), because the County found that it met the Goal 14 definition of "urban areas", and is described as a "functionally urban area". Exhibit G, p. 4. The County also states that Goal 18 recognizes younger and older stabilized dunes as the most suitable dune forms for urban development, that residential development can easily occur in such areas without creating adverse effects or hazards, and that the subject Pine Beach Subdivision Replat, (which includes the lots subject to this Goal 18 Exception), is in fact located in a younger and older stabilized dune are and is not subject to ocean undercutting or wave overtopping. Exhibit G, p. 5. Consequently, an exception to Goal 18 was not required to approve the subdivision. The same is true for the Ocean Boulevard properties.

Based on the above-cited evidence, it is evident that the County acknowledged the continued development of beachfront communities and developed beachfront lots. The subject properties are irrevocably committed to residential uses as the county determined decades ago. However, the County did not expect, and indeed no one expected and had no reason to anticipate, that the subject properties would be subject to shoreline encroachment.

Relevant to that issue is the geologic background that formed the basis of the Pine Beach Subdivision approval and that for the Ocean Boulevard properties to the north, the reasonableness of those approvals and why these subdivision lots should be entitled to protections. As discussed above in the findings, the Dune Hazard Report materials submitted as part of the 1994 Pine Beach Subdivision application

and decision established that the subject property area and the common area to the west had become increasingly vegetated between the years 1939 and 1993. Exhibit H, p. 2. The same was established for the Ocean Boulevard properties. *See* Exhibit L, p. 4, 9-10 (TL 3000); Exhibit M, p. 6, 12 (TL 3100); Exhibit N, p. 13, 17 TL 3104); Exhibit O, p. 2 (TL 3203); and Exhibit P, p. 2 (TL 3204). At the time the Pine Beach Replat Subdivision was approved, the area proposed for development was a well-vegetated younger stabilized dune not subject to ocean undercutting or wave overtopping and the common area was a conditionally stable dune. *See* Exhibit H, p. 1-2. As noted above, similar analysis accompanies development for the Ocean Boulevard properties. *See*, e.g., Exhibit L, p. 6, 10 (TL 3000); Exhibit M, p. 6, 12 (TL 3100); Exhibit N, p. 13, 17 (TL 3104); Exhibit O, p. 2, 4 (TL 3203); and Exhibit P, p. 2, 4 (TL 3204).

Perhaps most significant is the fact that the geologist documented a 70-year period of beach progression these locations. Despite the episodic severe storm activity that would erode the beachfront somewhat, the evidence demonstrated that ever since the construction of the Barview Jetty, the shoreline had steadily accreted westward. That expert analysis ultimately concluded that the Pine Beach Replat Subdivision as well as the Ocean Boulevard lots were "relatively safe from long-term net erosion and shoreline regression" and that there was no evidence to suggest reversal of a trend that has continued for more than 70 years. *See*, e.g., Exhibit H, p. 12; Exhibit L, p. 10; Exhibit M, p. 18; Exhibit N, p. 18; Exhibit O, p. 8; Exhibit P, p. 8. That analysis is reinforced by the County's adopted and acknowledged Goal 18 maps which show the subject properties being in an area subject to "prograding" shoreline change. *See* Exhibit I.

These factors distinguish the subject property from other properties elsewhere along the coast that were approved for development. Here, the decision to approve the subdivision and the individual decisions to purchase lots and develop residences at Tax Lots 114-123 and 3000, 3100, 3104, 3203 and 3204 was in no way reckless or ill-advised. *All* of the evidence in the record at the time the subject properties land was committed to residential use pointed to just the opposite – that the beach was and had long been steadily growing westward and there was no rational reason to conclude that trend would reverse itself. These properties should not be punished for making reasonable decisions based upon a wealth of supporting evidence.

> ***"(3) Whether uses or activities allowed by an applicable goal are impracticable as that term is used in ORS 197.732(2)(b), in Goal 2, Part II(b), and in this rule shall be determined through consideration of factors set forth in this rule, except where other rules apply as described in OAR 660-004-0000(1). Compliance with this rule shall constitute compliance with the requirements of Goal 2, Part II. It is the purpose of this rule to permit irrevocably committed exceptions where justified so as to provide flexibility in the application of broad resource protection goals. It shall not be required that local governments demonstrate that every use allowed by the applicable goal is 'impossible.' * * *"***

APPLICANTS COMMENT:

In order to understand what "impracticable" means in this context, we must first turn to the specific language of ORS 197.732(2)(b), which states:

(2) A local government may adopt an exception to a goal if:

* * *

> ***(b) The land subject to the exception is irrevocably committed as described by Land Conservation and Development Commission rule to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable;"***

Similar language is also contained in Goal 2, Part II(b):

"PART II -- EXCEPTIONS
"A local government may adopt an exception to a goal when:

* * *

> *"(b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable;"*

Neither ORS 197.732(2)(b) nor Goal 2, Part II(b) explicitly defines the word "impracticable", so the Applicants must turn to the dictionary definition of "impracticable". *Webster's Third New Int'l Dictionary*, 1136 (unabridged ed 1981) defines "impracticable" as:

> "not practicable: incapable of being performed or accomplished by the means employed or at command: INFEASIBLE[.]"

See also, Malinowski Farm v. Metro, 38 Or LUBA 633, 642-43 (2000) (discussing "impracticable" and Court of Appeals analysis that also includes the term "practicable").

Within the context of the requested exception to not apply the January 1, 1977 development date restriction of Goal 18, Implementation Measure 5, the above-cited ORS language, Goal 2 language, and the "impracticable" definition direct the inquiry to the issue of whether it is impracticable to apply the restriction contained in the Goal 18, Implementation Measure 5 language for which an exception is sought due to the existing development. Here, Goal 18 generally allows beachfront protective structures, but not for development that did not exist on January 1, 1977. The question is whether the existing development irrevocably commits the land to a use consistent with Goal 18 such that the prohibition on beachfront protective

structures for development after a certain date should not be applied.

As discussed at length above, the subject properties and their residential development was authorized by a committed exception and then later by the 1994 Pine Beach Replat Subdivision approval and dwelling approvals on the George Shand Tract/Ocean Boulevard development, and ultimately the community boundary approved and acknowledged in 2002. The underlying urban infrastructure and residential development was constructed based upon those approvals. At that time, the development was entirely consistent with the type of development envisioned by Goal 18 as appropriate for younger stabilized dunes without overtopping or undercutting as the supporting document showed was the case. Consequently, no specific exception to Goal 18 was required and the development can be said to have implemented Goal 18's policy to develop beaches and dune areas "where appropriate."

The issue now is whether this completely authorized residential development which no one thought was in any peril, and which was consistent with Goal 18's policy to develop only where appropriate, so commits the property to residential use such that the property is also entitled to now benefit from the Goal 18 policy of reducing the hazard to human life and property from natural actions associated with these areas given the historically unprecedented reversal of 70 years of beach progression. If so, then an exception to Goal 18, Implementation Measure 5's date restriction for beachfront protective structures is required. There is no other practicable way to protect the residential development that was entirely consistent with Goal 18 when authorized.

As discussed above, it is clear that the Pine Beach subdivision and the Ocean Boulevard properties, and particularly the subject 11 dwellings on beachfront lots and the 4 other vacant beachfront lots, are *"irrevocably committed to uses not allowed by the applicable goal."* The county has previously decided as much, and this is reflected by the applicable acknowledged zoning and the acknowledge community boundary that allows urban level development and public facilities on the subject properties. While the development on these properties also happened to be consistent with Goal 18 when approved and developed, the changed foredune conditions mean that the dwellings are now on "other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping" for which local governments are prohibited from allowing residential developments. It is the existing exceptions that have allowed that development and that require this exception here. The existing wholly lawful and committed development commits the subject properties to residential uses at urban levels.

Exhibit G is the 1994 Tillamook County staff report for the Pine Beach Subdivision Replat, in which the County states that Element 14 of the County Comprehensive Plan established a Twin Rocks/Watseco/Barview Community Growth Boundary, which included the subject Pine Beach subdivision replat, because the County found that it met the Goal 14 definition of "urban areas" and is described as a

"functionally urban area". Exhibit G, p. 3. The County staff report also states that Goal 18 recognizes younger and older stabilized dunes as the most suitable dune forms for urban development, that residential development can easily occur in such areas without creating adverse effects or hazards, and that the subject Pine Beach Subdivision Replat, (which includes the lots subject to this Goal 18 Exception), is in fact located in a younger and older stabilized dune area. Based on the evidence presented above, it is clear that the exception area is in fact *"irrevocably committed to uses not allowed by the applicable goal"* due to the residential development and supporting public facilities and services. Again, similar materials support the same conclusions for all of the subject properties. *See* Exhibits H (Dune Hazard Report for Pine Beach Subdivision) and Exhibits L-P (Dune Hazard Reports for each Ocean Boulevard lot).

The second part of this standard states that:

> ***"It is the purpose of this rule to permit irrevocably committed exceptions where justified so as to provide flexibility in the application of broad resource protection goals. It shall not be required that local governments demonstrate that every use allowed by the applicable goal is 'impossible.' * * *"***

Based on the above-cited standard language and combined with the narrow scope of this Goal 18 Implementation Measure 5 exception, it is flexibility in the application of Goal 18 broader resource protections that Applicants seek, namely an exception to the IM 5 language that would otherwise preclude development of a beachfront protective structure on the subject properties. Flexibility in implementing those Goal 18 protections is properly applied when the development to be protected was approved consistent with Goal 18's provisions that direct development only to areas not threatened by shoreline encroachment, as was the subject properties' development. In short, the subdivision development on all of the subject properties was located where Goal 18 said it should be and included the natural shorefront protections Goal 18 said it should have.

The Oregon Supreme Court has explained that committed exceptions "must be based on facts illustrating how past development has cast a mold for future uses." *1000 Friends of Oregon v. LCDC*, 301 Or 447, 501, 724 P2d 268 (1986). In this instance, development of the residential uses that were consistent with Goal 18's requirements for where residential development should be located has committed the property to that use and casts the mold for how to appropriately address the changed geological circumstances. An exception should be granted to permit the requested beachfront protective structure.

> ***"(4) A conclusion that an exception area is irrevocably committed shall be supported by findings of fact that address all applicable factors of section (6) of this rule and by a statement of reasons explaining why the facts support the conclusion that uses allowed by***

the applicable goal are impracticable in the exception area."

APPLICANTS COMMENT:

The multiple factors listed for OAR 660-004-0028(6)(a) through (g) were addressed above under OAR 660-004-0028(2)(d), which expressly incorporated "other relevant factors set forth in OAR 660-004-0028(6)" as one of its requirements to be addressed. For purposes of efficiency and brevity, the analysis provided above for OAR 660-004-0028(6)(a) through (g) is herein incorporated.

Several points from the evidence in the record and the analysis provided throughout this application narrative are worth reiterating. The approved subdivision upon which the existing development is based was approved in accordance with Goal 18's directives about what dune areas are appropriate for development and what areas are not. That development commits the subject properties to residential use. In fact, the County has previous decided that the entire area is committed to residential use. The present situation, which warrants approval of a beachfront protective structure, is the result of a 180-degree reversal of natural accretion patterns from 70 years of beach progradation that, at that time the development was approved, experts found no evidence to believe should or would occur. The purposes of Goal 18 include protecting human life and property from natural actions. Those facts support the conclusion that the Goal 18, Implementation Measure 5 prohibition of beachfront protective structures for the subject properties is impracticable.

> ***"(5) Findings of fact and a statement of reasons that land subject to an exception is irrevocably committed need not be prepared for each individual parcel in the exception area. Lands that are found to be irrevocably committed under this rule may include physically developed lands."***

APPLICANTS COMMENT:

As discussed earlier in this application narrative, the proposed exception area (Exhibits A and Q) has been described as including the oceanfront lots of the Pine Beach Subdivision and the Ocean Boulevard properties. The application is for development of a beachfront protective structure on the collective 15 lots. Therefore, consistent with this provision, the applicant is not requesting that a "committed" exception to Goal 18, Implementation Measure 5 be taken for each individual lot identified.

"(6) Findings of fact for a committed exception shall address the following factors: [list follows]"

APPLICANTS COMMENT:

The multiple factors listed for OAR 660-004-0028(6)(a) through (g) were addressed above under OAR 660-004-0028(2)(d), which expressly incorporated "other relevant factors set forth in OAR 660-004-0028(6) as one of its requirements to be addressed. For purposes of efficiency and brevity, the analysis provided above for OAR 660-004-0028(6)(a) through (g) is herein incorporated.

"(7) The evidence submitted to support any committed exception shall, at a minimum, include a current map or aerial photograph that shows the exception area and adjoining lands, and any other means needed to convey information about the factors set forth in this rule. For example, a local government may use tables, charts, summaries, or narratives to supplement the maps or photos. The applicable factors set forth in section (6) of this rule shall be shown on the map or aerial photograph."

APPLICANTS COMMENT:

As shown by the inclusion of Exhibits A, J, Q and R, the Applicants have included in this application filing current maps and aerial photographs that show the exception area and adjoining lands, and any other means needed to convey information about the factors set forth in this rule. The applicable factors set forth in section (6) of this rule have also been shown on the maps or aerial photographs.

Committed Exception Conclusion:

For the reasons provided above, the County should approve the requested committed exception to Statewide Planning Goal 18, Implementation Measure 5, and approve the requested beachfront protective structure.

3. *Reasons Exception*

Goal 2, Part II(c) "reasons exception" (see also ORS 197.732(2)(c) and OAR 660-004-0020 through 660-004-0022):

APPLICANTS COMMENT:

In addition to or in the alternative, Applicants are also requesting a reasons exception to the date requirement provided in Goal 18, Implementation Measure 5.

OAR 660-004-0020 provides a road map for addressing the four standards of a "reasons" exception under Goal 2, Part II(c) (ORS 197.732(2)(c)). As discussed

above, an exception to Goal 18 must be taken to permit installation of the requested beachfront protective on the beachfront properties that are otherwise ineligible if the County decides that the subject properties were not "developed" on January 1, 1977. This portion of the application provides the analysis required to support a reasons exception. Note that OAR 660-004-0020(2)(a)-(d) mirror and elaborate on the requirements set forth under ORS 197.732(2)(c)(A)-(D). The responses below address the standards provided under the administrative rule and are intended to also apply to the corresponding statutory requirements. In addition to demonstrating that the proposal satisfies the requirements of OAR 660-004-0020 and ORS 197.732(2)(c), the Applicants must also address OAR 660-004-0022(11). The Applicants address those standards in the following paragraphs.

> ***"(2) The four standards in Goal 2 Part II(c) required to be addressed when taking an exception to a goal are described in subsections (a) through (d) of this section, including general requirements applicable to each of the factors:***
>
> > ***"(a) 'Reasons justify why the state policy embodied in the applicable goals should not apply.' The exception shall set forth the facts and assumptions used as the basis for determining that a state policy embodied in a goal should not apply to specific properties or situations, including the amount of land for the use being planned and why the use requires a location on resource land;" (See also ORS 197.732(2)(c)(A)).***

APPLICANTS COMMENT:

This standard of Goal 2, Part II(c) requires that an applicant demonstrate why a state policy embodied in Goal 18 should not apply. ORS 197.732(2)(c) provides guidance as to how to address this "reasons" exception standard. Specifically, the implementing regulation for ORS 197.732(2)(c)(A) requires the local government to provide reasons that justify why the applicable policy in Goal 18 should not apply. As applied here, that would require the Applicants, (and the County), to *"set forth the facts and assumptions used as the basis for determining that a state policy embodied in a goal,* (in this instance Goal 18), *should not apply to specific properties or situations, including the amount of land for the use being planned,* (in this instance, the requested beachfront protective structure (BPS)), *and why the use* (BPS) *requires a location on resource land".*

The state policy that should not be applied is the prohibition on allowing beachfront protective structures to protect development that did not exist on January 1, 1977 provided under Goal 18, Implementation Measure 5. Here, Applicants request an exception to that prohibition in order to allow construction of a beachfront protective structure for development approved under existing goal exceptions.
~~Residential~~

The facts behind the reasons that justify why the state policy should not apply are presented in the findings section and are referred to here. Furthermore, since much

of the arguments for the reasons exception include points presented in the committed exception analysis, the reasoning will be roughly framed below but is intended to incorporate relevant details already presented. Applicants will attempt to be judicious in presenting those arguments and to not be unnecessarily repetitive.

Goal 18, Implementation Measure 2 prohibits local government approval of residential developments and commercial and industrial buildings on beaches, active foredunes, other foredunes that may be subject to wave undercutting or wave overtopping, or in interdune areas that are subject to ocean flooding. Under Goal 18, such development is allowed only in areas not subject to beach-related hazards based upon the best evidence available at the time or where an exception has been take to allow such development.

The theory behind Goal 18 was that all new development, approved consistent within the Goal 18 framework, would not be subject to beach-related hazards because of the preservation of the natural beach and dune protections that implementation of Goal 18 ensured. Under that framework, because the development is appropriately sited, it presumably would never need beachfront protection.

However, the evidence submitted with the application here plainly demonstrates that the proposed structure to protect the existing residential development complied with all of the Goal 18 requirements for uses in the beaches and dunes areas. *See* Exhibit G and L-P. Indeed, approvals of the Pine Beach Subdivision and Ocean Blvd. properties did not require any exception to Goal 18. In fact, the Comprehensive Plan identified the shoreline change in the area where the subject property was located as "Prograding." Exhibit I. In other words, the shoreline was growing westward, not receding ("retrograding"). But there can be no mistaking that the Pine Beach and Ocean Blvd. subject properties were subject to acknowledged county goal exceptions that allowed their residential development and the public facilities and services that serve them to be approved at all.

The appropriateness of the county's planning analysis supporting the authority to approve the development of the subject properties, was more than confirmed by the dune hazard report prepared for the Pine Beach Subdivision application and applications for the properties north of that subdivision (the Ocean Boulevard properties). As detailed in the findings section above, the Dune Hazard Report for the Pine Beach Subdivision documented evidence that although there were periods of both accretion and erosion, particularly during violent storm events, that the beach area had experienced a steady net accretion over the previous 70 years. The geologist for the DHR team explained:

> *"In conclusion, the property appears to be relatively safe from long-term net erosion and shoreline regression. Current modelling of Velocity flooding will not impact the area proposed for development. The Tillamook Bay north jetty will continue to present a barrier to*

> *southerly offshore sand transport, causing a continued net accretion along this beach. No evidence exists to suggest reversal of a trend that has continued for more than 70 years."* (Exhibit H, p. 12).

See also Exhibit L, p. 10; Exhibit M, p. 18; Exhibit N, p. 18; Exhibit O, p. 8; Exhibit P, p. 8 (same for Ocean Blvd. properties).

At the time the subdivision was approved, the entire subject property was well vegetated, all of the residential lots were on a younger stabilized dune that had improved in vegetative protection over the previous 20 years and the common areas consisted of a vegetated open sand dune structure. The distance from Pine Beach Way to the edge of shoreline vegetation was greater than the length of a football field. These were precisely the type of conditions where Goal 18 provides is appropriate for the development permitted and where Goal 18 envisioned there would not ever be a need for a beachfront protective structure. That condition is true for each of the subject lots, including the Ocean Boulevard properties' lots.

As is well-documented by Exhibit F (West Consultants Technical Memorandum and Attachments) and Exhibit J (Google Earth Historic Aerial Imagery), the assumptions at play in Goal 18 did not operate as expected. Now the question is whether a development, which not only complied with Goal 18's requirements for the proper location of development but was also based upon a 70-year trend of shoreland prograding and evidence that provided no indication that the prograding would stop nonetheless reverse, should not be able to benefit from Goal 18's policy to reduce hazards to human life and property from natural actions and be allowed to develop a beachfront protective structure.

The above-stated reasons for why the restriction on approval of a beachfront protective structure are compelling. The property owners based their development decisions on a development that was entirely consistent with Goal 18 in an area that the county records and analysis conducted at the time of subdivision approval was located on a prograding shoreline. In one sense, the County can consider this exception as an equity and fairness issue. Should development that complies with all of the requirements of Goal 18 not be entitled to benefit from its protections?

Other reasons support approval of the proposed beachfront protective structure. As designed, the footprint of the structure is not substantial. As shown on Exhibit F, Attachment 2 and described in Exhibit F, the design of the structure places it largely within the ground and requires not only that it be covered with sand and replanted with beach grasses and shrubs, but it also requires annual inspection and replanting – all paid for by the residents – to ensure a natural state following its installation.

Most significant is the potential harm that may flow if a beachfront protective structure is not built. If the shoreline continues to change in the manner it has in recent years, not only will the residences in those beachfront properties be threatened, but the public water and sewer systems that provide service to those

properties will be threatened. That threat includes not just the portions that serve those residences, but the integrity of the systems themselves. The water systems could become contaminated, and the sewer system breached to then contaminate the ocean and beachfront.

The above provide reasons why the state policy embodied by Goal 18 should not apply in this instance.

> ***"(b) 'Areas that do not require a new exception cannot reasonably accommodate the use'. [See also, ORS 197.732(2)(c)(B).] The exception must meet the following requirements:***
>
> > ***"(A) The exception shall indicate on a map or otherwise describe the location of possible alternative areas considered for the use that do not require a new exception. The area for which the exception is taken shall be identified;"***

APPLICANTS COMMENT:

As shown on Exhibit F, the exception area includes Tax Lots 114-123 of the Pine Beach Subdivision and Tax Lots 3000, 3100, 3104, 3202 and 3204. The proposed beachfront protective structure must be located in the location shown on Exhibit F, Attachment 2 because beachfront protective structures are, by design and function, site-specific. They cannot serve the purpose of abating shoreline erosion unless they are located, constructed, and installed in the proper location for the properties they are intended to protect. For the subject property, that is at the location shown on Exhibit F, Attachment 2. Locating a protective structure elsewhere, for example, at any properties eligible for protection, will not protect the subject properties. Therefore, based on the above-cited evidence, there is no practical, reasonable, factual, or evidentiary reason to evaluate additional alternative sites for the protective structure or to otherwise thoroughly address *"the location of possible alternative areas considered for the use that do not require a new exception"* standard. The requirement to evaluate areas that can "reasonably accommodate" the proposed use, necessarily means that the alternative locations have to be capable of reasonably providing the requested protection. See *Columbia Riverkeeper v. Columbia Cty.*, 297 Or App 628, 645 (2019). There is no such property. The only nearby areas for which an exception would not be required for a beachfront protective structure is the RV park to the north which already has shoreline protection that does and can only protect it, and TL 2900 directly to its south. Locating protective structures there or anywhere else will not afford any protective benefit to the subject properties.

The beachfront protective structure will serve the function of protecting the subject property only if it is located on the western portions of the subject properties.

> ***"(B) To show why the particular site is justified, it is***

necessary to discuss why other areas that do not require a new exception cannot reasonably accommodate the proposed use. Economic factors may be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under this test the following questions shall be addressed:"

APPLICANTS COMMENT:

As discussed above, the purpose of the beachfront protective structure is to protect the identified Pine Beach Subdivision lots, the George Shand Tract/Ocean Boulevard lots, the associated streets, and the public water and sewer infrastructure that serves these lots.

As noted above, there are other lots within the immediate vicinity that are "eligible for protection" *(i.e., see* TL 2900 Exhibit CC for which a beachfront protective structure would be permitted without an exception to Goal 18 Implementation Measure 5). However, no land otherwise "eligible for protection" could establish protection on their properties and protect the subject properties. Note that the Shorewood RV Resort is "eligible for protection" and has in fact already installed a beachfront protective structure. That shoreline protective structure protects only Shorewood RV Resort and no other property. *See* Exhibit J, p. 9. This proposal seeks the same type of protection (but a different design) for the subject properties.

The standard says that alternative sites need only be considered that can *"reasonably accommodate the proposed use."* The only property that can reasonably accommodate the proposed use is the proposed beachfront protective structure located along the shoreline of the lots seeking protection. This is because beachfront protective structures are, by design and function, site-specific and they cannot serve the purpose of abating shoreline erosion unless they are located, constructed, and maintained on the site where it is needed. Thus, the request for a "reasons" exception to Goal 18 IM 5 for the subject lots.

The only "relevant factors" to consider in this "reasons" exception are the specific exception area as defined, and the above-cited specific characteristics of a beachfront protective structure that require its shoreline location on the subject properties. The protections afforded by a beachfront protective structure are location-specific and therefore the needed use of that protection cannot be reasonably accommodated at another location regardless of design or cost thereof. Therefore, based on the above, there are no "economic" factors to be considered here to justify taking a "reasons" exception to Goal 18 Implementation Measure 5 to locate the beachfront protective structure in the requested location.

"(i) Can the proposed use be reasonably accommodated on non-resource land that would not require an exception, including increasing the density

of uses on non-resource land? If not, why not?"

APPLICANTS COMMENT:

No resource land is being used for the proposed shoreline protection. The subject properties are already subject to a committed exception for urban residential development. There is no adjacent resource land either in the unincorporated community in which the subject properties are located.

Regardless, the proposed beachfront protective structure cannot "*be reasonably accommodated on non-resource land that would not require an exception.*" The property to be protected by the exception is the subject exception property. The decision to designate the oceanfront lots as the sole exception area subject to this request was because the proposed location is the only one that can provide beachfront protection to them.

> ***"(ii) Can the proposed use be reasonably accommodated on resource land that is already irrevocably committed to non-resource uses not allowed by the applicable Goal, including resource land in existing unincorporated communities, or by increasing the density of uses on committed lands? If not, why not?"***

APPLICANTS COMMENT:

As with several of the other inquiries, this one presumes the exception requests development on resource lands. As stated throughout this application narrative, the subject exception area, and for that matter adjacent lots north of the subject exception area, are single family residentially zoned land, (CR-2), which, by definition is not resource zoned land; rather it is land that is already planned and zoned for non-resource use. Nor is the Recreation Management (RM) zoned Camp Magruder considered resource land. The site of the proposed protective structure is contained within the County-designated Barview/Watseco/Twin Rocks Community Plan, which is a Tillamook County unincorporated community. The proposed use is proposed to be located within an unincorporated community as this inquiry posits.

By comparison, the closest resource zoned land to the proposed exception area is the green-colored F, (Forest Zone). *See* Exhibit S. That resource zone acreage is approximately 1000 feet east of the subject properties, and Smith Lake and Highway 101 physically separates that resource zone from the subject properties as well as the shoreline.

> ***"(iii) Can the proposed use be reasonably accommodated inside an urban growth boundary? If not, why not?"***

APPLICANTS COMMENT:

The exception area is contained within the County-designated Barview/Watseco/Twin Rocks Community Plan, which is a Tillamook County unincorporated community. The closest urban growth boundary is within the City of Rockaway Beach, approximately 2 miles north of the subject properties. Again, the proposed beachfront protective structure is specifically required to abate shoreline erosion only for the subject properties. Therefore the *"proposed use [cannot] be reasonably accommodated inside an urban growth boundary"* based on the evidence presented above.

> ***"(iv) Can the proposed use be reasonably accommodated without the provision of a proposed public facility or service? If not, why not?"***

APPLICANTS COMMENT:

The proposed beachfront protective structure's location, construction and maintenance will all occur without the *"provision of a proposed public facility or service"* because it does not require, nor rely upon, any public services, (e.g., sewer, water, electric) for the efficient design and function for its intended use. It is a static structure, designed to protect the subject oceanfront properties' shoreline from further erosion. The proposal complies with this standard.

> ***"(C) The 'alternative areas' standard in paragraph B may be met by a broad review of similar types of areas rather than a review of specific alternative sites. Initially, a local government adopting an exception need assess only whether those similar types of areas in the vicinity could not reasonably accommodate the proposed use. Site specific comparisons are not required of a local government taking an exception unless another party to the local proceeding describes specific sites that can more reasonably accommodate the proposed use. A detailed evaluation of specific alternative sites is thus not required unless such sites are specifically described, with facts to support the assertion that the sites are more reasonable, by another party during the local exceptions proceeding."***

APPLICANTS COMMENT:

The required "alternative analysis" standard to demonstrate that there are not alternative locations for the proposed shoreline protection by undertaking *"a broad review of similar types of areas rather than a review of specific alternative sites"* is not functionally possible for this specific "reasons" exception to Goal 18, IM 5 given the site-specific protections afforded by a BPS. As shown on Exhibits A and Q, the proposed exception area includes the oceanfront lots of the Pine Beach Subdivision and the George Shand Tract/Ocean Boulevard properties.

As discussed above, given the protective nature of the use and the fact that it can *only* protect structures that are immediately landward of the beachfront protective structure, the BPS must be located at the location shown on Exhibit F, Attachment 2. In this regard, beachfront protective structures are, by design and function, site-specific, and the proposed structure cannot serve the purpose of abating shoreline erosion for the subject properties unless it is located, constructed, and installed as shown on Exhibit F, Attachment 2.

Consequently, the analysis contained here and above is necessarily a "broad review" as allowed by the standard. It is unlikely that any parties can come forward to describe *"specific sites that can more reasonably accommodate the proposed use."*

> ***"(c) 'The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site.' The exception shall describe: the characteristics of each alternative area considered by the jurisdiction in which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to a description of: the facts used to determine which resource land is least productive, the ability to sustain resource uses near the proposed use, and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts to be addressed include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts;" (See also, ORS 197.732(2)(c)(C)).***

APPLICANTS COMMENT:

Despite the fact that the location of a beachfront protective structure at some other location would do nothing to protect the subject properties, this standard requires a comparison of the environmental, economic, social and energy (EESE) impacts

between location of the BPS at the subject property and at other properties that would also require an exception to Goal 18. In an abundance of caution, Applicants will conduct an EESE analysis.

In the first place, the subject properties are already an exception area and no resource land whatsoever is proposed to be the subject of the requested goal exception for shoreline protection. Presumably, the comparison here should be between the subject properties and the other sites that are eligible for shoreline protection. Potential impacts to beaches and dunes are discussed below.

Environmental:
The placement of a beachfront protective structure along the subject site's existing shoreline is intended to "reduce the adverse impact" of the on-going eastward march of shoreline erosion at the subject properties' shoreline. The evidence in the record (Exhibit F) demonstrates that all impacts resulting from the proposed beachfront protective structure at the subject property will be positive. As discussed above, and in Exhibit F, the beachfront protective structure's design is a "*measure[] designed to reduce adverse impacts*" of the proposed BPS on other properties and on the environment in general, namely additional erosion of the shoreline and the loss of shoreland vegetation.

The environment will be disturbed to construct the revetment. However, the mitigation plan requires covering the revetment with sand and immediately replanting that area with beach grasses and shrubs. The proposal also requires monitoring of the environmental (as well as structural) condition of the BPS and replanting as necessary.

The long-term environmental impact of the proposal is positive because it will protect native shoreline trees, shrubs, vegetation, and wildlife habitat from further losses due to the change from a prograding beach to a retrograding beach since the approval of the subject properties. Abating the subject site's constant and yearly habitat loss due to erosion affects the overall amount of natural habitat in the immediate vicinity of the subject properties.

It is possible that other properties not eligible for beachfront protection structures without a Goal 18 exception could also design a revetment. But such would only protect those properties and would be in the same legal position as here – seeking a Goal 18 exception. Here, multiple owners have joined together, to obtain approval to afford the broad-area environmental benefits the proposal provides.

Because all of the potential residential properties that would require a Goal 18 exception or that do not require an exception in order to construct a BPS have the same urban residential approvals and are all connected to public water and sewer services, the positive and negative effects are the same. For all of the properties, a beachfront protective structure would protect the properties and public facilities and services immediately adjacent. On the other hand, if the exception is not

granted for the subject property, continued beachfront erosion could destroy these properties, the homes and a significant swath of public facilities and services. Obviously, a break in the public sewer system and the public water system caused by the beach erosion the proposal seeks to avoid would pose catastrophic environmental contamination damage. Moreover, if the proposed BPS is not approved, then the ocean will claim 11 homes and the detritus from homes and their component parts would fall into the ocean and be strewn across the beaches in the area and further, as carried by ocean currents. Homes are full of building materials that are deleterious to the environment and are never intended to become ocean fodder. Garages are full of cars, also never intended to float around in the ocean or be tossed onto beaches. If the ocean destroys the homes, the beaches in the area would be unusable for some period of time. That is a significant adverse environmental harm that is only mitigated by approving the proposal.

In summary, the environmental consequences of locating the requested beachfront protective structure would be the same whether located at the subject properties or located in another area that would or would not require an exception. Moreover, the environmental consequences of approving the proposal are overwhelmingly positive. The environmental consequences of denying the proposal are overwhelmingly negative.

Economic:
The long-term economic consequences of a beachfront protective structure would be similar for the subject properties as it would be for any other property that might be considered. Here, the construction and installation of the BPS will prevent further loss of land and the loss of homes, garages and vehicles. It prevents catastrophic damage to water and sewer infrastructure. The loss of land and dwelling value of the subject 15 beachfront lots and potentially other structures within the subdivisions would be significant. The tax value alone of all 15 properties is $10,284,990. Exhibit U (Subject Properties County Assessor Reports). The damage that would occur to the public water and sewer infrastructure if these homes were ripped out by the ocean is catastrophic and a significant strain on or perhaps beyond the means of, the water and sewer district to repair.

Approval of the proposal avoids these harms and also provides protection for homes immediately landward of the subject properties and Pine Beach Way and Ocean Boulevard, which would be exposed to ocean erosion if the proposal were not approved.

Stopping the loss of land and dwelling value of the subject properties also has a broader impact on the land and dwelling value of the landward properties, because all land and dwelling sale prices, in part, are established by comparing comparable and recent land and dwelling sale transactions to determine the right asking price for a subject lot and/or dwelling. In turn, the lowering of asking prices for the oceanfront lots, as would happen if a revetment is not constructed, would impact, and potentially lower, the asking price of the land and dwelling value of lots within

the immediate vicinity, beyond the subdivision. For other developed lots that include adjacent or nearby developed inland lots, that adverse economic impact would be avoided by approval of the proposed beachfront protective structure.

Approval of the proposed beachfront protective structure will also prevent not only the public economic costs from breach of the water and sewer facilities serving the subject properties but the environmental fallout from such a breach and closing off those facilities for other properties while a repair is undertaken.

Likewise, retaining the value of the fifteen subject properties will result in maintenance of their property tax income to the county that would be lost if the subject properties are not protected.

The direct economic costs arise primarily from the cost of building the beachfront protective structure itself. In this case, that cost will be borne entirely by the property owners, none of it will be a public cost. Likewise, any annual cost to maintain the BPS will be borne by the owners of the subject properties. Again, that cost would be the same whether developed on the subject properties or developed at a different location that also would require an exception.

Social:
The social benefits, whether at the subject property or at other properties that would or would not require an exception to Goal 18, would be positive.

Granting the requested exception would respect Goal 18's policy to reduce natural hazards to human life as well as respect local land use decisions made consistent with Goal 18's mandates and recognize that nature does not always proceed as expected. Here, there can be little doubt that the subject properties were created consistent with Goal 18's mandates and was supported by the best evidence possible at the time, which showed a prograding beach for the area, as shown on the comprehensive plan map. Exhibit I.

The beach will be protected for public enjoyment if the BPS is approved. The fact that the proposed BPS will be covered with sand and beach grasses ensures it is pleasing to view either from the beach or the subject properties. The northern access to the beach between Tax Lots 123 and 3204 will be improved and the southern access to the beach between Tax Lots 113 and 114 is not disturbed.

The social benefits are positive from approval of the proposal.

Energy:
The energy consequences – positive or negative – of constructing the beachfront protective structure at the subject property or at another location that would and would not require a Goal 18 exception are the same and minor in nature. If a BPS is constructed, there will be the energy expired in the actual construction and periodic maintenance and monitoring. If the use is not approved, there may be

energy costs in the cleanup of damaged residences and public facilities and services. The costs are no different whether the BPS is located along the subject property lots or along other similarly situated lots to the north.

EESE Conclusions:
As the analysis above demonstrates, the consequences that would result from the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in a different area that would or would not require a Goal 18, IM 5 exception. There are really only two differences between the proposed exception area and the other sites.

First, the proposed exception area is for a much larger area than any individual property elsewhere. To afford the same area of protection, multiple property owners would need to join together in an application, as has been done here. The consequences of that are two-fold. While the adverse environmental impact of building the beachfront protective structure at the subject property is greater than for a single lot, that impact will be only temporary given it will be re-covered in sand, replanted and monitored. Ultimately, the long-term advantage is that an even greater area of foredune, beach grasses and shrubs and trees will be protected with the present application over potential other properties individually. That is an environmental benefit that favors the proposal.

Second is the fact that locating the beachfront protective structure at any other location would not protect the fifteen properties and the related public infrastructure thereon, which is the reason for the exception request.

The EESE analysis weighs in favor of locating the beachfront protective structure at the proposed location because the chosen site is not significantly more adverse than would result from locating it in another area that requires an exception.

> ***"(d) 'The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.' The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. 'Compatible' is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses." (See also, ORS 197.732(2)(c)(D)).***

APPLICANTS COMMENT:

As defined here, the "proposed use" would be the use and function of the proposed beachfront protective structure and how that BPS is *"compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts."* The overall use of the subject properties will remain residential, which

is consistent with the adjacent uses and their acknowledged residential zoning.

As described earlier in this application narrative, the adjacent uses consist of similarly situated and zoned beachfront residential uses, residential uses eastward of those beachfront lots, the Shorewood RV Resort, Camp Magruder and the Barview Jetty County Park. As shown on Exhibit F, Attachment 2, the proposed BPS is designed to include an underground portion of the BPS that will be covered with sand, with the easterly portion rising out of the sand at a 1:1.5 slope creating a revetment no more than 3 feet above the existing ground level. And all of the proposed revetment will be covered with sand and re-planted. The proposed beachfront protective structure will be planted with native plantings that will reestablish natural shoreline vegetation. Based on the above, the proposed BPS will *"be compatible with surrounding natural resources and resource management or production practices."* This is because once established, the BPS will ultimately blend into the shoreline of the Pine Beach Subdivision and George Shand Tracts/Ocean Boulevard properties, such that its appearance will be compatible with other existing shoreline vegetated areas of those uses north and south of the subdivision. The protective structure will visually appear as a dune formation.

Furthermore, the structure is designed not to have any adverse physical impacts on adjacent uses. As the West Consultants Technical Memorandum explains, the proposed structure will not deflect wave energy to adjacent properties, nor will it cause an increase to the FEMA total water levels in the area. Exhibit F, p. 8-9.

The proposal is consistent with the reasons exception requirements set forth under OAR 660-004-0020.

The proposal is also required to comply with the requirements of OAR 660-004-0022(11), the specific reasons exception standards for foredune development.[4]

OAR 660-004-0022(11):

> **"Goal 18 – Foredune Development: An exception may be taken to the foredune use prohibition in Goal 18 'Beaches and Dunes', Implementation Measure. Reasons that justify why this state policy embodied in Goal 18 should not apply shall demonstrate that:** ***(a) The use will be adequately protected from any geologic hazards, wind erosion, undercutting ocean flooding and storm waves, or the use is of minimal value;"***

APPLICANTS COMMENT:

As shown in the West Consultants Technical Memo, (Exhibit A) and the

[4] OAR 660-004-0022(10) is another reasons exception rule that applies to Goal 18, but it applies for foredune breaching. Because the proposal does not seek to breach a foredune, that administrative rule is not relevant to the application.

accompanying construction plans, (Exhibit A, Attachment 2), the proposed beachfront protective structure has been designed in such a way as to protect it *"from any geologic hazards, wind erosion, undercutting ocean flooding and storm waves"*. Exhibit F, p. 8. On page 5, Figure 3 of the West Consultants Technical Memo is a cross-section of the proposed BPS. The accompanying text on page 5-6 states that "*A side slope of 1V* [vertical] *to 1.5H* [horizontal] *was used because of the site constraints. A launchable toe is provided to ensure the rock revetment is not undermined by scour at the structure*"; and that "*An ecology block wall will be placed along the northern and southern boundaries. Ecology blocks are concrete blocks that are used for building retaining walls. Typical blocks have a height of 2 feet, a width of 2 feet, and a length of 6 feet (or 3 feet). These walls are required to ensure that the future wave run up does not flow around the main rock revetment structure and potentially flood the beachfront homes.*"

In short, the revetment was designed with a "launchable toe" that will ensure the rock revetment is not undermined by scouring (i.e., undercutting) as well as with ecology block side walls to address ocean flooding and storm wave concerns, as discussed in the FEMA "VE" hazard zone analysis. *See* Exhibit F, p. 5.

The proposed beachfront protective structure is also designed to minimize wind erosion given the proposed revetment will be sand-covered and replanted with native beach grasses and shrubs and will be monitored over time to ensure that the sand overlay is not eroded by wind.

Last, because the BPS is not a structure that allows for occupancy of any sort or that has standing walls, the structure does not require protection from any geologic hazards such as earthquakes.

The proposal is consistent with this standard.

> ***"(b) The use is designed to minimize adverse environmental effects;"***

APPLICANTS COMMENT:

The evidence in the record (Exhibit A) demonstrate that the proposal minimizes any adverse environmental effects from the proposed use. Its design is such as to minimize any off-site environmental impacts. Much like the revetment at the Shorewood RV Resort, which has not increased scouring or erosion of adjacent properties, the proposed design should have no impacts on adjacent shorelines. Moreover, the proposed BPS will be located further inland and will be at a higher elevation than the Shorewood RV Resort's BPS, so the wave energy and erosion potential will be less. Unlike the Shorewood RV Resort, the proposed revetment will be located partially underground and topped with sand and natural vegetation to include beach grasses and shrubs to afford a natural appearance. Plus, the proposal requires the beachfront protective structure to be monitored and replanted

with native vegetation if necessary.

Ultimately, the proposal will be a net benefit to the shoreline environment. As stated throughout this application narrative, the location is seeing a rapidly eroding vegetation line caused by rapidly advancing coastal erosion. That is an adverse environmental effect that the proposal will mitigate against. If this Goal 18 Implementation Measure 5 exception is granted, it will allow the subject properties to construct and install the proposed beachfront protective structure within an active eroding foredune, which will minimize and abate future landward shoreline erosion. As stated by West Consultants' Chris Bahner, PE, in his Technical Memorandum, there is a high level of risk for future wave overtopping and undercutting that will not only damage the existing oceanfront structures and threaten the established homes, water and sewer public facilities and services, but will also threaten the foredune.

"(c) The exceptions requirements of OAR 660-004-0020 are met."
OAR 660-004-0020(2)(a); 660-004-0022(11).

APPLICANTS COMMENT:

In the section under OAR 660-004-0020 above, the application narrative responds to each of the criteria set forth under that rule. The narrative and evidence in the record demonstrates that proposal satisfies each of the standards.

Based upon the evidence provided in the record and the analysis provided above the County should approve the requested reasons exception to Statewide Planning Goal 18, IM 5 and approve the requested beachfront protective structure.

4. ***Statewide Planning Goals***

Because taking an exception to a statewide planning goal is an amendment to the comprehensive plan (OAR 660-004-005(1): "An 'Exception' is a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan[.]"), the applicant must demonstrate that the amendment is consistent with the Statewide Planning Goals.

Goal 1 – Citizen Involvement
To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.

APPLICANTS COMMENT:

Goal 1 calls for the opportunity for citizens to be involved in all phases of the planning process. This application will be processed in accordance with the county's acknowledged land use regulations and procedures, which will provide an opportunity for public participation in this quasi-judicial proceeding. The proposal is consistent with Goal 1.

Goal 2 – Land Use Planning
To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

APPLICANTS COMMENT:

The county has established an acknowledged land use planning process and policy framework under which the applicant's request will be reviewed. Noteworthy is that process has already resulted in an exception finding that the subject properties are committed to urban levels of residential development and that exception is acknowledged. The proposal is consistent with Goal 2.

Goal 3 – Agricultural Lands
To preserve and maintain agricultural lands.

APPLICANTS COMMENT:

The subject property is not agricultural land or zoned for agricultural use. The proposal will have no impacts on agricultural land. The proposal does not implicate and is consistent with Goal 3.

Goal 4 – Forest Lands
To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growth and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

APPLICANTS COMMENT:

The subject property is not forest land or zoned for forest use. The proposal will have no impacts on forest land. The proposal does not implicate and is consistent with Goal 4.

Goal 5 – Natural Resources, Scenic and Historic Areas, and Open Spaces
To protect natural resources and conserve scenic and historic areas and open spaces.

APPLICANTS COMMENT:

Goal 5 requires the county to identify, inventory and provide protective measures in its land use code, if appropriate, for specific resources. There are no identified Goal 5 resources on the subject property or on immediately surrounding properties. The proposal does not implicate and is consistent with Goal 5.

Goal 6 – Air, Water and Land Resource Quality
To maintain and improve the quality of the air, water and land resources of the state.

APPLICANTS COMMENT:

Goal 6 is a directive to local governments and requires the comprehensive plans and implementing measures to be consistent with state and federal regulations on matters such as groundwater and air pollution. It is a directive to the county and the development of a proposal that is consistent with the adopted and acknowledged regulations demonstrates consistency with the goal. The subject properties are connected to public water and sewer systems. Approval of the proposal maintains ocean and sand resources so that they may be enjoyed by the public rather than risking the serious damage that would occur if the proposed BPS is not approved. Furthermore, approval of the proposed BPS protects water delivery systems that the public relies upon that would suffer catastrophic damage if the proposal is not approved and the ocean rips out the homes and the water infrastructure serving them.

The proposed use will be developed consistent with the adopted and acknowledged land use regulations and will comply with any development requirements intended to protect air, water and land resource qualities. The proposal is consistent with Goal 6.

Goal 7 – Areas Subject to Natural Hazards
To protect people and property from natural hazards.

APPLICANTS COMMENT:

Goal 7 is a directive to local governments and requires them to apply "appropriate safeguards" when planning for development in areas identified as a natural hazard. The subject parcels are within an identified hazard area and are subject to a Floodway Hazard Overlay Zone (FH). The application narrative addresses the requirements of TCLUO 3.510 below and demonstrates that the proposal complies with all applicable standards. Furthermore, the proposed beachfront protective structure will protect existing development from natural hazards that did not exist and were not anticipated at the time of subdivision approval or the construction of the residential dwellings.

In fact, approving the proposed BPS is the only way that the county can reasonably comply with Goal 7 at this location given the serious threat to people and property presented by significant ocean erosion that is now anticipated to continue, if it is not approved. The proposal is consistent with Goal 7.

Goal 8 – Recreational Needs
To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

APPLICANTS COMMENT:

The subject properties have been planned and zoned, as well as developed, for residential uses. The county has identified other land as necessary for recreational facilities. There are two beach accesses in the exception area. One beach access runs between Tax Lots 123 and 3204 to the beach. *See* Exhibit Q, p. 2. The other access runs from Pine Beach Loop between Tax Lots 113 and 114, and then along the southern boundary of Tax Lot 114 to the beach. Those beach accesses connect Pine Beach Loop and Ocean Boulevard to a long stretch of dry sandy beach. *See* Exhibit Q, p. 2; Exhibit F, Attachment 1, field photos. The proposed structure will improve the northern beach access with a gravel path and ramp that goes over the rock revetment and allows improved access to the beach and the proposal does not interfere with the southern beach access.

Further, the public has a significant interest in recreating on the beach and the ocean. Approval of the proposal protects those public recreation interests from the harm that would occur to the ocean and beaches if the ocean claimed the 11 homes, as well as their water and sewer infrastructure and potentially roads serving the subject properties. The proposal is consistent with Goal 8.

Goal 9 – Economic Development
To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

APPLICANTS COMMENT:

The subject properties have been planned and zoned, as well as developed, for residential uses. The county has identified other land as necessary for economic development. The proposal does not implicate and is consistent with Goal 9.

Goal 10 – Housing
To provide for the housing needs of citizens of the state.

APPLICANTS COMMENT:

The subject properties have been planned and zoned, as well as developed, for residential uses. The proposed beachfront protective structure will protect the developed residential development from environmental hazards that did not exist and were not anticipated at the time the development was approved. The subject properties are the homes of the persons who own them and provide for their housing needs. The application is consistent with Goal 10.

Goal 11 – Public Facilities and Services
To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

APPLICANTS COMMENT:

Goal 11 is a directive to local governments to efficiently plan for and provide for public facilities and services. The county has planned for public facilities and services, and the subject properties have a full range of urban public facilities and services to include public water and sewer service. One purpose of the proposed revetment is to protect these public facility investments from potential future beachfront erosion. The proposal is consistent with Goal 11.

Goal 12 – Transportation
To provide and encourage a safe, convenient and economic transportation system.

APPLICANTS COMMENT:

Goal 12 is implemented by the Goal 12 rule (OAR 660 division 12). The Goal 12 rule is triggered when an amendment to a comprehensive plan would "significantly affect" an existing or planned transportation facility. OAR 660-012-0060(1). To "significantly affect" is defined to mean when a proposal will change the functional classification of a transportation facility, changes the standards that implement a functional classification system, or allows types of levels of traffic or access inconsistent with the functional classification of a transportation facility, or will degrade the performance of a transportation facility below the standards identified in the TSP or even further if the facility is projected to fall below TSP standards. OAR 660-012-0060(1). Here, the proposed beachfront protective structure will not generate any continuing traffic related to its use. The only traffic that will be generated will be temporary traffic required for construction of the structure, which will be similar (but will occur over a shorter period of time) to that of constructing the residential structures in the subdivision. Such traffic levels will not "significantly affect" any existing or planned transportation facility as that term is used by Goal 12, consequently the Goal 12 rule is not triggered by the proposal. The proposal is consistent with Goal 12.

Goal 13 – Energy Conservation
To conserve energy.

APPLICANTS COMMENT:

Goal 13 is a directive to local government to use methods of analysis and implementation measures to assure achievement of maximum efficiency in energy utilization. Goal 13 is not directly implicated by the proposed use. That said, the proposed beachfront protective measure will only consume energy resources during its construction phase and will be returned to a natural environment following construction. Once the beachfront protective structure is built, it will not use any

energy. The proposal is consistent with Goal 13.

Goal 14 – Urbanization
To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

APPLICANTS COMMENT:

The subject properties are already subject to an acknowledged goal exception that designates them to provide urban levels of residential use and are served with urban public facilities and services. The proposed structure is consistent with the level of that development and will protect that development. The proposal is consistent with Goal 14.

Goal 15 – Willamette River Greenway
To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway.

APPLICANTS COMMENT:

Goal 15 applies only to property along the Willamette River, which is not in the vicinity of the subject properties. The proposal does not implicate Goal 15.

Goal 16 – Estuarine Resources
To recognize and protect the unique environmental, economic and social values of each estuary and associated wetlands; and

To protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries.

APPLICANTS COMMENT:

Goal 16 applies to properties in estuarine areas. The subject property is not within an estuarine area. Therefore, the proposal does not implicate Goal 16.

Goal 17 – Coastal Shorelands
To conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and

To reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment

of Oregon's coastal shorelands.

APPLICANTS COMMENT:

Goal 17 directs local governments to identify coastal shorelands and to adopt comprehensive plan and zoning provisions consistent with the Goal. Tillamook County has done that. The subject properties are in a coastal shorelands area. The subject properties were appropriately planned for residential use and the findings for the Pine Beach Subdivision approval in 1994 noted that an exception to Goal 17 was taken for the area. Exhibit G, p. 3. Therefore, as a technical matter, Goal 17 does not apply. Regardless, it is addressed below.

Goal 18, Implementation Measure 5, speaks of a preference for non-structural solutions to problems of erosion and flooding, but that erosion control structures may be allowed where shown to be necessary and will be designed to minimize adverse impacts on water currents, erosion and accretion patterns.

When the subject properties were approved for residential development, all evidence showed a 70-year trend of beachfront accretion. Furthermore, the Pine Beach Subdivision approval approved a natural, non-structural buffer, in the form of the common area, to address potential flooding and erosion issues. *See* Exhibit G, p. 13; Exhibit H, p. 3. The oceanfront properties to the north had extensive oceanfront yards that extended the same length as the Pine Beach Subdivision's common area. All of the subject properties were required to develop in the easternmost portions which at the time were not subject to ocean undercutting or wave overtopping as a natural protective measure. Exhibit G, p. 5, 8. The reversal of the prograding shoreline trend and now years of erosion have consumed more than 142 feet of beachfront make it necessary to utilize erosion control structures to protect the existing residential construction, public facilities and vegetation.

The design of the beachfront protective structure will be located on shorelands above the ordinary high-water mark. As discussed throughout this application narrative, Exhibit F demonstrates that the proposal has been designed to minimize adverse impacts on the existing environment and will minimize adverse impacts on water flow and erosion of other properties. Given its location and mostly sub-surface final form, it will have no impact on accretion patterns should the shoreline change pattern return to an accretion/prograding pattern.

The proposal is consistent with Goal 17.

Goal 18 – Beaches and Dunes

To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and

To reduce the hazard to human life and property from natural or man-induced actions associated with these areas.

APPLICANTS COMMENT:

The proposal requests a precautionary exception to Goal 18, Implementation Measure 5. The demonstration of consistency with the exception requirements for both a committed exception and reasons exception are provided above. The committed urban residential exception that applies to the subject properties authorizes residential construction on the dunes on which they are located. Now that the dune on which the subject residential properties are situated is subject to ocean undercutting and wave overtopping, the existing exception applies to authorize that residential development under the existing exception. That means that the subject property already has an exception to Goal 18, Implementation Measure 2, which in turn means that, by its express terms, the Goal 18, Implementation Measure 5 prohibition on shoreline protection, does not apply.

Regardless, as a precaution, the analysis below demonstrates that the proposal is consistent with the other Goal 18 Implementation Measures to justify this precautionary exception.

Goal 18 Implementation Measure 1 provides:

"Local governments and state and federal agencies shall base decisions on plans, ordinances and land use actions in beach and dune areas, other than older stabilized dunes, on specific findings that shall include at least:

> ***"(a) The type of use proposed and the adverse effects it might have on the site and adjacent areas;***
>
> ***"(b) Temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;***
>
> ***"(c) 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.***

APPLICANTS COMMENT:

(a) The proposal is for a static beachfront protective structure as shown in Exhibit F, Attachment 2, that should have only temporary adverse effects on the site and adjacent areas. The proposal calls for the preservation of sand excavated from the site during construction, and its placement on top of and on the seaward side of the structure following construction of the BPS. The adverse effects of excavation will be mitigated by subsequent replanting of native beach grasses and shrubs, which will be subject to periodic monitoring and replanting when necessary.

(b) As discussed above, the proposal is for a stabilization structure that will protect the foredune. The proposal includes specific instructions for the maintenance of new and existing vegetation by the owners of the properties. Exhibit F.

(c) Exhibit F, Attachment 2 also demonstrates that the design protects surrounding properties from the adverse impacts of development. For example, given the nature of the BPS design, there will be no off-site stormwater runoff during or after construction. The design of the structure is such that it will not direct additional water to surrounding properties, increase wave heights or wave runup, or impact the natural littoral drift of sediment along the coast. The collection of Google Earth photos of the shoreline within the vicinity of the existing Shorewood RV Resort's BPS shows no pronounced differences in the erosion of the shoreline south of the structure than what is now naturally occurring within the area. Given the location and higher elevation of the proposed BPS, the wave energy and erosion potential should be even lower. On this matter, West Consultants Technical Memo concludes, "[T]he proposed structure will not have an adverse impact to the surrounding properties. No additional measures are necessary to protect the surrounding area as a result of the proposed revetment structure." Exhibit F, p. 9.

(d) West Consultants Technical Memo provides the following purpose of the proposed revetment: "The proposed revetment structure will reduce the risk of damage to life, property and the natural environment from beach erosion and coastal flooding resulting from large waves occurring during high tides. The proposal as designed will not cause any of those hazards." Exhibit F, p. 8.

The proposal is consistent with the requirements of Goal 18, Implementation Measure 1.

Goal 18 Implementation Measure 2 states that development is allowed on foredunes that are conditionally stable but are subject to ocean undercutting or wave overtopping only under certain conditions. Goal 18 Implementation Measure 2 provides:

> ***"Local governments and state and federal agencies shall prohibit residential developments and commercial and industrial buildings on beaches, active foredunes, on other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding. Other development in these areas shall be permitted only if the findings required in (1) above are presented and 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."***

APPLICANTS COMMENT:

As explained above, the subject properties are already subject to a Goal 18, IM 2

exception because their residential development on a dune now subject to ocean undercutting and wave overtopping is authorized by an exception. The legal significance of such existing Goal exception that covers all of the subject properties is, among other things, a Goal 18, IM 2 exception. Regardless, this proposal is not for residential development, but rather protects it, and falls into the category of "other development" that is permitted subject to specific findings. Those findings follow.

The response to Implementation Measure 1 is provided above under the immediately previous heading.

(a) The West Consultants Technical Memorandum (Exhibit F) addresses most of the factors identified in (a) above. It explains that the revetment was designed with a "launchable toe" that will ensure the rock revetment is not undermined by scouring (*i.e.* undercutting). The memorandum also expressly discusses ocean flooding and storm waves in its analysis for the FEMA "VE" hazard zone. The memorandum explains that the structure is designed to address ocean flooding and storm waves and that its design will also not cause an increase to FEMA total water levels near the structure. The BPS is also designed to minimize wind erosion given that the proposed revetment will be recovered with sand and replanted with native beach grasses and shrubs, as well as monitored to ensure the plants hold and serve their purposes. *See* Exhibit F, p. 9 (5.7 Periodic Monitoring). The only potential geologic hazard is from earthquakes. Given that the BPS is not a structure that allows occupancy of any sort or has standing walls, the structure does not require protection from geologic hazards.

(b) Exhibit F also addresses how the BPS has been designed to minimize adverse environmental effects. All excavated sand will be placed over and seaward of the rock revetment structure and the entire area replanted with native grasses and bushes. The proposal also calls for annual inspections to include, among other things, evaluation of "vegetation conditions and identification if additional replanting is necessary." Ultimately, the proposed beachfront protective structure will protect the natural environment from beach erosion and adverse impacts from coastal flooding.

The proposal is consistent with the two Goal 18, Implementation Measure 2 two specific requirements.

Implementation Measure 3 provides:

"Local governments and state and federal agencies shall regulate actions in beach and dune areas to minimize the resulting erosion. Such actions include, but are not limited to, the destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage), the exposure of stable and conditionally stable areas to erosion, and construction of shore structures which modify current or wave patterns leading to beach erosion."

APPLICANTS COMMENT:

As discussed above, the purpose of the beachfront protective structure and its revegetation maintenance program is to minimize erosion of the foredune area since natural protective measures have failed. It will not result in the destruction of desirable vegetation; it will protect it. Also discussed above and in Exhibit F is how the proposed BPS will not adversely affect wave patterns that will lead to beach erosion elsewhere beyond what will normally and naturally occur, as it has functioned at the nearby Shorewood RV Resort.

The design of the proposed structure is consistent with Goal 18, Implementation Measure 3.

Implementation Measure 4 provides:

"Local, state and federal plans, implementing actions and permit reviews shall protect the groundwater from drawdown which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of salt water into water supplies. Building permits for single family dwellings are exempt from this requirement if appropriate findings are provided in the comprehensive plan or at the time of subdivision approval."

APPLICANTS COMMENT:

The proposed structure does not use groundwater or affect it in any way. The structure was designed by West Consultants to minimize adverse environmental impacts such as the ones identified in IM 4. The proposal calls for re-sanding, revegetation, and monitoring as part of the structure's design and maintenance. The structure does not reach down to the water table and will not lead to loss of water quality or the intrusion of salt water into water supplies.

The proposal is consistent with Goal 18, Implementation Measure 4.

Implementation Measure 5

APPLICANTS COMMENT:

Implementation Measure 5 is addressed in the exceptions portion of the application and that response is herein incorporated.

Implementation Measure 6 provides:

"Foredunes shall be breached only to replenish sand supply in interdune areas, or on a temporary basis in an emergency (e.g., fire control, cleaning up oil spills, draining farmlands, and alleviating flood hazards), and only if the breaching and restoration after breaching is consistent with sound principles of conservation."

APPLICANTS COMMENT:
No foredunes will be breached as part of this proposal. The proposal is consistent with Implementation Measure 6.

Implementation Measure 7 provides:

"Grading or sand movement necessary to maintain views or to prevent sand inundation may be allowed for structures in foredune areas only if the area is committed to development or is within an acknowledged urban growth boundary and only as part of an overall plan for managing foredune grading." **[requirements omitted].**

APPLICANTS COMMENT:
This Implementation Measure applies to activities related to maintaining views and preventing sand inundation. While grading and sand movement will occur with development of the proposed beachfront protective structure, such activity is not for the purpose of maintaining views or to prevent sand inundation. Consequently, this proposal does not invoke Implementation Measure 7.

Goal 18 Guideline E promotes responsible public access to the beaches. The beach access that runs between Tax Lots 123 and 3204 will be maintained. The proposed structure will improve that beach access with a gravel path and ramp that goes over the rock revetment and allows improved access to the beach. The proposal maintains the southern beach access and does not interfere with it.

Goal 18 Guideline F states that dune stabilization actions should be evaluated for their potential impact. This application narrative and the evidence in the record address a range of potential impacts that will flow from the proposal, which the county will evaluate in making its decision on the application. The proposal is consistent with this guideline.

The proposal is consistent with Goal 18.

Goal 19 – Ocean Resources
"To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations."

APPLICANTS COMMENT:
Goal 19 concerns Oregon's off-shore ocean resources. To the extent that the proposal prevents the ocean destroying 11 houses, and their public water and sewer infrastructure and street system, it benefits the ocean by keeping out harmful pollutants. Other than that benefit, nothing about the proposal impacts ocean resources. The proposal is either consistent with or does not implicate, Goal 19.

The proposal is consistent with the Statewide Planning Goals.

C. **Tillamook County Comprehensive Plan**

APPLICANTS COMMENT:

As discussed in Section VIII.D below, TCLUO 3.530(4)(A)(4) authorizes beachfront protective structures that are authorized by an Exception to Goal 18. Goal exceptions must be made part of the Comprehensive Plan, which requires an amendment to the text of the Comprehensive Plan. TCLUO 9.030(3)(b) requires that amendments to the comprehensive plan must demonstrate consistency with the Comprehensive Plan other than the parts being amended.

Because this is a quasi-judicial, site specific amendment to the plan and does not involve an amendment of general applicability to the Comprehensive Plan requirements or even a Plan Designation/Zone Change, which can invoke a broad range of plan sections, this application narrative addresses only Comprehensive Plan provisions that are relevant to this application following a review of the entire Comprehensive Plan. In the event that Applicants have missed one or more relevant provisions, Applicants will address any other provisions that County staff identify as relevant at the time such provisions are raised.

In summary, given the limited nature of the proposed beachfront protective structure, only certain provisions from the Hazards Element (Goal 7) and Beaches and Dunes Element (Goal 18) appear to be applicable. Note that the Coastal Shorelands Element (Goal 17) findings and policies for rural shorelands at Finding 8.2 recognize the urban residential use of the subject property area. However, that element provides no relevant policies applicable to the proposed use.

COUNTY HAZARDS ELEMENT (Goal 7)

County Goal 7 – 2.4 Erosion

APPLICANTS COMMENT:

Policy 2.4a provides that prevention or remedial action shall include any or all of the items that follow in a list. Responses to the relevant actions are listed by number. (1) The proposed beachfront protective structure will aid in maintaining the existing vegetation on the younger stabilized foredune from potential future erosion. (2) The design, and restoration and maintenance plan for the beachfront protective structure calls for the rapid revegetation of the structure following construction as well as the continued maintenance and re-vegetation of the development site if necessary. (3) The proposal seeks to stabilize the shoreline with a beachfront protection structure (similar to riprap) as called for by this policy. As discussed above, the historic natural protections, which were vegetated, have eroded in a manner that was not predicted by the evidence at the time the subdivision was approved. (5) The proposal will not result in any increased runoff due to development. *See* Exhibit F, p. 9. (7) The proposed beachfront protective

structure will be set back 10 feet from the existing line of established vegetation allowing that area to remain in its natural state. Plus, as noted above, the revetment structure will be covered in sand and revegetated to further reinforce the integrity of the vegetation line area. *See* Exhibit F, p. 6, 9.

Policy 2.4b is not applicable because there are no slopes greater than 15% on the subject properties.

County Goal 7 – 2.5 Flooding

APPLICANTS COMMENT:

Policy 2.5f provides that new construction shall be by methods and practices that minimize flood damage. Exhibit F demonstrates that the proposed BPS has been designed to resist the adverse effects of ocean flooding such as undercutting. Exhibit F also explains that the proposed structure will not cause an increase to the FEMA total water levels near the proposed structure.

Policy 2.5h requires all development meet Federal requirements. West Consultants explain that the proposed structure has been designed to meet all FEMA requirements for construction within the flood hazard zone. (Exhibit F, p. 9.)

Policy 2.5i provides that measures shall be taken to ensure that the cumulative effect of a proposed development will not increase the water surface elevation. The West Consultants Technical Memorandum explains that the BPS will not increase water surface elevations. (*See* Exhibit F, p. 9).

County Goal 7 – 2.6 Tsunamis (Seismic Waves)

APPLICANTS COMMENT:

While most of this section is dedicated to tsunami planning, Policy 4 relating to reducing development risk in high tsunami risk areas, calls for protecting and enhancing existing dune features and coast vegetation to promote natural buffers and reduce erosion. The original 1994 Pine Beach Subdivision proposal utilized natural barriers, but those have failed. The proposed beachfront protective structure is designed to reduce erosion and stabilize the natural buffers on the site's foredune vegetation.

The proposal is consistent with the Hazards Element (Goal 7) of the comprehensive plan.

COUNTY ESTUARINE RESOURCES ELEMENT (GOAL 16)

APPLICANTS COMMENT:

The Estuarine Resources Element is generally not applicable to the subject property. However, the Beaches and Dunes Element (Goal 18) Policy 4.4d provides that the shoreline stabilization policies of Section 7.5 of the Goal 16 element shall apply to beachfront protective measures. Consequently, the relevant policies from that section are addressed immediately below.

County Goal 16 – 7.5 Shoreline Stabilization

> *"2. Within estuarine waters, intertidal areas, tidal wetlands and along WDD shoreland zones and other shoreland areas, general priorities for shoreline stabilization for erosion control are, from highest to lowest:*
>
> *"a. proper maintenance of existing riparian vegetation;*
>
> *"b. planting of riparian vegetation;*
>
> *"c. vegetated riprap;*
>
> *"d. non-vegetated riprap;*
>
> *"e. groins, bulkheads and other structural methods."*

APPLICANTS COMMENT:

As explained by the 1994 staff report (Exhibit G), the Dune Hazard Reports from 1994 (Exhibit H) and the West Consultants Technical Memorandum (Exhibit F), the 1994 Pine Beach Subdivision approval incorporated approach (a), the existence and maintenance of riparian vegetation, as the solution for shoreland stabilization and erosion control. This was also the case for the subject oceanfront properties to the north which were similarly set back. *See* Exhibit L, p. 6; Exhibit M, p. 8; Exhibit N, p. 19; Exhibit O, p. 2, 4; Exhibit P, p. 2, 4.

Due to the unanticipated reversal in shoreline change conditions, which was contrary to the 70-year pattern of progration, the first two shoreline stabilization techniques are no longer possible. The shoreline stabilization proposed here is the highest option left, which is vegetated "riprap." As discussed in Exhibit F, the beachfront protective structure will be overlain with the sand excavated to install the structure and will be planted with native grasses and shrubs. That replanting will be monitored annually and replanted if necessary, which is consistent with this policy, thus implementing the vegetated riprap approach.

> *"3. Proper maintenance of existing riparian vegetation and planting of additional vegetation for purposes of shoreline stabilization shall be permitted within all estuary zones, and along WDD shoreland*

zones and other shoreland areas. Tillamook County supports the efforts of the Tillamook Soil and Water Conservation District to maintain and improve streamside habitat along the County's rivers and streams."

APPLICANTS COMMENT:

As just discussed, the proposal includes a maintenance plan for the planting of additional vegetation and maintenance by the property owners.

"4. Structural shoreline stabilization methods within estuary zones, WDD shoreland zones or other shorelands areas shall be permitted only if:

"a. flooding or erosion is threatening a structure or an established use or there is a demonstrated need (i.e., a substantial public benefit) and the use or alteration does not unreasonably interfere with public trust rights; and

"b. land use management practices or non-structural solutions are inappropriate because of high erosion rates or the use of the site; and

"c. adverse impacts on water currents, erosion and accretion patterns and aquatic life and habitat are avoided or minimized."

APPLICANTS COMMENT:

(a) As shown in Exhibits F and J, the erosion and related ocean flooding are threating the 15 lots that make up the subject properties and the development on those lots, including 11 homes. It is also threatening the supporting water and sewer public facilities. The proposal also does not interfere with any public trust rights whatever those may be. All existing beach accesses are retained by the proposal. The proposed revetment is east of both the statutory vegetation line and the line of established vegetation. The public has no trust interest in the area where the proposed BPS will be located.

(b) As discussed above and demonstrated by Exhibit F, land use management practices and non-structural solutions are no longer appropriate because of the high erosion rates over the past twenty-five years and because of the existing dwellings on the subject properties.

(c) Exhibit F explains that the proposed beachfront protective structure has been designed to not have any adverse impact on erosion or accretion patterns in the area. There are no aquatic life or habitat areas that could be impacted by the proposal.

"5. In Estuary Natural (EN) and Estuary Conservation Aquaculture (ECA) zones, structural shoreline stabilization shall be limited to riprap, which shall be allowed only to protect:

"a. existing structures or facilities, which are in conformance with the requirements of this ordinance, or non-conforming structures or facilities; and

"b. unique natural resources or sites with unique historical or archaeological values; and

"c. established uses on private property."

APPLICANTS COMMENT:

Consistent with requirements (a) and (c) above, the proposed beachfront protective structure will protect existing dwellings and public water and sewer facilities that were developed in conformance with the requirements of the Tillamook County Comprehensive Plan and Land use Ordinance. Those structures are established uses on private property.

"6. In Estuary Conservation 1 (EC1) and Estuary Conservation 2 (EC2) zones, structural shoreline stabilization (riprap, groins or bulkheads) shall be permitted only if:

"a. consistent with the long-term use of renewable resources; and

"b. does not cause a major alteration of the estuary."

APPLICANTS COMMENT:

Despite not being in the EC1 or EC2 zone, the beachfront protective structure will not adversely affect long term use of the beach resource and will not cause alteration of the beachfront other than at the protected location.

"7. In Estuary Development (ED) zones, structural shoreline stabilization (riprap, groins or bulkheads) shall be permitted only if consistent with the maintenance of navigational and other needed public, commercial and industrial water-dependent uses."

APPLICANTS COMMENT:

The proposed BPS is not in an ED zone. This provision does not apply. Regardless, construction of the proposed beachfront protective structure will not interfere with navigational or commercial and industrial water-dependent uses and is therefore consistent with those uses. The proposal is consistent with and incorporates the accesses to the beach.

"8. Structural shoreline stabilization in WDD shoreland zones shall not preclude or conflict with existing or reasonable potential water-dependent uses on the site or in the vicinity."

APPLICANTS COMMENT:

The subject properties are not in a WDD zone. This standard does not apply. Regardless, there are no water-dependent uses on the site or in the vicinity nor are any planned or zoned for the area. The beachfront protective structure will not conflict with any of those uses.

The proposed beachfront protective structure is consistent with the shoreline stabilization policies in Section 7.5.

COUNTY BEACHES AND DUNES ELEMENT (GOAL 18)

APPLICANTS COMMENT:

The most relevant comprehensive plan provisions are contained within the Beaches and Dunes Element (Goal 18) of the comprehensive plan.

County Goal 18 – 2.2b Beach & Dune Use Capabilities: Active Foredune

APPLICANTS COMMENT:

The County Comprehensive Plan Goal 18 under Section 2.2b, (Active Foredune) recognizes that *"certain management practices are necessary in order to minimize the hazards of developing on active foredunes"*. The relevant management practices, as applied here are:

1. *Vegetate open sand areas and protect existing vegetation*
2. *Minimize dune alteration and disturbance of vegetation, temporarily protect disturbed areas and re-vegetate as soon as possible*
3. *Locate structures and facilities as far from the beach as possible*

The 1994 Pine Beach Subdivision approval authorized development on a younger stabilized dune that started approximately 142 feet from the line of established vegetation, in an area where the shoreline had been prograding for 70 years. The Ocean Boulevard lots had similar setbacks. Due to unanticipated changes in the shoreline movement, the area is now part of an active foredune, and this standard is now applicable to the property.

The proposed BPS will be located approximately 185 feet landward of the statutory vegetation line. As shown in Exhibit F, the design by West Consultants provides for re-sanding over the structure and the planting of beach grasses and native

vegetation over the area where the structure is place. This vegetation will be monitored, and the area revegetated as necessary as part of the maintenance program. Exhibit F, p. 8. This will allow native vegetation to flourish, thereby restoring the natural resource that has been rapidly eroding away. *See* (2) above.

Therefore, based on the above-stated evidence, the proposed revetment will vegetate within an actively eroding foredune, protect the existing vegetation within the existing shoreline, permanently protect the disturbed, (eroding active foredune) and re-vegetate that foredune, all of which will be located 185 feet from the statutory vegetation line. The proposal meets the above-stated elements based on the evidence presented above.

County Goal 18 – Implementation Measure 2.3a.1 Beach and Dune Management Requirements: Findings

APPLICANTS COMMENT:

Implementing Requirement (1) states that, (in relevant part):

> ***"Local government and state and federal agencies shall base decisions . . . and land use actions in beach and dune areas, other than older stabilized dunes, on specific findings that shall include at least:***
>
> > ***"(a) The type of use proposed and adverse effects it might have on the site and adjacent areas;***
> >
> > ***"(b) Temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation***
> >
> > ***"(c) 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."***

(a) The placement of a beachfront protective structure along the subject site's existing shoreline is intended to "reduce the adverse impact" of the on-going eastward march of shoreline erosion at the specified oceanfront lots. The evidence in the record demonstrates that all impacts resulting from the proposed beachfront protective structure will be positive, not negative. The design of the beachfront protective structure is such as to minimize adverse effects it might otherwise have on adjacent properties and the area in general. As the revetment structure at the Shorewood RV Resort shows, a well-designed structure in this area will not have adverse impacts on adjacent properties, although it cannot halt the progression of beach erosion on those other properties if erosion continues. (*See* Exhibit J, Google Earth Historic Aerial Images).

(b) The proposal is for a permanent stabilization program that calls for future

monitoring and maintenance of the structure and overlying vegetation, with re-vegetation if necessary, paid for by the owners of the subject properties. The structure is placed 10 feet landward of the line of established vegetation, thereby preserving that vegetation in its native state.

(c) As explained in Exhibit F, the protective structure is designed to not have any adverse impacts to the natural runoff, beach access or surrounding properties.

(d) The proposal will in fact reduce the hazards to life, public and private property, as well as the natural environment by halting future shoreline regression (erosion) that may occur in the future. If the shoreline change reverts to the prograding that historically occurred throughout the 20th Century, the proposed structure will likewise offer no hazards to the public, property, or the natural environment.

County Goal 18 – Implementation Measure 2.3a.6 Beach and Dune Management Requirements: Urban and Rural Development

APPLICANTS COMMENT:

This section discusses urban and rural development in dune areas and explains that younger and older stabilized dunes "are the most suitable dune forms for urban and rural development." These Implementation Measure provisions were expressly addressed by the applicant and the staff report for the 1994 Pine Beach Subdivision as well as in each of the hazard reports for each of the subject properties in the George Shand Tracts/Ocean Boulevard subdivision and that approval was consistent with all of the requirements of this section. This proposal is also consistent with these requirements. *See* Exhibits H (Dune Hazard Report for Pine Beach Subdivision) and Exhibits L-P (Dune Hazard Reports for each Ocean Boulevard lot).

As discussed throughout this narrative and the attached exhibits, the proposal is consistent with the listed management practices necessary to minimize the hazards of developing on foredunes. The proposal protects existing vegetation as much as possible, especially at where the line of established vegetation exists. Disturbance of vegetated areas due to construction activity will be mitigated and the area revegetated as soon as possible afterwards, with follow up monitoring and revegetation as needed. The beachfront protective structure is located as far away from the beach as possible and still serve its function. And the design is such as to protect against wave damage and to allow sand build-up. Exhibit F.

As prescribed by this Implementation Measure, there is no development on open dune sand or other areas where development is not well tolerated.

County Goal 18 – Implementation Measure 2.3a.7 Beach and Dune Management Requirements: Findings

APPLICANTS COMMENT:

This Implementation Measure generally provides the findings that demonstrate the County's compliance with Goal 18 Implementation Measure 1 for those areas that the county has expressly taken a Goal 18 exception at the time of designating the area as suitable for development. It recognizes that development in the dune areas requires compliance with Goal 18, IM 1.

As explained above, the subject properties are irrevocably committed to urban levels of residential use as are the Goal 18 exception areas identified in the comprehensive plan. To the extent this Comprehensive Plan Implementation Measure requires the present proposal to comply with Goal 18, IM 1, the Applicants hereby incorporate the response to that Goal provision from Section VIII.B.4 above.

County Goal 18 – Implementation Measure 2.3b – Implementation Measure 2

APPLICANTS COMMENT:

This provision recognizes that allowing development in foredune areas requires compliance with the requirements of Goal 18, IM 2. To the extent this Comprehensive Plan Implementation Measure requires the present proposal to comply with Goal 18, IM 2, the Applicants hereby incorporate the response to that Goal provision from Section VIII.B.4 above. Moreover, because an existing exception and existing land use approvals already allow residential development on the subject dune, as a matter of law a Goal 18, IM 2 exception has already been taken for the subject properties and shoreline protection is allowed.

County Goal 18 – Implementation Measure 2.3c – Implementation Measure 3

APPLICANTS COMMENT:

This provision recognizes that allowing development in foredune areas requires compliance with the requirements of Goal 18, Implementation Measure 3. To the extent this Comprehensive Plan implementation measure requires the proposal to comply with Goal 18, IM 3, the Applicants hereby incorporate the response to that Goal provision from Section VIII.B.4 above.

County Goal 18 – Implementation Measure 2.3d – Implementation Measure 4

APPLICANTS COMMENT:

This provision recognizes that allowing development in foredune areas require compliance with the requirements of Goal 18 Implementation Measure 4. To the

extent this Comprehensive Plan Implementation Measure requires the present proposal to comply with Goal 18, IM 4, the Applicants hereby incorporate the response to that Goal provision from Section VIII.B.4 above.

County Goal 18 – Policy 2.4 – Policies

APPLICANTS COMMENT:

Each of the applicable policies are identified and addressed below.

Policy 2.4a: "All decisions on land use actions in beach and dune areas other than older stabilized dunes shall be based on the following specific findings unless they have been made in the comprehensive plan:

"(a) The type of use proposed and the adverse effects it might have on the site and adjacent areas;

"(b) The temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;

"(c) 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."

(a) This application explains the type of proposed use – a beachfront protective structure. The possible adverse effects the use may have on the site and adjacent areas are addressed throughout the narrative, for example at Implementation Measure 2.3a.1 in Section VIII.C above. Those responses are hereby incorporated.

(b) Exhibit F, as well as this narrative, explain the permanent stabilization program proposed (a beachfront protective structure) and that the structure will be overlaid with sand removed during construction, replanted with native grasses and shrubs and maintained by an annual inspection and revegetated, if necessary, by the property owners.

(c) Exhibit F also discusses how the surrounding area will be protected through the design of the beachfront protective structure. As Exhibit F explains, the structure is designed to prevent erosion of adjacent properties and will not cause an increase to the FEMA total water levels near the proposed structure. *See* Exhibit F, p. 8-9.

(d) Exhibit F, p. 8-9 explains that the purpose of the beachfront protective structure is to protect life, public and private property and the natural environment from the adverse impacts that may flow from continued erosion of the shoreline and from storm surge and tidal events.

The evidence in the record demonstrates the proposal is consistent with this policy.

Policy 2.4b: "Development in beach and dune areas shall comply with the requirements of the Flood Hazard Overlay zone."

The requirements of the Flood Hazard Overlay zone are provided below under TCLUO 3.510(5)(b) and (10), which are herein incorporated.

Policy 2.4c: "Grading and vegetation removal shall be the minimum necessary to accommodate the development proposed. Removal should not occur more than 30 days prior to the start of construction. Open sand areas shall be temporarily stabilized during construction and all new and pre-existing open sand areas shall be permanently stabilized with appropriate vegetation."

Grading and vegetation removal will be conducted in accordance with the West Consultants Technical Memorandum and the County's land use regulations. Sand will be retained and stabilized during construction and placed over the structure and appropriately vegetated and monitored as prescribed in the Technical Memorandum, Exhibit F, p. 6, 9.

Policy 2.4d: "Excavated, filled, or graded slopes shall not exceed 30 degrees unless adequate structural support is provided. Clearing of these slopes shall be minimized and temporary and permanent stabilization measures shall be applied to safeguard the slope from erosion and slumping."

There are no 30-degree slopes on the property, nor will any be created by the proposal. This policy is not invoked by the proposal.

Policy 2.4f: "Residential, commercial, and industrial buildings shall be prohibited on beaches, active foredunes, on other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding except on lots where such development is specifically authorized by Section 5. Ocean flooding includes areas of velocity flooding and associated shallow marine flooding mapped by the Federal Emergency Management Agency (FEMA). Other development in these areas shall be permitted only if the findings required in policy 2.4a are presented and it is determined that the proposed development:

"(a) Is adequately protected from geologic hazards, wind erosion, undercutting, ocean flooding and storm waves; or is of minimal value; and,

"(b) is designed to minimize adverse environmental effects.

The findings required by Policy 2.4a are addressed above and hereby incorporated.

The two numbered standards for Policy 2.4f are identical to those for OAR 660-004-0022(11) addressed at Section VIII.B.3 above. For purposes of brevity and efficiency, those responses are hereby incorporated.

Policy 2.4g: "Foredunes shall be breached only on a temporary basis in an emergency (e.g., fire control, cleaning up oil spills, draining farm lands, and alleviating flood hazards), and only if the breaching is consistent with sound principles of conservation. Policy 2.4a shall apply."

No foredunes are proposed to be breached. The proposal complies with this standard.

Policy 2.4h: "Because of the sensitive nature of active and conditionally stable dunes, vehicular traffic and recurring pedestrian and equestrian traffic should be limited to improved roads and trails."

The existing beach accesses are approximately 5-feet wide and are only suitable for pedestrian or equestrian traffic. They are not intended for or suitable for vehicular traffic. Those accesses will be maintained and the beach access between Tax Lots 3204 and 123 will be improved. The proposal does not interfere with the southern beach access.

County Goal 18 – Section 3 – Foredune Management:

APPLICANTS COMMENT:

The proposal does not invoke any of the Foredune Management Policies listed in section 3 of the Beaches and Dunes Element under 3.3. Those provisions apply to "grading or sand movement necessary to maintain views or prevent sand inundation" consistent with Goal 18 Implementation Measure 7. This proposal does not seek to grade or move sand for that purpose.

County Goal 18 – Section 4 – Coastal Erosion:

APPLICANTS COMMENT:

The County Comprehensive Plan Goal 18 Section 4, (Coastal Erosion) recognizes the role of a balance of sand deposits and removal from the winter to the summer plays in shoreline change:

> *"Erosion of the beach and adjacent dunes occurs on a yearly cycle. Winter storm waves erode the beach and deposit sand in offshore bars. . . . In the summer, gentler waves redistribute the sand in offshore bars back onto the beach and form a wide berm . . . If the summer beach build-up does not equalize winter losses over the period of several years, there is a* ***net erosion*** *of the beach . . . "* (Emphasis supplied).

Exhibit G, the Dune Hazard Reports for the 1994 Pine Beach Subdivision application and approval established that, at the time, historic records indicated that

there had been a 70-year precedent where the shoreline steadily increased (prograded). Exhibit G, p.1-2. Similarly, the hazard reports for the George Shand Tract/Ocean Boulevard residences, say the same thing. Exhibit L, p. 9; Exhibit M, p. 17; Exhibit N, p. 17; Exhibit O, p. 7; and Exhibit P, p. 7. That historic shoreline prograding change is documented in Map 7 of the Beaches and Dunes Element of the Comprehensive Plan, which shows the "Shoreline Change" for the beach areas along the subject properties as "Prograding." Exhibit I, p. 2. However, the West Consultants Technical Memorandum (Exhibit F) as well as the Google Earth Historical Aerial Imagery (Exhibit J) document a reversal of that trend and the rapid erosion that has occurred over the past two decades.

Section 4.2 Management Considerations recognizes that: *"The primary means of guarding residences or other structures from damage is to locate them back from the eroding coastline"* As shown on Exhibits G and L-P, that is precisely what was done when the Pine Beach Subdivision was platted in 1994 and at the time the houses in the George Shand Tracts/Ocean Boulevard were approved. For the Pine Beach Subdivision, a two-acre Common Area, approximately 190-feet wide, separated the rear yards of the Pine Beach beachfront lots from the statutory vegetation line. The George Shand/Ocean Boulevard lots north were similarly setback with extensive "oceanfront yards" with development allowed only on the eastern portion of the properties. Therefore, at least still in 1994, the westernmost rear yards of the Pine Beach Subdivision and the George Shand/Ocean Boulevard properties were located "back from the eroding coastline". However, as also shown on Figure 2 in Exhibit F, that eroding coastline made a rapid eastward march towards those rear yards of the Pine Beach and Ocean Boulevard beachfront lots, removing approximately 142 feet of shoreline vegetation in the years since the Pine Beach Subdivision was approved. Therefore, based on the above, when the subdivisions and homes were approved, precautionary measures were taken to compensate for the possibility of an eroding shoreline, despite the historic 70-year trend of progration, by placing the sites for development on the lots well eastward of the then shoreline and outside the areas of ocean undercutting and wave overtopping.

Section 4.2 also recognizes that, "*In cases of severe erosion, it may be necessary to use some means of structural shoreline stabilization such as a revetment or seawall.*" That is what is being proposed here. It seems only equitable and fair to allow these properties to provide needed relief from the wholly unexpected shoreline erosion that began after the subdivisions were approved years ago and houses built.

The section also discusses the potential visual impacts from beachfront protective structures and impacts on erosion in the surrounding area. The proposed beachfront protective structure will be located below the surface of the ground and overlain with the sand removed when excavating for the structure. That sand will then be revegetated with native grasses and shrubs and will result in a vegetated mound no taller than three feet above grade that appears natural. Exhibit F. As discussed

elsewhere, the revetment structure has been designed to minimize adverse erosion impacts on the surrounding area. Exhibit F, p. 9.

Policy 4.4c: Coastal Erosion: Policies; Protective Structures

APPLICANTS COMMENT:

This policy implements Goal 18 Implementation Measure 5 by limiting beachfront protective structures to where development existed on January 1, 1977. TCLUO 3.530(4)(A)(4) implements this policy and provides that it is possible to take an Exception to Goal 18 to develop a beachfront protective structure for development that did not exist on January 1, 1977. As explained herein, the subject properties already have an exception to the prohibition in Goal 18, IM 2 on houses on dunes, and so are allowed their protective structure under the express terms of Goal 18, IM 5 and this plan policy. Nonetheless, the proposal is consistent with this policy by taking another (and precautionary) Exception to Goal 18, Implementation Requirement 5.

Policy 4.4d: ***"The shoreline stabilization policies in Section 7.5 of the Goal 16 element shall apply to beachfront protective structures."***

APPLICANTS COMMENT:

The shoreline stabilization policies in Section 7.5 of the County's Goal 16 element are addressed above and that response is hereby incorporated.

Policy 4.4e: ***"Policy 2.4a shall apply to beachfront protective structures."***

APPLICANTS COMMENT:

The County's Beaches and Dunes Element Policy 2.4a is addressed above. That response is hereby incorporated.

Policy 4.4f: ***"Shoreline protection measures shall not restrict existing public access."***

APPLICANTS COMMENT:

There are two beach accesses in the area of the proposal. One beach access runs between Tax Lots 123 and 3204 to the beach. *See* Exhibit Q, p. 2. The other access runs from Pine Beach Loop between Tax Lots 113 and 114, and then along the southern boundary of Tax Lot 114 to the beach. *See* Exhibit Q, p. 2. The proposed structure will improve the northern beach access with a gravel path and ramp that goes over the rock revetment and allows improved access to the beach. The proposal does not interfere with the southern beach access. The proposed beachfront protective structure will not restrict the existing beach accesses.

The proposal is consistent with the Tillamook County Comprehensive Plan.

D. Tillamook County Land Use Ordinance

1. Article III – Zone Regulations

TCLUO Section 3.014 – Community Medium Density Urban Residential Zone (CR-2)

TCLUO Section 3.014(1): "PURPOSE: The purpose of the CR-2 zone is to designate areas for medium-density single-family and duplex residential development, and other, compatible, uses. Land that is suitable for the CR-2 zone has public sewer service available, and has relatively few limitations to development."

APPLICANTS COMMENT:

This criterion states, in part, that the CR-2 zone is in designated areas for medium-density single-family and duplex residential development, and other, compatible, uses. The subject lots consists of homes consistent with this standard. The subject fifteen lots include eleven developed beachfront lots and four vacant beachfront lots. A "compatible" use would certainly be the proposed beachfront protective structure that will be essential to if not accessory to the primary medium-density single family residential use permitted by the CR-2 zone. This criterion goes on to say that land is suitable for the CR-2 zone if it has public sewer service available and has relatively few limitations to development. The site is served by the Twin Rocks Sanitary District, which provides sewer service to the Pine Beach subdivision, the Ocean Blvd. properties and other residences in the vicinity. The subject site is flat. The only limitation to the development of the four, vacant beachfront lots is the on-going shoreline erosion. This concern can be best remedied by the installation of the proposed beachfront protective structure, which will also protect the existing public water and sewer facilities and all the lots in the Pine Beach Subdivision and the George Shand/Ocean Boulevard properties.

TCLUO Section 3.014(2): "USES PERMITTED OUTRIGHT: In the CR-2 zone, the following uses and their accessory uses are permitted outright, subject to all applicable supplementary regulations contained in this Ordinance.

"(a) One or two-family dwelling."

APPLICANTS COMMENT:

Single-family residences are permitted outright in this zone. The beachfront protective structures are accessory to those permitted residential uses and as here essential to their survival. There are no prohibitions against the installation of beachfront protective structures.

TCLUO Section 3.510 Flood Hazard Overlay Zone (FH)

TCLUO Section 3.510(1): "PURPOSE: It is the purpose of the FH zone to promote the public health, safety and general welfare and to minimize public and private losses or damages due to flood conditions in specific areas of unincorporated Tillamook County by provisions designed to:

"(a) Protect human life and health;

"(b) Minimize expenditure of public money for costly flood control projects;

"(c) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the public;

" * *

"(e) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazards;

"(f) Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;

" * *

"(h) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions."

APPLICANTS COMMENT:

As referenced in the attached West Consultants Technical Memorandum (Exhibit F), and as shown on Exhibit K, the subject site is located in FEMA Flood Hazard Zone VE, which is assigned to coastal areas with a 1% or greater chance of flooding, and areas with an additional hazard associated with storm waves. FEMA determines the "regulatory" water surface elevations for this particular VE zone. In coastal flooded areas, FEMA defines tide levels and the total water level heights, which combine tide levels with wave "run-up", and assigned a percentage to the frequency when those tides and total water levels baseline values will be exceeded. Table 2 on page 3 of the West Consultants report lists those values. The far-right column lists the total water levels that potentially could be reached at each "Annual Chance of Exceedance", which for the subject properties' shoreline is 23.4 feet to 26.8 feet, assuming a "baseline" elevation of 20.8 feet. Therefore, based on the above-cited evidence, the relevant and applicable standards of Section 3.510 apply to this request. The Applicants will address those standards in the following paragraphs.

(a) The proposed beachfront protective structure will help protect human life and health by mitigating the effects of flooding that may threaten existing residential

structures and their occupants. (b) The costs of construction and maintenance of the revetment and environmental restoration will be borne by the property owners, (c) thus minimizing the expenditure of public money for the cost of the structure or potential rescue efforts. Also, consistent with the stated purposes, (e) the BPS will protect and certainly minimize damage to the existing public facilities and utilities – sewer and water – that serve the subject properties. (f) Protection of the subject properties will help to retain their value and thus maintain a stable tax base. (h) As discussed above, at the time the subdivisions were proposed and houses approved, there was no reason to believe that the pattern of shoreline change would reverse or that erosion would threaten these properties. The property owners (Applicants) are assuming responsibility by requesting an exception to build a protective structure.

TCLUO Section 3.510(5): "GENERAL STANDARDS: In all areas of special flood hazards the following standards are required:

"* * *

"ANCHORING

"(b) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure."

APPLICANTS COMMENT:

As shown on Exhibit F, the beachfront protective structure will be "anchored" to the ground by first excavating approximately 8 feet below the 20.8-foot shoreline elevation, placing approximately two-thirds of the structure under the ground, and backfilling the underground portion with sand. An "ecology" block wall will be installed at the northern and southern ends of the beachfront protective structure to ensure that the predicted future wave runup will not flow around the beachfront protective structure, which if such runup occurs could potentially flood the beachfront homes or otherwise undermine the structural integrity of the BPS. The BPS will be constructed with a launchable toe on each end that will prevent undermining of the structure from erosion and scouring. The said beachfront protective structure will be engineered to prevent flotation, collapse, or lateral movement of the structure. The proposal complies with this criterion based on the evidence provided above.

"CONSTRUCTION MATERIALS AND METHODS

"(d) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage."

APPLICANTS COMMENT:

As shown on Exhibit F, the proposed beachfront protective structure has been engineered to resist flood damage through the use of large boulders or large, linear mesh bags filled with sand. Each of these are designed to withstand the pounding

of waves and of ocean flooding. The structure will be overlain with sand and will be planted with beach grasses and native vegetation, thereby providing "anchoring" into the shoreline, and thus be resistant to flooding by high tides and wave run-up. The proposal complies with this criterion based on the evidence provided submitted with the application.

> *"(e) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage."*

APPLICANTS COMMENT:

As shown on Exhibit F, the top of the proposed beachfront protective structure will be 23.8 feet, which West Consultants have calculated to be tall enough to account for the 10% chance that the "total water level" at this location will be 23.4 feet. (*See* Exhibit F, Table 2). Also, the height of the beachfront protective structure is set at 3-feet above the ground elevation, which complies with the allowable County-required 3-foot maximum height for accessory beachfront protective structures. Placing the beachfront protective structure at the proposed entire 3-foot maximum height minimizes the chance that any of the homes will experience flood damage. Based on the above, the proposed BPS will be constructed using methods and practices that minimize flood damage in compliance with this criterion.

> *"(f) Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be elevated to prevent water from entering or accumulating within the components during conditions of flooding. In Flood Zones A, A1-A30, AE, V, V1-V30 or VE, such facilities shall be elevated three feet above base flood elevation. In Flood Zone AO, such facilities shall be elevated above the highest grade adjacent to the building, a minimum of one foot above the depth number specified on the FIRM (at least two feet above highest adjacent grade if no depth number is specified)."*

APPLICANTS COMMENT:

This proposal for a beachfront protective structure does not require any of the above-cited equipment as would be required to locate a new dwelling in the floodplain. Therefore, this criterion is not applicable to this request.

"UTILITIES

> *"(g) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood water into the system."*

APPLICANTS COMMENT:

This proposal for a beachfront protective structure does not require a water system

or involve a replacement water system. Rather, it is designed to protect existing water delivery infrastructure. Therefore, the proposal either complies with this standard or it is not applicable to this request.

> *"(h) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters."*

APPLICANTS COMMENT:

This proposal for a beachfront protective structure does not require a sanitary sewage system or involve a replacement sanitary sewage system. As above, the proposed BPS is designed to protect existing sewer system infrastructure. Therefore, the proposal either complies with this standard or it is not applicable to this request.

> *"(i) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding."*

APPLICANTS COMMENT:

This proposal does not require or include an on-site disposal system. Therefore, based on the above, this criterion is not applicable to this request.

TCLUO Section 3.510(10): "SPECIFIC STANDARDS FOR COASTAL HIGH HAZARD AREAS, (V, VE, OR V1-V30 ZONES): Located within areas of special flood hazard established in Section 3.510(2) are Coastal High Hazard Areas. These areas have special flood hazards associated with high velocity waters from tidal surges and, therefore, in addition to meeting all provisions in this Section the following provisions shall apply to residential, non-residential, manufactured dwellings and other development in Coastal High Hazard Areas:"

APPLICANTS COMMENT:

As stated above, the site is located in the VE flood zone, therefore, the relevant and applicable standards of Section 3.510(10) apply to this request.

> *"(a) All new construction and substantial improvements in Zones V1-V30, VE and V shall be elevated on pilings and columns so that:*
>
> > *"(1) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above one foot above the base flood level: and*
> >
> > *"(2) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each*

have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval)."

APPLICANTS COMMENT:

This standard generally applies to occupied structures and for which there are "floors." As shown on Exhibit F, the proposed beachfront protective structure is a below- and above-ground revetment, which does not require it to be elevated on pilings or columns. Therefore, this criterion is not applicable to this request.

"(b) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of (a)(l) and (a)(2) above. A certificate shall be submitted, signed by the registered professional engineer or architect that the requirements of this Section will be met."

APPLICANTS COMMENT:

As evidenced by Exhibit F, Chris Bahner, PE for West Consultants, has prepared a technical report and construction plans, and developed and reviewed the beachfront protective structure's structural design, specifications and plans for the construction. Exhibit F. He has stamped his technical report and construction plans, therefore certifying that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the construction safety requirements embodied in the provisions of (a)(1) and (a)(2) above. *See* Exhibit F. Based on evidence presented above, the proposal complies with this criterion.

"(c) Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones Vl-30, VE, and V and whether or not such structures contain a basement. The Community Development Director shall maintain a record of all such information."

APPLICANTS COMMENT:

The proposed beachfront protective structure is not a dwelling, therefore there is no "*lowest structural member of the lowest floor (excluding pilings and columns)*". Therefore, based on the above, this criterion is not applicable to this request. As background information the construction plans provided as Exhibit F, Attachment 2, Sheet 4 (Revetment Details) provide detailed elevations for all aspects of the revetment.

"(d) All new construction shall be located landward of the reach of mean high tide."

APPLICANTS COMMENT:

As stated in Exhibit F, p. 6, the proposed beachfront protective structure is *"located landward (or east) of the existing vegetation line near the western edge of the beachfront properties and beachfront homes. The structure will be located about 185 feet landward"* of the statutory vegetation line which is well-landward of the reach of mean high tide. Therefore, the proposal complies with this criterion based on the above-cited evidence.

"(e) Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this Section a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

> ***"[standards relating to breakaway wall collapse and elevated portions of buildings]"***

APPLICANTS COMMENT:

The proposed beachfront protective structure is not a dwelling, therefore any reference to *"substantial improvements have the space below the lowest floor"* is not relevant to the proposal. The structure also does not have "walls" and therefore the standards for breakaway walls and other elevated portions of a building are not applicable. The structure is a below- and above-ground structure specifically intended to withstand and absorb wind and water loads and is not a structure that will be occupied. Therefore, this criterion is not applicable to this request.

"(f) If breakaway walls are utilized, such enclosed space shall be usable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation."

APPLICANTS COMMENT:

The proposed beachfront protective structure is not a dwelling and there are no enclosed spaces that will be occupied by persons, vehicles, or storage materials.

There are no "breakaway walls" proposed. Any reference to *"breakaway walls. . . enclosed space shall be usable solely for parking of vehicles, building access, or storage substantial improvements,"* are not relevant to the proposal. Therefore, this criterion is not applicable to this request.

"(g) Prohibit the use of fill for structural support of buildings."

APPLICANTS COMMENT:

The proposed revetment structure is not a "building" and is not proposed for structural support any building. This standard does not apply.

"(h) Prohibit man-made alteration of sand dunes, including vegetation removal, which would increase potential flood damage."

APPLICANTS COMMENT:

The purpose of the proposed beachfront protective structure is to decrease potential flood damage. Accordingly, and in order to accomplish this purpose, the man-made alteration of sand dunes, including vegetation removal, will be temporary, and it is required in order to install and locate the proposed beachfront protective structure 10-feet landward of the existing shoreline. However, as detailed in Exhibit F, the proposed beachfront protective structure will be back filled with sand and revegetated. The disturbed area surrounding the proposed beachfront protective structure will be restored to its natural state, monitored annually and replanted when necessary as part of the maintenance program to ensure that native beach grasses and shrubs establish on the site. (Exhibit F, p. 8). Therefore, based on the above, once the native vegetation is reestablished after replanting, there will be minimal if any impacts and no permanent disturbance to the actively eroding dune adjacent to the Pine Beach Subdivision and George Shand Tract/Ocean Boulevard properties. Significantly, as noted above, establishment of the beachfront protective structure will protect the dune and its vegetation and reduce the potential for flood damage.

TCLUO Section 3.510(14): "DEVELOPMENT PERMIT PROCEDURES:"

APPLICANTS COMMENT:

This section requires a permit application and approval for all development activities before construction or development can begin in any area of the special flood hazard zone. The responses below address the applicable requirements.

"(a) Application for a development permit shall be made on forms furnished by the Community Development Director and shall include but not necessarily 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 in 3.510(14)(a)(1)–(4) is required and

Development Permits required under this Section are subject to the Review Criteria put forth in Section 3.510(14)(b):"
[list follows]

APPLICANTS COMMENT:

Applicants' Exhibit F satisfies the enumerated provisions listed under this criterion. The exhibits indicate the elevation of all components of the beachfront protective structure and its floodproofing worthiness has been certified by a registered professional engineer. No watercourses will be altered or relocated as a result of the proposed development.

"(b) Development Permit Review Criteria

"(1) The fill is not within a Coastal High Hazard Area."

APPLICANTS COMMENT:

No fill we be placed within a Coastal High Hazard Area. The structure is proposed in the VE zone, which is a Coastal High Hazard Area, however, no fill is involved in the construction of the proposed protective structure. The definition of "fill" is:

> "FILL: Any material such as, but not limited to, sand, gravel, soil, rock or gravel that is placed on land including existing and natural floodplains, or in waterways, for the purposes of development or redevelopment."

The proposed protective structure is the development, it is not filling land for the purposes of development. Accordingly, this standard does not apply. All excavated sand will be placed back over the proposed protective structure, so there will be no loss or addition of sand from the foredune area.

"(2) Fill placed within the Regulatory Floodway shall not result in any increase in flood levels during the occurrence of the base flood discharge."

APPLICANTS COMMENT:

No fill will be placed within a regulatory floodway. This criterion is inapplicable.

"(3) The fill is necessary for an approved use on the property."

APPLICANTS COMMENT:

Although no fill is involved in the construction of the structure, the residential uses, for which the beachfront protective measures are accessory and necessary, are an approved use on the property.

"(4) The fill is the minimum amount necessary to achieve the approved use."

APPLICANTS COMMENT:

Although no fill is involved in the construction of the structure, the elevation of the proposed BPS is at 23.8 feet, just 3 feet above the shore elevation, which is the minimum amount necessary to achieve the intended protection for the existing structures and public facilities on the subject properties. *See* Exhibit F. West Consultants have calculated a 10% chance that the "total water level" at this location will be at 23.4 feet. This is the minimum necessary to achieve the necessary protection.

"(5) No feasible alternative upland locations exist on the property."

APPLICANTS COMMENT:

The beachfront protective structure is placed at the most landward point possible on the subject properties given the existing residential structures they are intended to protect. Exhibit F, Attachment 2, Sheet 3 shows that there are mere feet between the proposed BPS and several of the residences.

"(6) The fill does not impede or alter drainage or the flow of floodwaters."

APPLICANTS COMMENT:

While this is a protective structure and not fill, the West Consultants' analysis concludes that the beachfront protective structure will not impede or alter the flow of the floodwaters in a manner that will result in any adverse off-site impacts. Exhibit F, p. 9.

"(7) If the proposal is for a new critical facility, no feasible alternative site is available."

APPLICANTS COMMENT:

The proposal is not for a new critical facility; this standard is not applicable to this application.

"(8) For creation of new, and modification of, Flood Refuge Platforms, the following apply, in addition to (14)(a)(1-4) and (b)(1-5):"

APPLICANTS COMMENT:

This proposal is not for a new or modified Flood Refuge Platform. This standard

is not applicable to this application.

> ***"(c) Before approving a development permit application for other than a building, the Community Development Director may determine that a public hearing should be held on the application. Such hearing shall be held before the Planning Commission and a decision made by the Planning Commission in accordance with the provisions of Article X."***

APPLICANTS COMMENT:

This is an "application for other than a building." The Community Development Director will determine that a public hearing should be held on the application.

TCLUO Section 3.530: BEACH AND DUNE OVERLAY (BD)

TCLUO Section 3.530(2): "APPLICABILITY:

> ***"(a) The BD zone applies to dune areas identified in the Goal 18 (Beaches and Dunes) Element of the Comprehensive Plan and indicated on the Tillamook County Zoning Map. These areas were identified based on information contained in the inventory of beach and dune landforms of Tillamook County, prepared by the Soil Conservation Service (SCS, now known as the Natural Resource Conservation Service) and published in their 1975 report, Beaches and Dunes of the Oregon Coast."***

APPLICANTS COMMENT:

As shown on Exhibit I, the subject Pine Beach Subdivision and the George Shand Tract/Ocean Boulevard properties, are identified as a dune area in the County's (Beaches and Dunes) Element of the Comprehensive Plan and on the Tillamook County Zoning Map. Therefore, Applicants address the relevant criteria of Section 3.530 below.

TCLUO Section 3.530(3): CATEGORIES

APPLICANTS COMMENT:

Section 3.530, sets forth various categories, such as:

> *Category 1: Developed Beachfront, where active foredune areas have taken an Exception to Goal 18 to allow development on the active foredune, or;*
>
> *Category 2: Foredune Management Areas, where active foredune areas have taken an Exception to Goal 18 allows development on the active foredune and an overall management plan is approved to allow foredune grading.*

As explained above, an existing goal exception approves the urban level residential use of the Pine Beach Subdivision or George Shand Tract/Ocean Boulevard

properties on the active foredune they are now established on. That means the subject properties are on a Category (1) dune.

No other category applies to the subject properties. They are certainly not committed to resource protection – their goal exception that applies expressly determines that they are committed to the urban uses reflected by their acknowledged zoning. The existing exception removes any possibility of resource protection. The existing C-2 zone applies to the property where the proposed BPS will be located.

Exhibit F describes the location of the proposed beachfront protective structure to be within the "active eroding foredune." The residential structures on the subject properties were originally constructed on a younger stabilized dune (a Category (4) classification), but it has now become a conditionally stable foredune subject to ocean undercutting or wave overtopping. Because the subject properties have an existing exception, they now fall into Category (1). Regardless, the proposal is to take a precautionary exception to allow the proposed BPS.

TCLUO Section 3.530(4)(A) PERMITTED USES

TCLUO Section 3.530(4)(A)(2): "Accessory structures for beach access, oceanfront protection or stabilization, on-site sewage disposal systems, or other uses with the Department determines are consistent with the purpose of this zone, subject to the standards of Section 3.530(5) and the following provisions:

> ***"a. The location of accessory structures will be determined in each case on the basis of site-specific information provided by a Dune Hazard Report, pursuant to the provisions of Section 3.530(5)(B)."***

APPLICANTS COMMENT:

The beachfront protective structure is an accessory use of the subject properties. As detailed in Exhibit F, West Consultants in their Technical Memorandum, have prepared and supplied on pages 7-9 a "Detailed Site Investigation" report, which provides evidence to demonstrate that all applicable and relevant standards for such a report have been meet. Based on the above, the proposal complies with this criterion.

> ***"b. Any accessory structure higher than three feet as measured from existing grade will be subject to the variance procedure and criteria set forth in Article VIII of the Tillamook County Land Use Ordinance."***

APPLICANTS COMMENT:

As shown in West Consultants' Technical Memorandum and construction plans (Exhibit F), the proposed accessory structure, (*i.e.*, revetment), will be no more than

three feet above the existing grade in compliance with this criterion.

TCLUO Section 3.530(4)(A)(4): Beachfront Protective Structures

> ***"(b) Beachfront protective structures (rip-rap and other revetments) shall be allowed only in Developed Beachfront Areas and Foredune Management Areas, where "development" existed as of January 1, 1977, or where beachfront protective structures are authorized by an Exception to Goal 18."***

APPLICANTS COMMENT:

The Applicants here, request both a precautionary new "committed" and "reasons" exception to Goal 18 Implementation Measure 5, because the subject Implementation Measure does not allow the proposed beachfront protective structure (in the absence of an exception or being developed).

To the extent necessary, the application narrative above and evidence entered into the record demonstrate compliance with all of the requirements for either a committed exception or a reasons exception, or both. The proposal is consistent with this criterion.

> ***"(c) Proposals for beachfront protective structures shall demonstrate that:***
>
> ***"1. The development is threatened by ocean erosion or flooding;"***

APPLICANTS COMMENT:

As has been detailed in Exhibit F, the Pine Beach Subdivision and the George Shand Tract/Ocean Boulevard properties have been subject to rapidly advancing coastal erosion and have been losing portions of their properties from coastal flooding during high tides, combined with high wave run-up during winter King Tides, such as those that occurred on February 8-12, 2020. Exhibit F, p. 1-3. During that subject event, the maximum still water level reached the ocean front homes and went past the southernmost home for a distance of about 45 feet. As stated by West Consultants' Chris Bahner, PE, in his Technical Memorandum, there is a high level of risk for future damage to the subject 11 structures in the Pine Beach and George Shand Tract/Ocean Boulevard developments. Exhibit F, p. 1. The Technical Memorandum also notes that an additional 40 or so homes are also threatened by coastal flooding, as are the Pine Beach and Ocean Boulevard properties' water and sewer infrastructure and the Pine Beach Loop vehicular access, if no actions are taken to stop future erosion. Exhibit F, p. 8. The proposal complies with this criterion based on the evidence presented above.

"2. Non-structural solutions cannot provide adequate protection;"

APPLICANTS COMMENT:

It is clear by the abundance of evidence presented in this narrative, and by evidence in Exhibit F, that the installation of the proposed beachfront protective structure is the only viable solution to stop rapid erosion, the loss of shoreline vegetation, and the threat of damage to property, dwellings, and infrastructure within the Pine Beach Subdivision and the subject George Shand/Ocean Boulevard properties if the shoreline retrograding continues as is predicted in the West Report at Exhibit F, p. 3, 8.

As discussed in the findings and supported by evidence in the record, when the Pine Beach Replat was approved in 1994 and when the George Shand Tract homes were approved, the shoreline had been prograding for 70 years. Both properties were located on a younger/older stabilized dune that was well vegetated as shown by the Google Earth images in the record. That was entirely consistent with Goal 18's provisions. The fact that the Pine Beach approval required the beachfront residences to be located on the far eastern portions of the lots and that there was also a very wide, vegetated open dune sand conditionally stable area designated as a common area without any development that acted as a natural buffer to shoreline change, as well as a broad beach run-up area, made the undeveloped natural environment a viable non-structural protective solution. To everyone's surprise, that protection is now gone. All efforts to provide a non-structural solution to protect the existing residences have failed.

Shoreline erosion is now expected to continue to remove active foredunes, trees and vegetation whether a Goal 18 exception is granted or not. Exhibit F, p. 3. In the past two decades, the subject properties have lost up to 142 feet of shoreline. As shown in Exhibit J (the Google Earth Historic Aerial Imagery), the difference between shoreline location of the Shorewood RV park, (which has a beachfront protective structure), versus the subject properties' shoreline, could not be more telling as to how a beachfront protective structure keeps recent on-going shoreline erosion at bay. Based on Exhibit J, p. 9, there is approximately 75 more feet of subject properties' shoreline erosion than there is at Shorewood RV park. Based on the above, it is clear that the Shorewood RV Park beachfront protective structure has been and is successful in keeping shoreline erosion from encroaching beyond the western edge of its beachfront protective structure. There are no non-structural solutions that can provide adequate protection to the subject properties.

"3. The beachfront protective structure is place as far landward as possible;"

APPLICANTS COMMENT:

As stated in Exhibit F, West Consultants have determined that the most effective placement of the proposed beachfront structure will be to construct and install it

within an active eroding foredune approximately 10 feet landward of the existing vegetation line and within the rear yards of the subject properties. That placement will also be about 185 feet landward of the statutory vegetation line and is as close to the existing residential dwellings as is possible. The proposal complies with this criterion based on the evidence presented above. (Exhibit F, Attachment 2, Sheet 3).

> ***"4. Adverse impacts to adjoining properties are minimized by angling the north and south ends of the revetment into the bank to prevent flank erosion;"***

APPLICANTS COMMENT:

On page 6, Figure 4 of the West Consultants' Technical Memo is a plan view of the proposed beachfront protective structure that shows that the north and south ends of the revetment are angled into the bank. (*See also* Exhibit F, Attachment 2, Sheet 3). The purpose of angling the ends of the revetment in that way is to prevent flank erosion. Exhibit F, p. 6. The Technical Memo explains that the proposed revetment will not have any adverse impacts to adjoining properties. Exhibit F, p. 9. The design of the proposed beachfront protective structure complies with this criterion.

> ***"5. Public costs are minimized by placing all excess sand excavated during construction over and seaward of the revetment, by planting beach grass on the sand-covered revetment, and by annually maintaining the revetment in such condition."***

APPLICANTS COMMENT:

As shown on Exhibit F, Figure 3 and Attachment 2, Sheet 4, the proposed BPS is designed to include an underground portion of the BPS that will be covered with sand and rising out of the sand at a 1:1.5 slope as a series of rock creating a revetment no more than 3 feet tall. The proposed structure will allow planting with native grasses and shrubs that will reestablish natural shoreline vegetation. The proposal also requires annual maintenance by the property owners and replanting of beach grasses and shrubs as needed. The proposal complies with this criterion based on the evidence presented above.

> ***"6. Existing public access is preserved; and"***

APPLICANTS COMMENT:

As shown on Exhibit Q, there are two existing accesses in the exception area to the beach. The proposed beachfront protective is designed such that these accesses will be maintained. The proposal is consistent with this public access requirement.

> ***"7. The following construction standards are met:***
>
> ***"a. The revetment includes three components; an armor layer,***

a filter layer of graded stone (beneath armor layer), and a toe trench (seaward extension of revetment structure)."

APPLICANTS COMMENT:

As discussed in Exhibit F, and as shown in Exhibit F, Attachment 2, the proposed beachfront protective structure consists of an armor layer (large boulders), a filter layer of graded stone (beneath armor layer), and a toe trench seaward extension of revetment structure in compliance with this criterion.

"b. The revetment slope is constructed at a slope that is between 1:1 to 2:1."

APPLICANTS COMMENT:

As discussed in Exhibit F, and as shown in Exhibit F, Attachment 2, the proposed beachfront protective structure will be constructed with a slope of 1:1.5 in compliance with this criterion.

"c. The toe trench is constructed and excavated below the winter beach level or to the existing wet sand level during the time of construction."

APPLICANTS COMMENT:

As discussed in Exhibit F, and as shown in Exhibit F, Attachment 2, the proposed beachfront protective structure will have a toe trench constructed and excavated below the winter beach level or to the existing wet sand level in compliance with this criterion.

"d. Beachfront protective structures located seaward of the state beach zone line (ORS 390.770) are subject to the review and approval of the State Parks and Recreation Division. Because of the concurrent jurisdiction with the Division of State Land, the Parks Division includes the Division of State Lands in such beach permit reviews."

APPLICANTS COMMENT:

This standard does not apply to the proposal because it is not located seaward of the state "beach zone line" as defined by ORS 390.770. As discussed in Exhibit F, and as shown in Exhibit F, Attachment 2, the proposed beachfront protective structure will be constructed and installed approximately 10 feet landward of the existing line of established vegetation and within the rear yards of the subject properties. That placement will be about 185 feet landward of the "beach zone line or statutory vegetation line described in ORS 390.770. Therefore, based on the above, the

proposed beachfront protective structure will not be located seaward of the state beach zone line (ORS 390.770) and thus, the proposal does not require State Parks and Recreation Division approval.

> ***"e. The State Parks and Recreation Division shall notify Tillamook County of emergency requests for beachfront protective structures. Written or verbal approval for emergency requests shall not be given until both the Parks and Recreation Division and the County have been consulted. Beachfront protective structures placed for emergency purposes, shall be subject to the construction standards in Section 3.140(17)."***

APPLICANTS COMMENT:

The subject beachfront protective structure is not being proposed as *"an emergency request for beachfront protective structures."* but rather it is being proposed as a "committed" and/or "reasons" exception to Goal 18, Implementation Measure 5 to protect residential structures already subject to a goal exception for their residential development on a dune. Furthermore, given the location of the proposed beachfront protective structure, the application does not require State Parks and Recreation Division approval. Consequently, the proposal does not require that the State Parks and Recreation Division notify Tillamook County of this request.

Section 3.530(5): SITE DEVELOPMENT REQUIREMENTS: All development within the Beach and Dune Overlay zone shall comply with the following standards and requirements.

" * *

"(B) Dune Hazard and Modified Dune Hazard Reports

" * *

"3. *Dune Hazards Report*

> ***"The Dune Hazards Report shall include the results of a preliminary site investigation and where recommended in the preliminary report, a detailed site investigation."***

APPLICANTS COMMENT:

The West Consultants' Technical Memorandum, (Exhibit F), contains a preliminary site investigation, a preliminary site report, and a detailed site investigation with summary findings and conclusion. Based on the above, the above-mentioned report contains all of the relevant and application evidence to comply with these criteria.

2. Article IX - Amendment

TCLUO SECTION 9.030: TEXT AMENDMENT PROCEDURE

"(1) A COMPREHENSIVE PLAN TEXT or ORDINANCE AMENDMENT may be requested by any person, subject to the requirements of a Type IV procedure and Article 10. The proponent of COMPREHENSIVE PLAN or ORDINANCE AMENDMENT shall arrange a pre-application conference with the Department, pursuant to Section 10.030."

APPLICANTS COMMENT:

The Applicants are requesting a quasi-judicial plan amendment in the nature of a precautionary goal exception for specific properties. The request is not for an amendment applicable county-wide. Consequently, the proposal is not a Type IV legislative plan amendment. Rather, Table 10.1 Review Procedures Summary indicates the proposal is to be subject to the requirements of a Type III procedure. A preapplication conference was conducted with the County on July 30, 2019. This standard is met.

"(2) The applicant or, if County initiated, the Department shall prepare an analysis of the proposed AMENDMENT, addressing such issues as the intent of the provisions being amended; the affect on land use patterns in the County; the affect on the productivity of resource lands in the County; administration and enforcement; and the benefits or costs to Departmental resources resulting from the proposed text."

APPLICANTS COMMENT:

The purpose of the exception to Goal 18 Implementation Measure 5 is to allow the county to approve the requested beachfront protective structure at a location that all evidence at the time of development, would never be necessary, but is now necessary to protect nearly built-out subdivisions, established public water and sewer facilities, and street infrastructure. The proposal will not have any effect on land use patterns in the County and will only protect existing development and infrastructure in the identified location. As the evidence in the record and in this narrative demonstrates, the requested BPS location is not on, adjacent to or near any resource land. Consequently, approval of the proposal will not affect the productivity of such lands. The monitoring and maintenance of the proposed beachfront protective structure will be borne by the residents, who will be the ones who suffer the adverse impacts if such monitoring and maintenance is not carried out throughout the life of the structure. There should be no continuing costs to the county following the cost of reviewing and approving the application, for which the Applicants are paying application fees. Among others, a benefit to the County

generally is that the beachfront protective structure will also protect existing urban public facilities. The proposal satisfies this standard.

> ***"(3) Criteria. Commission review and recommendation, and Board approval, of an ordinance amending the Zoning Map, Development Code or Comprehensive Plan shall be based on all of the following criteria:***
>
> > ***"(a) If the proposal involves an amendment to the Comprehensive Plan, the amendment must be consistent with the Statewide Planning Goals and relevant Oregon Administrative Rules;***
> >
> > ***"(b) The proposal must be consistent with the Comprehensive Plan. (The Comprehensive Plan may be amended concurrently with proposed changes in zoning);***
> >
> > ***"(c) The Board must find the proposal to be in the public interest with regard to community conditions; the proposal either responds to changes in the community, or it corrects a mistake or inconsistency in the subject plan or ordinance; and***
> >
> > ***"(d) The amendment must conform to Section 9.040 Transportations Planning Rule Compliance."***

APPLICANTS COMMENT:

(a) The application narrative, in Section VIII.B above, and supporting evidence, demonstrate that the proposed exception is consistent with the Statewide Planning Goals and relevant Oregon Administrative Rules.

(b) The application narrative, in Section VIII.C above, and supporting evidence, demonstrates that the proposal is consistent with the Comprehensive Plan. The application is requesting an exception to Statewide Planning Goal 18 Implementation Measure 5, which must be made part of the Comprehensive Plan as permitted by this standard.

(c) It is in the public interest to protect this subdivision, which is part of a larger urban residential area between Camp Magruder and Rockaway Beach, as well to protect the water and sewer public facilities that serves that greater community and supporting street system. The proposal responds to natural changes in the community that were contrary to the 70-year trend of shoreline prograding that existed at the time of residential development.

(d) As discussed immediately below, the amendment is consistent with Section 9.040.

TCLUO SECTION 9.040: TRANSPORTATION PLANNING RULE COMPLIANCE

"Proposals to amend the Comprehensive Plan, Zoning Map or Ordinance shall be reviewed to determine whether they significantly affect a transportation facility pursuant with Oregon Administrative Rule (OAR) 660-012-0060 (Transportation Planning Rule - TPR). Where the County, in consultation with the applicable roadway authority, finds that a proposed amendment would have a significant affect on a transportation facility, the County shall work with the roadway authority and applicant to modify the request or mitigate the impacts in accordance with the TPR and applicable law."

APPLICANTS COMMENT:

As discussed in the response to Goal 12 and 14 above, the proposal will not generate any additional traffic other than during construction, when construction traffic will be minimal. Consequently, the proposal will not significantly affect a transportation facility as that term is defined and used in OAR 660-012-0060. Therefore, the provisions of the Goal 12 Rule are not triggered, and the proposal is consistent with the transportation planning rule.

IX. CONCLUSION

This application has been submitted in accordance with the Tillamook County Land Use Ordinance, which authorizes shoreline protection as of right in the circumstances described here. The County code also authorizes an exception to Goal 18 Implementation Measure 5 to allow a beachfront protective structure and such exception is also sought as a precaution. The requested protective structure is proposed to protect the oceanfront lots of the Pine Beach Subdivision and the five oceanfront lots immediately to the north, from the recent shoreline erosion that reversed a 70-year trend of shoreline prograding. If approved, this request will allow placement of the proposed beachfront protective structure within an active eroding foredune approximately 10 feet landward of the existing vegetation line and within the rear yards of the subject properties.

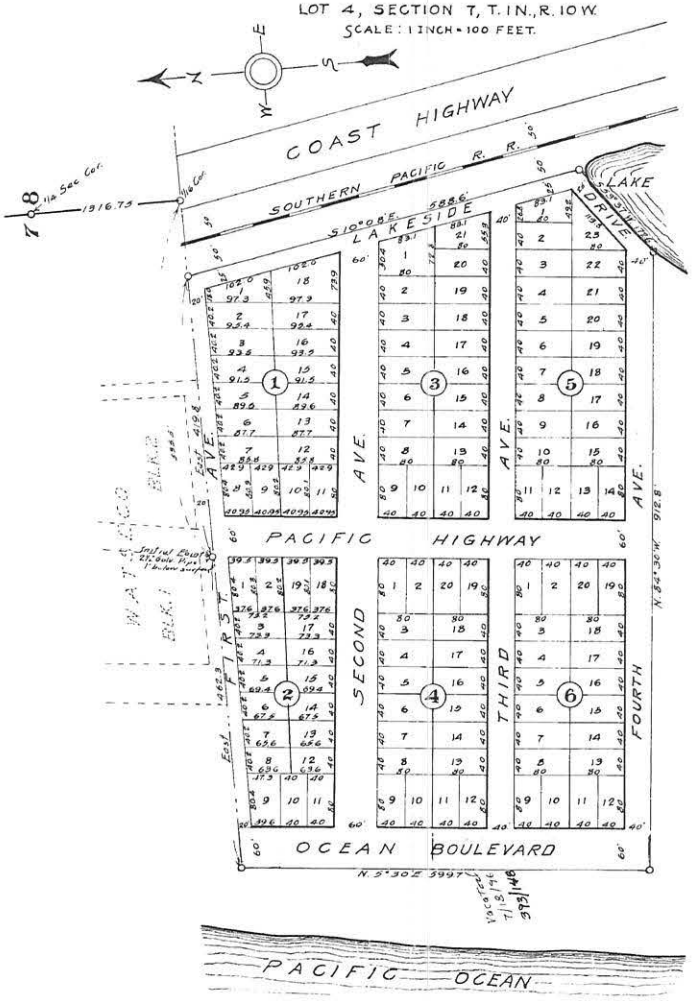
This application narrative and the evidence entered in the record demonstrates that the proposal satisfies all of the relevant Tillamook County land use regulations as well as the requirements established by state statutes and administrative rules for taking a committed exception and taking a reasons exception, and for the establishment of a beachfront protective structure. For the above reasons, the County should approve the requested protective structure as of right and in the alternative also approve the requested exception to Statewide Planning Goal 18 Implementation Measure 5 and the development application for a beachfront protective structure. Thank you.

List of Exhibits:

Exhibit A – Map Subject Properties
Exhibit B – 1934 Pine Beach Plat
Exhibit C – 1950 George Shand Tracts Plat
Exhibit D – Tax Lot 2900 Building Permit Documents
Exhibit E – Goal 18 Focus Group Final Report 2019
Exhibit F – West Consultants Technical Memorandum
    Attachment 1 – January 17, 2020 and January 30, 2021 Field Photos
    Attachment 2 – Construction Plans
Exhibit G – 1994 Staff Report Pine Beach Replat Subdivision and Replat
Exhibit H – 1994 Pine Beach Replat Subdivision Dunes Hazard Report
Exhibit I – County Comprehensive Plan Goal 18 Maps
Exhibit J – Google Earth Historic Aerial Imagery
Exhibit K – County Zoning Map Subject Properties
Exhibit L – Tax Lot 3000 Materials
Exhibit M – Tax Lot 3100 Materials
Exhibit N – Tax Lot 3104 Materials
Exhibit O – Tax Lot 3203 Materials
Exhibit P – Tax Lot 3024 Materials
Exhibit Q – County Tax Maps 1N10W07DA and 1N10W07DD
Exhibit R – Proposed Exception Area and Adjacent Lands Map
Exhibit S – County Vicinity Zoning Map
Exhibit T – Barview/Watseco/Twin Rocks Community Plan
Exhibit U – County Assessor Reports Subject Properties
Exhibit V – Public Water and Sewer Acknowledgment Tax Lot 3100

Subject Properties

PLAT OF
PINE BEACH
SITUATED IN
LOT 4, SECTION 7, T. 1 N., R. 10 W.
SCALE: 1 INCH = 100 FEET.



DEDICATION

Know all men by these presents that we A. E. Jackson and Elizabeth L. Jackson, his wife, are the owners of Lot 4, Section 7, T. 1 N. R. 10 W. W. M. that we have caused such portions of the same to be surveyed and sub-divided into streets avenues boulevards, lots and blocks as appear on the following description, to wit:

Beginning at the Initial Point, marked by a copper nail set in cement on the top of a galvanized iron pipe, 2½ inches in diameter and 3 feet long, driven one foot below the surface and located 1316.75 feet South and 535.5 West of the quarter section corner between Section 7 and 8 T. 1 N. R. 10 W. W.M. thence East 19.8 feet; thence S 10° 08' E. 588.6 feet; thence S. 53° 37' W. 112.6 feet; thence N. 84° 30' W. 912.8 feet; thence N 5° 30' E. 599.7 feet; thence East 462.3 feet to the Initial Point.

We caused said lots, blocks, streets and avenues to be laid out as hereon marked and dedicated and we hereby dedicate the same said map and plat and the same said streets and avenues as hereon marked out on said map and plat and named as streets and avenues to be used for and for public highway purposes.

A. E. Jackson
Elizabeth L. Jackson

ACKNOWLEDGMENT

State of Oregon
County of Multnomah

This Certifies that on this 21st day of June, 1932 before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named A. E. Jackson and Elizabeth L. Jackson, his wife, who are known to me to be the identical individuals described in and who executed the within instrument and acknowledged to me that they executed the same as their free act and deed for the uses and purposes therein expressed.

In Testimony Whereof I have hereunto set my hand and notarial seal the day and year last above written.

Vivian Browning
Notary Public for Oregon
My Commission expires Jan 22, 1934

(SEAL)

SURVEYOR'S CERTIFICATE

State of Oregon
County of Multnomah

I, P. E. Jackson, a Registered Professional Engineer of the State of Oregon, being first duly sworn, depose and say that I have correctly surveyed the land embraced in the Plat of Pine Beach; that the survey thereof is accurately delineated on the map hereon shown; that proper monuments have been placed and that a copper nail set in the top of a galvanized iron pipe 2½ inches in diameter and three feet long, driven one foot below the surface, marks the initial point of survey.

P. E. Jackson - Registered Professional Engineer No. 412

Subscribed and sworn to before me this 21st day of June 1932.

Vivian Browning
Notary Public for Oregon
My Commission expires Jan 22-1934

(SEAL)

Approved and accepted by the County Court of Tillamook County this 6th day of July 1932:

H. T. Betts ... County Judge
E. E. Lindsey ... County Commissioner
H. L. Crowe ... County Commissioner

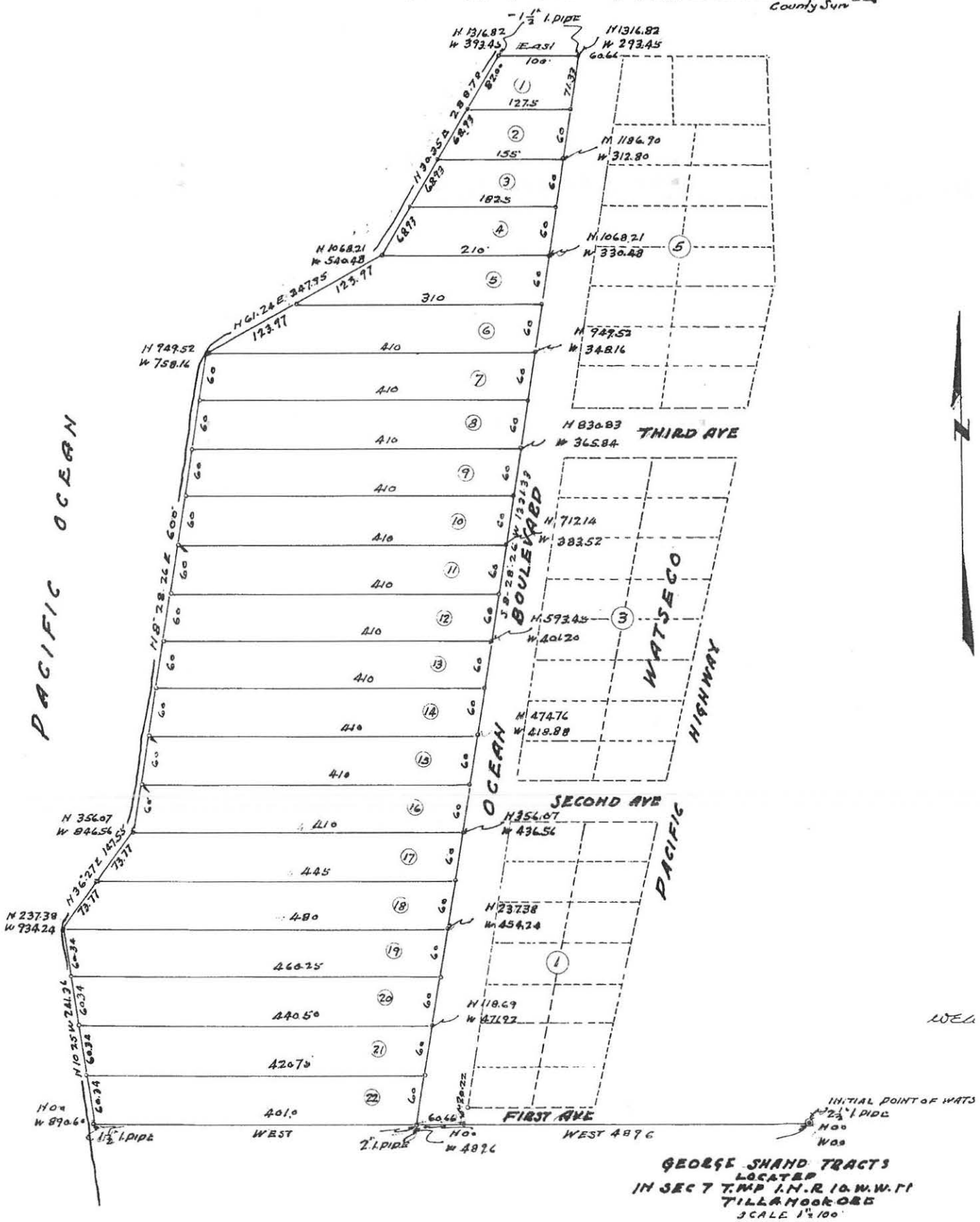
Approved: W. C. Anderson ... County Surveyor
Approved: J. C. Holden ... County Sheriff
Approved: C. M. Hall ... County Assessor
Attest: N. S. Brimhall ... County Clerk

C-11

SURVEYOR'S CERTIFICATE

I, W. E. Anderson County Surveyor of Tillamook Oregon do hereby certify that this map was made from notes taken during an actual survey made by me in Oct. 1959. and that it correctly represents the property herein shown

County Surv WEA



GEORGE SHAND TRACTS
LOCATED
IN SEC 7 T. 1 S. R 10 W.W. M.
TILLAMOOK ORE
SCALE 1" = 100'
W. E. ANDERSON

WEA

A/444

EXHIBIT D
Page 1 of 1

STATE REGISTRATION No. owner

Receipt No. 2933
Zone R-2
Fire Zone 3
Occupancy I
Class ~~X~~ V
Type of Building Jail

TILLAMOOK COUNTY BUILDING DEPARTMENT
Court House, Tillamook, Oregon 97141
Room 9 -:- Phone 842-6202

NEW STRUCTURE

(Residence) ..... Plex ..... Apartment

No. Families: 1
No. Rooms: 6 Bd

Permit No. 3075
C. T. .....
Sec. 7 DA T. 1N R. 10 on
Construction Cost 145,000.00 ~~28,500.00~~
Permit Fee ~~199.00~~ 24 - I.
Plan Check Fee check

APPLICANT MUST FILL IN FROM HERE DOWN TO HEAVY LINE, PRINT IN INK, AND SUBMIT IN TRIPLICATE. TWO (2) COMPLETE SETS OF PLANS MUST ACCOMPANY EACH APPLICATION.

Application is hereby made to erect a (Building) ~~Structure~~ 17570 Ocean according to plans and specifications and descriptions as given below. The work which is to be done under this permit covers (Excavation) Construction X. Put an X in space following work to be done.

Number and Street Watseco Between Southside of and Trailer Court

Tax Lot 2900 Section 445' Lot ..... Block ..... Addition .....

Size of Lot Is 60' x ~~560~~ 445'; Size of Building Is 28', Garage ~~50'~~ 60'

Construction — Frame X Brick ..... Concrete Block ..... Fireproof Steel Frame ..... Fireproof Concrete .....
(Put an X in space following kind of construction.)

Number of Stories 2 Height in Feet 28'

Occupancy or Use — Basement GARAGE First Story LIVING Second LIVING Third ..... Attic

Sewage Disposal Method SEPTIC TANK Source Water Supply WATSECO WATER

Entire work when completed will cost, including labor and materials:

Building $ ..... Plumbing $ ..... Wiring $ ..... Total $ ~~45,000.00~~ ~~28,500.00~~

Plans and specifications made by RUDOLF KLUCAR accompany this application

Recorded Owner FRANK X. LENARD Address 1600 N.W SPRING ~~Phone~~ E RD PORTLAND

Builder OWNER Address ..... Phone 645-1666

Driveway Permit .....

LOT PROVIDES

Area of Lot	60' x 445'
Front Yard	20'
Side Yard L.	18'
Side Yard R.	5'
Rear Yard	331'

PLOT PLAN OR DESCRIPTION

Any work not mentioned not included in Permit

I agree to build according to above description, plans and specifications and the Uniform Building Code as adopted by Tillamook County. I have been informed of my responsibility regarding free passage of surface drainage and/or diversion of waters.

Framing Lumber Grade
Construction ..... No. 1 .....
Standard ..... No. 2 .....
Utility ..... No. 3 .....

LOCAL WIRING RULES MUST BE OBSERVED
CONTACT TILLAMOOK P. U. D. 842-2535
EXISTING 5/5

PERMIT GOOD FOR ONE YEAR

Applicant Frank X Lenard

County Planning & Zoning	County Health Dept.	Plans Checked by Plan Ex	Fire Marshal	Permit Issued
County Dave Herbert	X Approved ..... Denied	..... Approved ..... Denied		
	By Herbert R.S.	By	By	By [signature]
Date 20 May 1974	Date 20 May 1974	Date	Date	Date 5-20-74

Application Received: **NOTICE: Application must be kept on premises until completion.**

By N. Larson Date 5-20-74

ALL CONSTRUCTION MUST CONFORM TO UNIFORM BUILDING CODE

COAST PRINTING

Goal 18: Pre-1977 Development Focus Group

FINAL REPORT

To the Oregon Department of Land Conservation & Development

September 2019

OREGON
Department of
Land Conservation
& Development

OCMP
Oregon Coastal
Management Program

Contents

List of Acronyms and Abbreviations

BPS	Beachfront Protective Structure
DLCD	Oregon Department of Land Conservation and Development
Goal 18, IR#5	Statewide Planning Goal 18: Beaches & Dunes, Implementation Requirement #5
LCDC	Land Conservation and Development Commission
LUBA	Land Use Board of Appeals
ODOT	Oregon Department of Transportation
OPRD	Oregon Parks and Recreation Department
SLR	Sea Level Rise

Focus Group Overview

The Department of Land Conservation & Development (DLCD) initiated a focus group of stakeholders **to review the equity and consistency of the application of Statewide Planning Goal 18: Beaches and Dunes, Implementation Requirement #5.** This provision of the Goal relates specifically to shoreline armoring requirements.

Oregon Statewide Planning Goal 18, Beaches and Dunes (OAR 660-015-0010) limits the issuance of permits for beachfront protective structures (BPS)* to areas where development existed on January 1, 1977. Development is defined as:

- Houses, commercial and industrial buildings;
- Vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lot; or
- Areas where an exception to Goal 18 Implementation Requirement #2 has been approved.

**Note: Shoreline armoring = beachfront protective structures (these terms are used interchangeably, but neither are defined in statute or rule).*

The focus group was charged with addressing the specific implementation provisions of Goal 18 related to shoreline armoring identified by the department (*see below*). The group did not address other provisions of Goal 18, nor was it their purpose to debate the fundamental, date-based limitation on shoreline armoring established in Goal 18.

Focus group participants represented various interests and expertise related to this topic, including state agencies, non-profit groups, local planners, private property interests, coastal erosion specialists and others. Members were identified by DLCD staff and invited to participate. They are listed below.

Name	Affiliation
Carrie Landrum	Aquatic Resource Coordinator, Oregon Dept. of State Lands
Charlie Plybon	Oregon Policy Manager, Surfrider Foundation
Chris Laity	Director, Tillamook County Public Works
David Phillips	Land Use Attorney, Vial Fotheringham LLP
Doug Gless	Engineering Geologist, HG Schlicker & Associates, Inc.
Geoff Crook	Sustainability Program Manager, Oregon Dept. of Transportation
Jay Sennewald	Ocean Shores Coordinator, Oregon State Parks and Recreation Dept.
Jonathan Allan	Coastal Geomorphologist, Oregon Dept. of Geology and Mineral Industries
Kris Wall	West Coast Regional Coastal Management Specialist, NOAA Office for Coastal Management
Onno Husing	Director, Lincoln County Planning Dept.
Scott Marion	Marine Habitat Project Leader, Oregon Dept. of Fish and Wildlife
Steven Dundas	Assistant Professor, Department of Applied Economics, OSU
Terri Michel	Manager, City of Rockaway Beach

Timeline: The group met in Newport, OR a total of six times starting in January 2019 and ending in August 2019. Members were given the option to participate in meetings remotely if needed.

Staffing: The focus group was staffed and led by the Coastal Shores Specialist, with assistance from the Coastal Policy Specialist. Facilitation and meeting support was provided by Oregon Sea Grant. Other DLCD staff were consulted as needed, including the Policy Team.

Output: The Goal 18: Pre-1977 Development Focus Group provided input and feedback to DLCD on each of the four topics identified by DLCD (*see below*); that feedback is summarized in this report. DLCD will consider this input in reaching decisions on whether and how to move forward with any proposed changes to Goal 18. If DLCD decides to move forward with rulemaking or goal amendments, the public will have the opportunity to be fully involved in those processes.

Public Participation: All meetings of the focus group were advertised on the DLCD website and via an interested parties email list. All meetings were open to the public and an opportunity to give public comment was provided at a specified time during each meeting. Members of the public were also welcome to submit written comments electronically to dlcd.goal18@state.or.us or meg.reed@state.or.us. All submitted comments were made available to focus group members for their consideration, and any public comments within the purview of the focus group's charge were considered. A summary of the major points conveyed through public comments are included in the "Public Comments" section of this report. A compilation of all written comments submitted to the group can be found in the Appendix. Public comments were accepted until September 30, 2019.

Public Comment: There was a committed group of citizens that attended the meetings. DLCD and the focus group members would like to thank them for their time and interest in the group and for being respectful and patient throughout the process. Those individuals who attended had specific concerns about the application of Goal 18 and the protection of their private property from erosion hazards. The attendees represented the views of a specific segment of stakeholders affected by potential changes to Oregon's coastal land use planning goals. While most of the comments received were outside of this focus group's charge, DLCD may want to consider their concerns in the future.

Concepts reviewed by the Focus Group:

1. *Concept #1: Beachfront Protective Structures Definition:* Implementation Requirement #5 outlines where beachfront protective structures (BPS) can be placed along the Oregon coast, but does not define "beachfront protective structure." Currently, what is and is not a BPS is determined on case-by-case basis by local jurisdictions and OPRD. This concept evaluated whether to add a definition for this term and how that might be accomplished.

2. *Concept #2: Pre-1977 Public Infrastructure:* Currently, public infrastructure (e.g. roads, utility lines and facilities) is not included in the definition of development eligible for shoreline armoring under Goal 18. Protecting public assets from coastal erosion through armoring requires an exception to Goal 18. This concept evaluated alternative approaches to address armoring for the purpose of protecting public infrastructure developed prior to January 1, 1977.
3. *Concept #3: Small In-fill Parcels:* Currently, the definition of development in Goal 18 includes vacant subdivision lots which were physically improved through construction of streets and provision of utilities to the lot (as of January 1, 1977) as eligible for shoreline armoring. It does not include vacant parcels that were similarly committed to development prior to 1977 but that were not created by statutory subdivision. This concept evaluated potential alternatives for addressing armoring issues associated with these parcels, either through Goal 18 or other mechanisms.
4. *Concept #4: Mitigation and alternatives to shoreline armoring:* This is a broad-based concept meant for brainstorming and discussion, the results of which may inform DLCD staff work programs or priorities. Goal 18, implementation requirement #5 outlines what development is eligible for shoreline armoring. However, it does not address strict requirements for siting oceanfront development, nor many alternative options for development that cannot armor. This has implications for both existing (post-1977) and future oceanfront development. This concept looked at some options (such as increased land use regulations and managed retreat) to reduce the need for shoreline armoring along the Oregon coast or to mitigate the impacts of erosion on development.

With the adoption of the coastal goals in 1977, LCDC established one of the foundational policies for the management of Oregon's ocean shore recreation area, namely that beach armoring for the protection of new shoreline development would be prohibited. A provision was provided in the policy to allow armoring to protect existing development (i.e. development that occurred before implementation of this prohibition). This was based on the rationale that prior siting and development decisions made without knowledge of this policy should be effectively "grandfathered" for purposes of shoreline armoring.

Consideration of changes to Oregon's core policy of prohibiting shoreline armoring for new development would require a major policy discussion involving an extensive group of stakeholders and the public. Ultimately, it would encompass revisiting the basic premise of the 1977 limit on shoreline armoring: the primacy of public over private interests in protecting Oregon's beaches. This is a policy discussion that is far beyond the scope and purpose of the Goal 18: Pre-1977 Development Focus Group.

Focus Group Concepts

This report is formatted to follow the four main concepts covered at the focus group meetings. For each meeting, there is a synopsis of the concept discussed and the key discussion points for DLCD's consideration. The focus group was not tasked with identifying consensus-driven recommendations, so the report shows their considerations and feedback. Some topics were discussed at multiple meetings, so this report reflects any discussion that occurred on a given topic. A summary of main takeaways from all four concepts is provided at the end of the report.

1 – Beachfront Protective Structures Definition

Overview:

Goal 18, Implementation Requirement #5 outlines where beachfront protective structures (BPS) can be placed along the Oregon coast, but does not define "beachfront protective structure." Alternative strategies for shoreline protection (including cobble revetments) can be a grey area for regulators trying to decide what a beachfront protective structure is versus what is not regulated by the goal. There is a definition for "riprap" and "structure" in the Definitions section of Oregon's Statewide Planning Goals, and there is a definition for "improvement/ alteration" in the Definition section of OAR 736, Division 20, but there is no definition for the term "beachfront protective structure." The term has also never been litigated. Currently, what is and is not a BPS is determined on case-by-case basis by local jurisdictions and OPRD.

During this meeting, focus group members explored the difference between structural and dynamic erosion control treatments and what typical examples of those treatments look like (e.g. sand re-nourishment, seawalls, breakwaters, riprap, sand burritos, etc.). They discussed verbiage for a potential definition for BPS that contained both a conceptual definition and also a list of examples. Goal 18 doesn't prohibit all types of shorefront protection, but does prohibit the use of "structures." Additionally, the legal processes/options for creating a definition for BPS were discussed: goal amendment, rule creation (Goal 18 currently doesn't have any administrative rules); rule amendment through OPRD's OAR 736, Division 20 rules; or status quo.

Policy Options Discussed

- Overall, most focus group members agreed that having a definition for BPS would be beneficial and would like to see a definition created; however, most members did not think initiating a process (whether goal amendment or rule-making) only to add a definition for BPS was worth the effort unless it was packaged with other changes and could be done at the same time. Status quo (no definition) works in most cases currently.
- If a definition were pursued through a goal amendment, an alternative term could be explored – "beachfront protective structure" is not necessarily an accurate term.
- There were split preferences on the preferred method for creating a definition between a goal amendment approach or rule-making through OPRD's existing rules.
- DLCD, with the help of other experts, could put together a guidance document of typical erosion control treatment options and whether they are considered a structure (and therefore allowed only on eligible properties) or non-structural (and would be allowed on non-eligible properties). This would assist regulators, property owners, and public entities in understanding the most common erosion control treatment options in Oregon and how they are regulated.
- The group reviewed sample BPS definitions. This is a suggested definition for BPS based on group discussions:

> ***Beachfront Protective Structure*** *– A static structure that is intended to remain in a fixed position with the purpose of redirecting wave energy and to minimize or eliminate coastal erosion risk to development. BPS are purposefully constructed and intended to maintain that form over time. This includes, but is not limited to, rip-rap revetments, seawalls, groins, breakwaters, jetties, bulkheads, geotextile sandbags, sand burritos, gabions, and concrete or mortar reinforcement such as shotcrete. Beachfront protective structures do not include dynamic treatments such as sand nourishment, cobble revetments, and similar non-structural or non-fixed erosion mitigation measures.*

This definition does not reflect the preferences of all focus group members, but is a result of many of the major points that came from the group's discussion. If a process was pursued to create a definition for BPS, more input and discussion should be included in the final verbiage of that definition.

Benefits: There would be a definition, which would provide clarity to practitioners, regulators, and homeowners. Having a definition may allow for innovation in non-structural approaches to mitigate erosion risk.

Challenges: The mechanism for creating a definition will be challenging no matter the approach (rulemaking or goal amendment) because of the resources and capacity needed to bring forward.

Feasibility: Not feasible at this time on its own, but could be incorporated into other processes if pursued at the same time.

Next steps: If a Goal 18 amendment or rulemaking is pursued in the future, a definition for *Beachfront Protective Structure* should be included in that process. However, it is not a priority to initiate an amendment or rulemaking solely for the purpose of creating a definition for BPS.
DLCD, with the help of other experts, could put together a guidance document of typical erosion control treatment options and whether they are considered a structure (and therefore allowed only on eligible properties) or non-structural (and would be allowed on non-eligible properties) by practitioners. This would assist regulators, property owners, and public entities in understanding the most common erosion control treatment options in Oregon and how they are regulated. It is especially important to include where dynamic revetments can and cannot be placed in relation to goal 18 "eligibility."

2 – Pre-1977 Public Infrastructure

Overview:

This meeting addressed pre-1977 public infrastructure. Currently, public infrastructure (e.g. roads, utility lines and facilities) is not included in the definition of development eligible for shoreline armoring under Goal 18. Protecting public assets from coastal erosion through armoring requires an exception to Goal 18. This meeting and concept focused on exploring and evaluating whether to include public infrastructure developed prior to January 1, 1977 in the definition of development in Goal 18. Examples of public assets prone to erosion along the oceanfront include: roads, water/sewer lines, wastewater facilities, stormwater outfalls, parks, lighthouses, campgrounds, and waysides.

Assembling digital data that reflects the development status of various public infrastructure assets in 1977 is very difficult. DLCD staff did a preliminary data analysis prior to this meeting comparing aerial photographs from 1967 and 1977 images. Staff were also able to assemble modern data for transportation, utilities (some, not all), and recreation/tourism. A more thorough investigation would be warranted if this concept were to be pursued further, in order to get a better sense of the scope of this particular topic.

ODOT gave a presentation on the history of Highway 101, where it is vulnerable, and current protection options. There are other state highways in the coastal zone, however US 101 is the highway with most exposure to coastal hazards and subject to Goal 18 on the open coast. ODOT has identified 27 vulnerable areas, with a wide range of sites and conditions (i.e. different reasons for erosion). The vulnerable areas average 0.7mi in length, and cover roughly 19 highway miles total, which is about 5% of 101 in Oregon. ODOT has also completed several relevant coastal resilience studies, including a climate vulnerability assessment, a nature-based resilience pilot project in Lincoln County, and a sea level rise exposure analysis in the estuaries, to help them assess assets at risk from multiple natural hazards.

Focus group members from Lincoln County, Tillamook County, Rockaway Beach, and State Parks also gave a high level assessment to the rest of the group about local assets that are at risk of coastal erosion and whether shoreline armoring would be helpful in those cases or not. The main points conveyed by these members were that 1) beach access points are likely the most vulnerable local public infrastructure assets to coastal erosion, and that 2) shoreline armoring, even if allowed, would likely be a last resort for any at-risk infrastructure assets. Retreat or other alternatives would be looked at first for most of these areas. The takeaway is that Highway 101 appears to be the public asset most at risk from coastal erosion that might benefit from shoreline armoring in some instances.

The group also discussed the 2002 Goal 18 amendment attempt to include Highway 101 in the definition of development eligible for shoreline armoring. This process was initiated by ODOT to DLCD and included narrow segments only, about 19 miles of shoreline total. This proposal went through the goal amendment process, including 11 hearings, most of which were held on the

coast. Public testimony gathered throughout the hearings process wasn't very extensive, until the final hearing before LCDC (Land Conservation and Development Commission). Then there was a large outpouring of comments, largely opposed to protecting Highway 101. Interest groups and citizens argued for the status quo: that the exceptions process should be followed for protecting Highway 101. Cities and counties argued that their public infrastructure assets should also be included in the amendment: if a state highway is considered development, then all roads/infrastructure should be included as development if built pre-1977. The testimony focused on the legal argument between private property treatment and public assets. ODOT ultimately withdrew the amendment proposal.

Policy Options Discussed

2.1 Status Quo: Goal exceptions are completed on a project-by-project basis, with the decision made by the local government as a plan amendment. These decisions go to a hearing in front of the planning commission and then final hearing by the governing body. Decisions can be appealed to LUBA (Land Use Board of Appeals). The focus group talked at length about existing approaches that have been underutilized. ODOT has used exceptions for other goals.

Benefits: This approach already exists and would require no changes to rules or the goal. Goal exceptions process might work best for local public infrastructure protection due to the localized nature of the process (project-by-project approach). Any entity can pursue this option now.

Challenges:

- This is not a state-wide or streamlined approach and would be cumbersome for an entity like ODOT to attempt this through each local jurisdiction. From ODOT's perspective, goal exceptions would be very expensive and highly redundant.
- Goal exceptions take time; not a good solution for an immediate erosion problem.
- While this is an existing tool, this process has never been tried for this particular issue (G18, IR#5). There is a perception that it is very difficult to attempt this approach, which is why it has never been tried.
- Focusing on goal exceptions can undermine the original intent of the goal, which is to protect the resource and the function of the coastal ecosystem. Goal exceptions are not a comprehensive approach to dealing with the impacts of coastal erosion.

Feasibility: The local goal exceptions process is feasible for local jurisdiction public infrastructure if needed, less feasible for ODOT. The time and resources for ODOT to support this effort are limited on a coast-wide scale.

Next steps: Find out 1) the approximate cost of a goal amendment vs. a goal exception; and 2) the risk to all public infrastructure assets subject to Goal 18. Seek institutional help from

DLCD to help explain the local goal exception process more thoroughly to local governments and other entities looking to pursue this option.

2.2 Goal 18 Amendment: Amending Goal 18 to include pre-1977 public infrastructure, such as Highway 101, in the definition of development. To complete a goal amendment, the directive would need to be included in DLCD's policy agenda. The process includes 10 public hearings and a final hearing and adoption with LCDC.

Benefits: An amendment would be a more comprehensive state-wide approach. If a comprehensive analysis of what public/critical infrastructure is at risk from erosion can be completed, then a goal amendment may be justified based on the results. A goal amendment may work best for protecting critical infrastructure, but what is meant by "critical infrastructure" still needs to be defined.

Challenges: A goal amendment is a lengthy, resource-intensive process. The previous goal amendment effort was unsuccessful in 2002, and the group does not know whether the outcome would be different now. Nothing significant has changed since then in terms of public perception. However, there have been changes in other areas: the beach has seen increased erosion and impacts to development from erosion since 2002. There also wasn't a robust public process before that previous attempt. This focus group is helping to bring transparency to these deliberations.

Feasibility: A goal amendment to address public infrastructure is not seen as feasible at this time.

Next steps:
See 2.4 Research Needs

2.3 Rulemaking for Chapter 660, Division 4: OAR 660-004-0022 provides a list of reasons necessary to justify a goal exception. Specific reasons are set forth for certain identified goal requirements and uses; the rules provide set parameters for meeting the "reasons test." Examples: Goal 18, foredune development prohibition (implementation requirement 2); foredune breaching (implementation requirement 6).
Option: Add specific reasons for a goal exception to Goal 18, implementation requirement 5. There is nothing in the rules right now for this provision. This may be an option for making the local goal exception process more clear for specific issues related to G18 IR#5, such as pre-1977 public (critical) infrastructure. This option is not specific to Highway 101 only, but could include other public infrastructure assets.

Benefits: This approach would serve as a compromise between the status quo and a goal amendment. A local goal exception would still be needed for a public asset such as Highway 101, but the process would be made clearer through state rules. This process would help

identify instances in which a local exception might be justified (such as to allow Highway 101 to apply for shoreline armoring due to coastal erosion).

Challenges:

- If this option were pursued, DLCD and the rulemaking committee would be faced with the challenge of coming up with clear and specific language to codify in rules how to outline the parameters of this particular issue.
- ODOT would still need to seek goal exceptions for each jurisdiction in which Highway 101 is vulnerable and where the best option is potentially an armoring option.
- Defining "critical infrastructure" to include in this option.

Feasibility: Rulemaking for Division 4 is a feasible option.

Next steps: DLCD would include this option in the department's policy agenda and then initiate a rulemaking process. The standard rulemaking process would apply: rules advisory committee, one public hearing in the affected region, final hearing and adoption by LCDC. DLCD should check in with other cities and counties along the coast to see if their public works departments have policies or preferences regarding assets that are subject to coastal erosion and whether they consider structural armoring as a necessary strategy.

2.4 Research Needs: This list summarizes information the group felt is still needed related to all the policy options discussed under Concept #2. It has been categorized by priority:

- *Tier 1:* Develop an inventory of critical infrastructure along the Oregon coast that may or may not need shoreline armoring. Within that inventory, identify the hazard (erosion, flooding, or landslide), the best mitigation tactic, its vulnerability to failure, the land uses nearby, and development date (pre- or post-1977).
- *Tier 2:* Research additional information related to public/critical infrastructure (including Highway 101):
    - Identify coastal areas with the highest potential for a goal exception
    - What is the value of the infrastructure at risk from coastal erosion along the oceanfront, and what are the economic impacts if the infrastructure fails?
    - Costs to relocate the highway and other alternatives to armoring
    - Cost benefit analysis of specific projects and various policy pathways
    - Determine the costs and impacts to public resources, local economies, cultural resources, tourism, and beach access
- The above information will help to justify (or not) a goal amendment to support the protection of Highway 101 or other public infrastructure assets.
- *Tier 3:* Assess each littoral cell along the Oregon coast:
    - Understand the physical processes that are causing change in those environments
    - Percent armored – identify eligibility and existing armoring patterns. (Steve Dundas, OSU can generate this information now)

- *Tier 4:* Utilize ongoing research (OSU Professor Ruggiero, Envision) to help evaluate tradeoffs between armoring and beach access. What is the public valuation of protection of private property vs. the protection of public infrastructure vs. the protection of the public beach?
- Additional research may inform policy choices (exception vs. amendment). Research universities, such as OSU, can help with this data.

Challenges: ODOT is concerned that this long list of research needs will preclude any forward progress on possible rule making. While more information may be necessary to advance a policy option, all of these research needs put together would be like a coast wide NEPA analysis - defeating the point of a programmatic approach. Goal exceptions would still be required site by site even with the rule making option.

Feasibility: Some research needs can be answered quickly with existing resources, such as through OSU, ODOT, or DLCD. Other questions are dependent upon securing additional resources and appropriate data.

Priorities for Concept #2:

High Priority:

2.3 Rulemaking for Chapter 660, Division 4 - this is doable now, and is low risk
2.4 Research Needs - targeted research will help advance future decisions on the best policy options

Low Priority

2.1 Status Quo (Local Goal Exception) - this option already exists and a jurisdiction or agency could try pursuing this process now; however there are perceived barriers to moving forward
2.2 Goal Amendment - this is not seen as feasible at this time and has high uncertainty in the outcome given the unsuccessful attempt by ODOT in 2002.

Priorities may change based on the results of research. These rankings are reflective of the group's thoughts at the time of this report.

3 - Small In-fill Parcels

Overview:

Currently, the definition of development in Goal 18 includes vacant subdivision lots which were physically improved through construction of streets and provision of utilities to the lot (as of January 1, 1977) as eligible for shoreline armoring. It does not include vacant parcels that were similarly committed to development prior to 1977 but that were not created by statutory subdivision. The result is that, in some cases, isolated ineligible parcels are scattered in between eligible properties in otherwise developed segments of the shoreline. These gaps can make permitting and effective armoring difficult due to the resultant edge effects of isolated structures. Also, in the developed segments of shoreline where these physically improved parcels exist, there is no functional, policy-based distinction between parcels and subdivision lots. Subdivision means the creation of 4 or more lots (divisions of land less than 4 lots would not be a subdivision). The policy intention of including vacant subdivision lots in the definition of development was that these lots tend to be small with limited space for siting structures.

This meeting focused on whether to include small parcels that were vacant but otherwise committed to development in 1977 as eligible for shoreline armoring. These parcels would be similar in size and characteristics to other vacant subdivision lots. Larger tracts of land would have had more siting options and were not considered in this policy concept.

DLCD gave a brief data analysis to help inform the discussion around this topic. The following is a summary of the main points of that analysis:

- The boundaries of the public beach are from extreme low water to the statutory vegetation line or the actual line of vegetation, whichever is further landward. The public beach is a rolling easement; as the beach erodes or accretes, the width of the public beach can change over time. Sometimes the statutory vs. actual line of vegetation can be quite different. A permit for a beachfront protective structure is required from OPRD if the structure is west of the vegetation line, but may not be if the structure is completely landward of that line. However, if and when the structure becomes exposed and is on the public beach due to erosion, the homeowner will have to get a permit from OPRD or remove the structure.
- In many cases, the private landowner still owns the land out on the public beach, but they do not pay taxes on this area. The public beach is a recreational easement.
- What is a small in-fill parcel? Tracts of land that are not part of a subdivision but have the same look and feel: small in size, in an area otherwise committed to development, with utilities and roads to the lot (as of January 1, 1977). Does not include large lots that were subsequently broken up into smaller lots post-1977, and had no services or development nearby prior to 1977. This discussion is limited to the configuration of the parcels on January 1, 1977, and is meant to capture the intent of the original policy.
- Preliminary data:
    - Figure 1 shows eligibility of lots by county that intersect the vegetation line (i.e. are on the oceanfront). This shows all types of lots (did not filter out public lands).

- How much room do you have to move back or build differently? Dark wedges on each circle (Figure 2) represent the percentage of lots (in Lincoln County only) where less than 40% of the lot is east of vegetation line, meaning there may not be much room to move a house backward on the property. Each column shows the percentage of lots in different size categories, with 10,000 square foot lots and under being the smallest category. Most lots fall into this category. There are very few bigger lots. This graph doesn't account for armoring but that data could be added later.

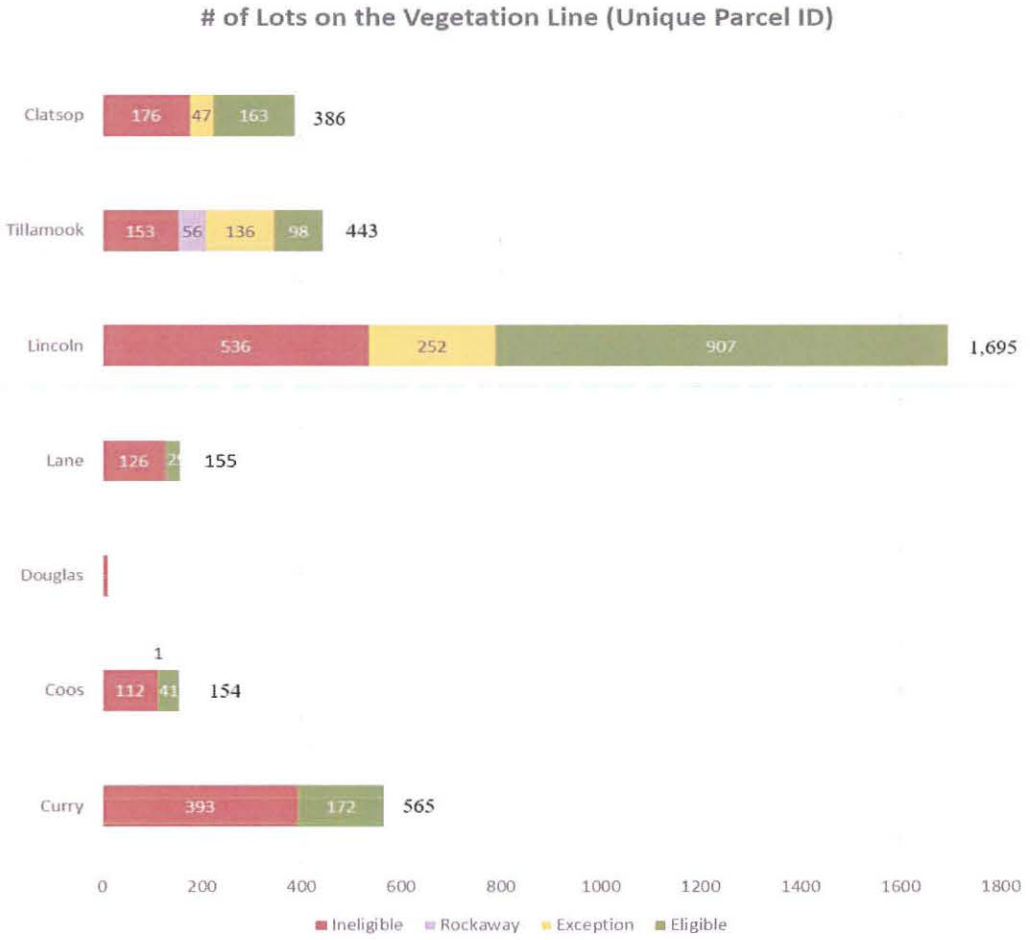


Figure 1: Parcels or lots that intersect the vegetation line and their eligibility status.

Steve Dundas, economics professor at OSU, provided a presentation to the group related to housing values and the impact of the private option to invest in erosion protection, as well as potential policy changes and sea level rise impacts on armoring trends on the Oregon coast. On average, the Goal 18 shoreline armoring eligibility policy does not appear to have an effect on housing values. When the analysis is specific to houses at a lower elevation with eroding beaches, then eligibility increases home value by 13-22% over an ineligible lot. The presence of riprap does not matter, just the ability to protect the home is of value. The more vulnerable the

parcel is to coastal erosion, the more the market values that ability for protection. The second study Professor Dundas shared was about shoreline armoring decision-making (data limited to Tillamook and Lincoln counties). Coastal homeowners respond to their direct neighbors and "learn" from their actions to armor. The key result is that both peer effects and coalition forming appear to determine the likelihood of choosing to armor. Including peer effects in the forecasting model doubles the armoring over the next 40 years. Sea level rise has the potential to increase projected armoring by about 10%. Removal of the Goal 18 eligibility provision with projected SLR results in about 135% increase in armoring. The policy does what it was intended to do and is preventing the proliferation of shoreline armoring on the Oregon coast that would otherwise occur if the policy weren't in place.

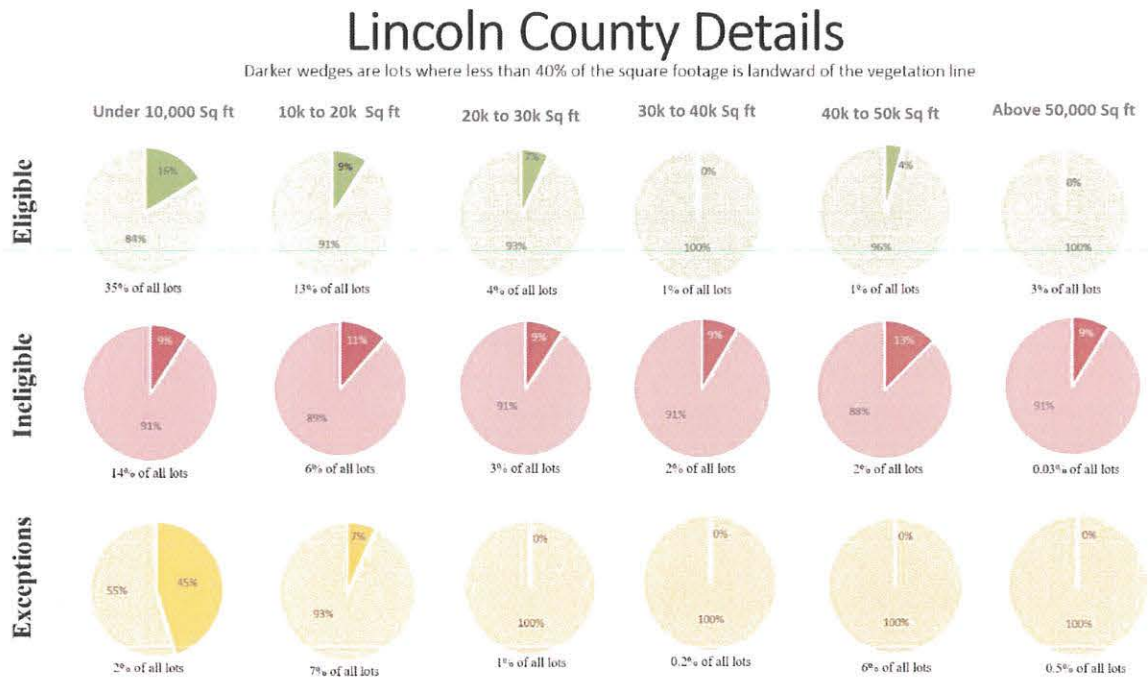


Figure 2: Parcel eligibility status by lot size for Lincoln County.

Summary of group discussion:

Group discussion after the presentations also talked about how to put parameters around a "small" parcel? The concept of a subdivision lot was used as a proxy for size because subdivision lots tend to be small. However, there is no size requirement or limitation for a subdivision lot – some can be quite large, while some metes-and-bounds parcels are quite small. Why are partitions (3 or fewer lots) not included as subdivisions? The only difference is the number of parcels created. This concept is related to the development-ready status of the lot/parcel. Trying to identify parcels in which the development decisions were essentially made already due to size (even if vacant in 1977). We don't have comprehensive data, but generally it is thought that this problem is somewhat confined to Lincoln County, though it may also occur

in Tillamook and Clatsop counties as well. Knowing the scope of this issue may help guide what policy path would be the best one.

Policy Options Discussed

3.1 **Status Quo**: There are three main status quo options for ineligible properties: 1) local "reasons" goal exception (what was discussed at the meeting); 2) dynamic (non-structural) erosion control treatments; 3) re-location/dismantling of structures subject to erosion (discussed at the following meeting).
Goal exceptions are completed on a project-by-project basis, with the decision made by the local government as a plan amendment. A goal exception may include a single property or multiple properties, but the reason for the exception would have to be the same for all. These decisions go to hearing in front of the planning commission and then final hearing by the governing body. Decisions can be appealed to LUBA (Land Use Board of Appeals).

Benefits: This approach already exists, is available now, and would require no changes to rules or the goal. This option has never been tried before for Goal 18, IR#5, so there is no evidence that the process doesn't work. Allows geographic specificity to a particular area, which may help with creating findings. Can do batch exceptions (more than one parcel at a time).

Challenges:
- The process can be onerous for a local jurisdiction and the outcome is uncertain. Because the process has never been tried before, there is a perception that it is too difficult to try (unchartered territory).
- Unclear who can initiate this process.
- There are data gaps (see *Research Needs*).
- There may be a "domino effect" where more people would come forward to get local goal exceptions if some people are granted an exception.

Feasibility: Feasible but difficult for local jurisdictions. Local jurisdictions need more capacity and assistance if they move forward with this.

Next steps:
- DLCD could support local jurisdictions in understanding and implementing the goal exceptions process – whether the process is initiated from a local jurisdiction or from a specific property owner.
    - DLCD could provide a guidance document or case study that outlines the existing rules for how to move forward with a goal exception.
- Local jurisdictions can try this approach for specific cases.

3.2 **Goal 18 Amendment:** Amending the definition of development under Goal 18, IR#5 to include small, vacant infill parcels. To complete a goal amendment, the directive would

need to be included in DLCD's policy agenda. The process includes 10 public hearings and a final hearing and adoption with LCDC.

Benefits: A goal amendment would establish a uniform statewide policy for the treatment of small, infill parcels and create a more comprehensive definition for "development". Including these types of parcels would create more certainty in outcomes from a private property perspective (in terms of protection from coastal erosion).

Challenges:

- Crafting a singular set of parameters that would address the variety of circumstances related to this concept would be challenging (e.g. what is a small parcel? Is a specific size consistent throughout all jurisdictions and environments?).
- Difficult to find balance between specificity and general policy to implement a specific purpose.
    - Sometimes a uniform approach is less flexible and more limiting than anticipated.
- The goal amendment process is resource and time intensive. There is a high bar required to amend a statewide planning goal and the outcome is uncertain.
- This provision could accelerate the presence of shoreline armoring and does not allow for a more geographically-defined approach. A one-size fits all approach might not work best for this particular topic because of the variability of the geography and development practices of the coast.

Feasibility: Low at this time.

Next Steps: See 3.4 Research Needs.

3.3 **Rulemaking for Chapter 660, Division 4**: OAR 660-004-0022 provides a list of reasons necessary to justify a goal exception. Specific reasons are set forth for certain identified goal requirements and uses; the rules provide set parameters for meeting the "reasons test." Examples: Goal 18, foredune development prohibition (implementation requirement 2); foredune breaching (implementation requirement 6).
Option: Add specific reasons for a goal exception to Goal 18, implementation requirement 5. There is nothing in the rules right now for this provision. This may be an option for making the local goal exception process more clear for specific issues related to G18 IR#5, such as vacant and small in-fill parcels that were similar to vacant subdivision lots as of January 1, 1977. Some considerations to specify for this approach: parcel size parameters, and development context. Rulemaking to help establish equal treatment for parcels that are in all other ways the same as an eligible vacant subdivision lot.

Benefits: A specific reason under Division 4 would provide essential guidance to local governments on the exception process related to goal 18 eligibility. Two separate reasons would need to be created for these two proposed concepts (in-fill parcels and public

infrastructure). They could be done at the same time or separately. Through this rulemaking, the process for a goal exception may become more clear or streamlined. It is also an opportunity to align with federal case law (see below).

- This option would still face the challenge of defining the parameters of such an exception and to codify that in rules. Need to try to foresee all the scenarios and unintended consequences. There is a lot of variability in both the planning environment and the geographic landscape.
- With rulemaking, must stay within the context of the goal (cannot change the original intent). This limits what can be accomplish through rulemaking alone.
- Might be risky to link the rulemaking for public infrastructure and small in-fill parcels in the same process. Might be best to keep them separate.

Feasibility: Feasible but difficult.

Next steps:

- The group would like more information about this process (revision to Division 4) and what it might look like.
- Need to define "small in-fill parcels." Creating a blanket definition could be difficult and more restrictive than anticipated, and could lead to equity issues.
- A broader discussion about the legal issues associated with the current definition of development in Goal 18, IR#5 in light of recent related legal decisions.
    - Private property interests on the group believe that the narrow language of IR#5 in Goal 18 does not comply with current Federal Due Process, Equal Protection and Takings case law. Further, a very recent Supreme Court decision in *Knick v. Township of Scott* opens the door to federal courts for landowners denied beachfront protective structure permits as a direct means of relief, rather than LUBA and state courts, thus adding to the urgency for rulemaking (see letter from David Phillips to the Focus Group, dated August 27, 2019).

3.4 **Research Needs:** This list summarizes information the group felt is still needed related to all the policy options discussed under Concept #3. Answers to these questions will help to inform what policy approach to take:

- How many vacant, small, in-fill lots existed on the OR coast as of January 1, 1977? Can this data be compiled? If this concept were to be pursued, what would be the scope? This will determine the magnitude of the issue and the best legal pathway to address it.
- Assess each littoral cell along the Oregon coast:
    - Understand the physical processes that are causing change in those environments
    - Percent armored – identify eligibility and existing armoring patterns. (Steve Dundas, OSU can generate this information now)
    - Look at this information in conjunction with other hazard information such as coastal erosion and sea level rise.

- If parameters can be outlined for what is a "small in-fill" parcel, can use that information to run a policy scenario through existing academic models to see what would be the change in armoring.

Feasibility: Some research needs can be answered quickly with existing resources, such as through OSU, ODOT, or DLCD. Other questions are dependent upon securing additional resources.

Priorities for Concept #3:

High Priority:

3.4 Research Needs - this research is needed to make future decision on the best policy options

3.1 Status Quo (Local Goal Exception) - this option already exists and a jurisdiction could try pursuing this process now; however there are perceived barriers to moving forward

3.3 Rulemaking for Chapter 660, Division 4 - could be done now, may be higher risk than pursuing for public infrastructure.

Low Priority:

3.2 Goal Amendment - this is not seen as feasible at this time and has high uncertainty in the outcome due to public opposition. Does not appear to be the best solution for this issue, as it is mostly a localized problem.

Priorities may change based on the results of research. These rankings are reflective of the group's thoughts now.

4 – *Mitigation and Alternatives to Shoreline Armoring*

Overview:
This topic area is a broad-based concept meant for brainstorming and discussion, the results of which may inform DLCD staff work programs or priorities. Goal 18, implementation requirement #5 outlines what development is eligible for shoreline armoring. However, it does not address strict requirements for siting oceanfront development, nor many options for development that cannot armor. This has implications for both existing (post-1977) and future oceanfront development. This concept looked at some options (such as increased land use regulations and managed retreat) to reduce the need for shoreline armoring along the Oregon coast or to mitigate the impacts of erosion on development.

The impacts of climate change and sea level rise (SLR) will bring increased erosion, flooding, and storminess, which can impact both private and public development and infrastructure. A few options to address both existing and future development were presented and discussed at a high level with focus group members. These options are summarized below. More information can be found in the presentation slides, available on the focus group webpage.

Potential options for existing development:

a. *Mitigation from increased shoreline armoring* – The purpose of this idea is to compensate the public any time shoreline armoring is added to the public beach. There are several ways of thinking about this idea. One is to coordinate with OPRD's existing ocean shore alteration permit process.
    - Mitigation could be an added requirement of the permitting process with an additional fee assessed on the applicant.
    - Potential uses for mitigation funds: creating/updating public beach access points; research & monitoring impacts of armoring; land acquisition and preservation.
    - Transfer of Development Rights approach – alternative approach to above, market-based approach to buy and sell "eligibility rights." Look to the wetlands mitigation banking model. Would have to set up a new system with rules.

b. *Buyouts* – voluntary program where homeowners can give up their property due to hazards. The structure(s) are then removed and the land is converted to open space, usually for public use or benefit.
    - NJ Blue Acres Buyout Program: state program that worked with FEMA as a result of Superstorm Sandy. Purpose was to buy clusters of homes or whole neighborhoods subject to coastal or riverine flooding and permanently preserve that land as open space.
        - Results so far: houses being bought-out tend to be in riverine environments and in low-income areas. Has been difficult to get participation from wealthy oceanfront homeowners.
    - FEMA Buyout program: 75% FEMA /25% Local split on funding. This option can be used for homes in danger of falling within 5 years due to erosion hazards -

homeowners get compensated to leave their homes. It is a voluntary program and can be quite lengthy from start to finish (can take up to 4 years). Difficult to get the 25% match and a public entity to take over the land.

c. *Relocation/managed retreat* – purposeful movement away from the ocean due to SLR, erosion, flooding, etc.
    - Examples: Increasing number of examples in Alaska, especially native villages (Meshik); Quinault Tribe, Olympic Peninsula, WA; Ventura, CA (public facilities at popular surfing beach)
    - This is a strategy for all oceanfront development (both armored and not armored) – armoring is still a short-term solution and may fail eventually with SLR. Retreat is a long-term strategy.
    - Current challenges in US: approach is reactive; focus is on post-disaster programs; language is fraught, causes fear; equity implications (affordable housing tends to be in hazardous areas); economic incentives tend to promote development in coastal zones; no specified relocation areas; active management required for the retreated area, even once the houses have been removed.
    - Georgetown Climate Center is developing a Managed Retreat Toolkit – to be released early in 2020.

Potential options for future development:

a. *Local government regulations* – to go beyond state requirements, to be specific to the local circumstances. These are currently voluntary measures, tailored to each jurisdiction and can include: comprehensive plan text, map amendments, development code amendments.
    - For example, Neskowin had a formal stakeholder engagement process to address coastal erosion issues in their community that started in 2009 and was completed in 2016 with the adoption of a coastal erosion overlay zone by Tillamook County. The group explored many options throughout their process, including: structural, non-structural, development, and policy/planning hazard alleviation techniques. They used DOGAMI coastal erosion data as the boundary of their overlay zone.
    - The work completed in Neskowin could serve as a model and be replicated in other communities. Neskowin has both dune and bluff features, making it a good pilot case.

b. *Statewide regulations* – new regulations could be imposed at the state level, such as universal setback requirements (minimum inland distance from a specific shoreline feature). Generally, there are two approaches to statewide setback requirements: fixed number of feet or long-term annual rate of erosion. Other statewide options might include limitations on repairing/replacing development in coastal hazard areas, re-zoning (permit higher density development outside of coastal hazard areas and lower density inside these areas), changing the anticipated lifetime of a structure, or compliance with flood hazard overlay standards in SLR areas.

- See examples of statewide setback requirements from other coastal states on PPT slides.
- California developed a SLR guidance document for local governments, could provide a summary of this work to coastal planners at DLCD's bi-annual coastal planners meetings.

c. *Implement Goal 7: Natural Hazards* – This statewide planning goal covers: floods (coastal and riverine), landslides, earthquakes and related hazards, tsunamis, coastal erosion, wildfires, and others as identified by a jurisdiction. Under the goal, the local government should evaluate new hazard information for risk to people and property and adopt or amend plans based on their evaluation of risk. This goal is not currently enforced by DLCD; a voluntary approach is used. Additional funding and support for local governments and DLCD would help implement this approach more systematically in the future.

d. *Coastal hazard erosion data* – Currently, DOGAMI has coastal erosion rates and zones established for select segments of the Oregon coast, but this data does not exist coast wide. This data product would be important to have in order to develop a statewide setback standard or for local governments to update their own land use plans to address coastal hazards and SLR.

Policy Options Discussed (for existing development)

4.1 **Mitigation/compensation:** Two different potential approaches discussed. The general idea for this option is to balance increases in shoreline armoring with compensation for the public beach.

- *Market-based approach*: A potential pathway for problem areas (ineligible properties experiencing erosion in an area that is mostly eligible for armoring). Allow ineligible parcels to apply for riprap (in certain very specific areas, such as Lincoln Beach area), but mitigate the taking of public beach in another way. Transfer the "eligibility" from one eligible parcel to another ineligible parcel through a market-based program, such as an auction. This could work in conjunction with other tactics – such as buyouts, managed retreat, and planning.
- *In combination with OPRD permitting*: Add a fee requirement to the permitting of BPS to make up for impacts to the public beach from additional armoring. This fee could be used for mitigation in various ways. This option would not be related to changing eligibility status, but as an additional criteria for the existing permitting process.

Benefits: Allows for a more balanced approach (public benefit) if adding more armoring to the coast.

Challenges: Mitigation could have unintended consequences. There are various opinions on the effectiveness of wetlands mitigation banking.

Feasibility: Feasible but would require a heavy lift in terms of staff and resources to create a new program or add a permit requirement.

Next steps: Decide on the scope and desired outcome of this tactic. Solana Beach, CA implemented a public recreation annual fee to homeowners to offset armoring impacts on the public beach. They developed a mitigation methodology. Look into this example and others for how this might apply to Oregon. *(See more examples below)*

- Dare County, NC: collects occupancy taxes to pay for beach replenishment through a Shoreline Management Fund. Tried a 1% sales tax to pay for beach nourishment. Implemented and repealed in the mid-2000s: https://outerbanksvoice.com/2014/09/22/sand-tax-would-have-helped-dare-foot-full-cost-of-nourishment/.

Same article above notes how municipalities reacted and funded projects, particularly Nags Head - increased property taxes on oceanfront homes, and contributions from county occupancy tax at hotels with proceeds going to shoreline management fund.

Suggested readings about mitigation banking:

- https://www.forbes.com/sites/ashoka/2014/04/25/how-private-capital-is-restoring-u-s-wetlands/#292c11605e83
- https://bioone.org/journals/wetlands/volume-29/issue-3/08-148.1/Evaluation-of-Permit-Success-in-Wetland-Mitigation-Banking--A/10.1672/08-148.1.pdf
- http://www.choicesmagazine.org/2005-1/environment/2005-1-13.htm

4.2 **Buyout:** If a private homeowner is willing to give up their oceanfront property due to erosion hazards, a public entity can "buy-out" that home and land for public use. The house and infrastructure would be removed and the land could be used for beach access, a public park, open space, or other. FEMA has an existing buyout program that can be used for homes experiencing coastal erosion (or other natural hazards such as flooding or landslides). A state program could be implemented as well.

Current programs are reliant on disasters to trigger federal assistance. To maximize the return on investment, these programs (e.g. NJ Blue Acres) seek voluntary buy-in at community scales.

Benefits: Option for ineligible properties experiencing severe erosion. New open space can provide a public benefit.

Challenges:

- Currently, buyouts tend to be done on an individual basis – this can create additional erosion problems (holes) for adjacent property owners. There is a need for a more comprehensive approach to achieve greater benefits from many perspectives, including for land ownership responsibilities, public benefits, and erosion mitigation.

  - The next row of houses will be vulnerable to erosion over time, too.
- The current FEMA process is clunky and resource intensive. The local jurisdiction is the applicant on the homeowner's behalf and the process can take up to four years to complete. The funding provided is 75% of the home value, the homeowner (or the city) is responsible for the other 25%. Most people want to live near the ocean – there is a reluctance to move elsewhere.
- It can be difficult to justify spending public money to assist private homeowners.

Feasibility: This option is available now, but incentives are low. Difficult but feasible; an improved process would make it more attractive.

Next steps: Identify areas where buyouts would be beneficial on a larger (neighborhood) scale, such as areas prone to erosion and areas with ineligibility for armoring. The modeling tool (Envision @ OSU) may be able to help identify these areas. Look into a state supported buyout program to complement FEMA's program – to help with applications, process, and funding.

4.3 **Managed retreat:** Systematic process of moving away from the oceanfront due to hazardous conditions.

Benefits:
- Option for ineligible properties experiencing severe erosion.
- New open space can provide a public benefit.
- Proactive response to coastal hazards. Allows approach to be comprehensive. Managed retreat is an alternative to unmanaged retreat, which is bound to happen at some point in the future. Set up the rules now to be ready for future events that are coming.
- This approach should be scenario-based and community-driven. There are benefits to moving together as a community.
- Increased tourism revenue from increased open space.

Challenges:
- Limited resources to help communities think about this approach at this time.
- There is a need for a more comprehensive approach to achieve greater benefits from many perspectives, including for land ownership responsibilities, public benefits, and erosion mitigation.
- Most people want to live near the ocean – there is a reluctance to move elsewhere. Emotionally challenging to move people from their homes.
- Municipality could lose tax revenue from loss of oceanfront properties that become open space:
  - https://www.cbsnews.com/news/rising-sea-levels-could-wipe-out-financial-stability-of-seaside-towns/
  - http://southrivernj.org/notices/SouthRiver-Fiscal-Impact-Report-Adopted-04272015.pdf
  - https://www.npr.org/2018/12/04/672285546/retreat-is-not-an-option-as-a-california-beach-town-plans-for-rising-seas

Feasibility: Requires more research and investigation. Challenges are not a reason for not moving this idea forward. It is happening elsewhere.

Next steps:

- Identify areas where relocation would be beneficial on a large (neighborhood) scale, such as areas prone to erosion and areas with ineligibility for armoring. The modeling tool (Envision @ OSU) may be able to help identify these areas.
- Examples around the world and in the US to look to for ideas and resources:
    - Pacifica State Beach, CA: https://climatechange.lta.org/pacifica-restoration/
    - Cape Hatteras Lighthouse: https://www.nps.gov/caha/learn/historyculture/movingthelighthouse.htm
    - Louisiana Bayou: https://www.npr.org/2018/01/04/572721503/louisiana-says-thousands-should-move-from-vulnerable-coast-but-cant-pay-them
    - Indonesia: https://www.npr.org/2019/08/26/754291131/indonesia-plans-to-move-capital-to-borneo-from-jakarta
    - *Science* article: https://science.sciencemag.org/content/365/6455/761
- There are many steps needed to move this idea forward, including identifying a funding source(s), outreach strategy for homeowners, incentives for homeowners and municipalities to participate in this approach, etc. Also need to identify sending areas (where people will move).
- Investigate how to set up a retreat program that is compliant with current statewide planning goals.
- Possible idea to pursue: public entity would buyout a neighborhood or area identified as a high priority for relocation due to coastal hazards. The entity would lease the land and structures back to private homeowners until the property is at risk of severe erosion or flooding. At that time, the homeowners would move, the structures would be removed, and the land would go into permanent public ownership. This could be offered as a compromise approach to allow people to enjoy living by the ocean for as long as possible, but gives the community a plan for the future.

Policy Options Discussed (for future development or re-development)

4.4 **Enhanced local regulations addressing coastal erosion:** Local jurisdictions could be encouraged or required to update their land use regulations to utilize new data and more comprehensively address coastal erosion and SLR, with DLCD assistance. For example, Lincoln City has imposed a setback requirement through their local code, which is 60 times the erosion rate plus 5ft for new development.

Benefits:

- Availability of new data does help to inform development decisions.
- Having a geotechnical report requirement for oceanfront areas can be beneficial for planners, in order to have up-to-date information and to understand which homes are in the hazard zones. It is beneficial to require these reports for development occurring in certain areas (such as along the oceanfront).
- Increased local regulations allow for local specificity. A locally-driven process can create buy-in and can influence people's opinions or decisions.
- Useful to have a model to start from (such as Neskowin).

Challenges:

- For small lots, a restrictive setback requirement can be difficult.
- The process for evaluating, adopting, and implementing new local regulations can be time-consuming and expensive. Must have a local champion to lead these efforts or it may not happen.
- Geotechnical reports put a lot of responsibility onto the hired geologist – don't always know the integrity of the reports. Oversight of reports and recommendations can be challenging for local governments.
- Developers don't always make the conservative call when developing along the oceanfront, despite report recommendations – want to develop right up to the edge, despite warnings and science.
- Using a set erosion rate is not always reflective of conditions. Oregon is prone to episodic erosion events, especially in some areas.

Feasibility: Updating local jurisdiction regulations to further address coastal erosion hazards is feasible at this time.

Next steps:

- Find out how much of the oceanfront of the Oregon coast is still undeveloped and which of these parcels are ineligible.
- Find support (money, staff, technical assistance) for local comprehensive plan updates with local jurisdictions. Many communities are in need of major updates or overhauls of their comprehensive plans, but need money and support to do so.

4.5 **Statewide regulations:** DLCD or others could develop new regulations to be imposed at the state level, such as universal setback requirements (minimum inland distance from a specific shoreline feature).

Benefits:

- Strategy recommended by NOAA Office for Coastal Management (not a requirement).
- Can be done at the state level or locally.
- Having a statewide, uniform erosion dataset (that incorporates SLR data) may be a good starting point for development (minimum requirements) – a local jurisdiction could recommend a further setback based on site specific information.

Challenges: Ecosystems in Oregon can be different (bluff vs. dune), making a uniform setback requirement more challenging to develop. A minimum setback requirement may not work well on existing small lots where there is no place to go.
Limitations to using an erosion rate for Oregon's beaches. Episodic events can greatly change this rate. Unique processes are driving change on Oregon's beaches.

Feasibility: Currently a comprehensive, standardized statewide coastal erosion dataset does not exist. Statewide minimum requirements are feasible pending the development of statewide datasets.

Next steps:

- Washington recently completed a comprehensive update of its shoreline master plans for each coastal community – could look for processes or outcomes that may be relevant and useful to Oregon's coastal communities.
- Prioritize developing a statewide coastal erosion dataset and then move forward with a potential statewide minimum setback requirement. Think about how these regulations would apply – only to new development or also re-development? Would this require an OAR or ORS change?

4.6 **Research Needs (for both future and existing development):** This list summarizes information the group felt is still needed related to all the policy options discussion under Concept #4. Answers to these questions will help to inform what policy approaches to take:

- Do we know how much of the oceanfront of the Oregon coast is still undeveloped? What are the sizes of these lots? What is the eligibility status?
- Inventory areas where there are many small holes in existing shoreline armoring (where erosion may be getting exacerbated)
- Develop a coast wide coastal erosion dataset with SLR projections (to implement statewide setback requirements) – some new data/tools coming from NOAA Digital Coast that could help with this, though they may have limited usefulness for Oregon.
- Inventory areas along the coast where buyouts or managed retreat would make the most sense.

- Create an exposure analysis for the outer Oregon coast similar to the estuary inventory that was already done by OCMP.
    - Some work has been done for Tillamook County by DOGAMI, could be scaled up. OCMP is looking into this now.
- Understand the economic value of the public beach and the economic and social effect of armoring on the public beach. What is the ecological value of an armored vs. unarmored beach?
- What is the economic value of the loss of property that has no development potential due to changing regulations?

Priorities for Concept #4:

The terms (high vs. low) were changed to reflect the difference in this concept related to the others. These priorities are based on need and feasibility and have been categorized as short term vs. long term strategies.

Short Term:

4.6 Research Needs - this research is needed to make future decisions on the best policy options.

4.5 Statewide Regulations - if coast wide erosion data is developed, statewide regulations are a feasible option to pursue, though the policy pathway would require dedicated resources and capacity.

4.4 Enhanced local regulations addressing coastal erosion - this option is available now and is feasible to pursue. Additional resources for local governments would help move this forward.

Long Term:

4.3 Managed retreat - this is a long-term strategy and requires high levels of resources and coordination to move forward

4.2 Buyout program - could be integrated into managed retreat research and coordination as a long term strategy. A complementary state program should be pursued.

4.1 Mitigation/compensation - would require additional research and decision-making to move forward

Main Takeaways

Based on the discussions at each meeting, the following main points have been summarized as potential takeaways for DLCD to consider.

- At this time, a goal amendment for Goal 18 is not a priority – there are other tools that would be more efficient to address certain issues.
- If a Goal 18 amendment or rulemaking is pursued in the future, a definition for *Beachfront Protective Structure* should be included in that process.
- DLCD could provide guidance on a definition of BPS.
- The local goal exceptions process has never been attempted for Goal 18, Implementation Requirement #5. This process could be pursued for areas that feel they haven't been served fairly by the goal (such as for small vacant lots in 1977 or public infrastructure at risk from erosion that cannot be moved).
- DLCD could pursue a Division 4 rule-making process to include a reasons exception for Highway 101 or other at-risk pre-1977 public infrastructure. This could make a more clear local exceptions process for those types of assets.
- DLCD could provide guidance on local goal exceptions process (a simplification of the current statutes and rules).
- DLCD could develop a guidance document of typical erosion control treatment options and whether they are considered a structure (and therefore allowed only on eligible properties) or non-structural (and would be allowed on non-eligible properties). This would assist regulators, property owners, and public entities in understanding the most common erosion control treatment options in Oregon and how they are regulated.
    - Can provide this without a definition for BPS, but might be challenged if there is no definition.
- Develop a coast wide coastal erosion dataset with SLR projections (to implement statewide setback requirements).
- Potential research or fellowship projects:
    - Analysis of oceanfront lots and their respective designations (eligibility, armoring, developed vs. vacant, public vs. private ownership, size, erosion vulnerability, SLR vulnerability, etc.) to better understand the scope and locations of areas subject to erosion that are limited in their ability to use armoring as a tactic. This should be done coast wide, by county, and by littoral cell. This information may help inform the most effective policy pathways.
    - Economic evaluation of the value of the public beach, impacts of armoring on the public beach, and the loss of private development opportunities if regulations change or development is lost to erosion.
    - A more complete assessment of Highway 101 in relation to Goal 18 provisions: where are the most vulnerable areas to coastal erosion; what are the alternative options for those areas (e.g. relocation), what is the cost/benefit analysis of those alternative options; and what are the economic impacts if the infrastructure fails or

has to be relocated. This information may help inform the most effective policy pathways.

- Identification of areas where buyouts or managed retreat would be a viable option.
- Investigate how to set up a managed retreat program that is compliant with current statewide planning goals.
- There is a general need for cost-benefit analyses of what the different policy options really mean for each concept. It was not possible for the group to make meaningful decisions on policy options without that information in front of them.

Public Comments

The focus group members and DLCD staff considered any public comment that was within the scope of the focus group. While most comments were outside of this focus group's charge, DLCD may want to consider their concerns in the future. Below is a list of some of the points conveyed through public testimony and written remarks. It represents an abbreviated version of what was said or written by those that gave comment and is *not* verbatim. A compilation of all written comments submitted to the group can be found in the Appendix.

- Recommendations for the state related to shoreline armoring permitting:
    - Support for allowing shoreline armoring for "in-fill" parcels, especially in areas where the majority of the parcels are already armored or eligible for armoring.
    - State should be more proactive in assisting property owners who are vulnerable to erosion and ineligible for armoring.
    - State and local agencies should work positively with homeowners and each other. Be consistent in permitting and messaging to the public – don't create requirements outside of the rules and statutes.
    - Add criteria to OPRD shoreline alterations permit decisions that armoring can protect houses behind the applicant.
- Arguments for why a particular parcel is eligible when the local jurisdiction has made a different determination (*several comments related to this point*).
    - Assets at risk if no structural protection allowed (public beach access, septic systems, etc.)
- Call for local governments to adopt their own goal 18 eligibility inventories as is called for in the goal language. Goal also calls for *areas* to be identified for eligibility, not every lot.
- Retreat is not the answer, look to engineering solutions (continuum of beach nourishment through hard structures) to protect ocean fronting assets, such as historic sites and critical infrastructure. Different options can work in different locations – assess the costs and benefits through a public process. Work with experts in the region.
- Transportation and land use are not separate – allow shoreline armoring for Highway 101 and other public infrastructure assets (such as water and sewer). Why should Highway 101 be treated any differently than private structures? Without 101, development cannot be sustained.
- Homeowners have been told that getting a local goal exception is highly unlikely and the process is too lengthy to adequately respond to the threat of erosion.
- Online eligibility inventory was completed in the 2000's - how were homeowners supposed to know about their status for shore protection before that?
- Request to get rid of the online eligibility inventory.
- Inconsistent messaging from state and local officials about whether a property is eligible for armoring or not and who makes that determination.
- The inability to apply for armoring has impacted housing values negatively.
- Support for a local goal exception for the area between Fishing Rock and Salishan Spit.

- The central Oregon coast, and specifically Lincoln County, is highly developed and already armored and prone to erosion. This area should be treated differently in terms of the ability to get shoreline armoring. Many ineligible properties are also already armored.
- Goal 18 has been applied inconsistently.
- Goal 18 doesn't account for climate change and SLR.
- Conditions have changed since 1977, should the rules be updated to reflect that?
- Properties that were zoned and approved for development should be permitted to install armoring when they are at potential risk from erosion.
- Local governments are supposed to make eligibility determinations, not the State.
- Request to remove goal 18 eligibility all together and have OPRD permit decisions be based solely on the criteria already in place in OAR Chapter 736, Division 20 (performance standards approach).
- The development date provision is arbitrary and not equitable.
- The legal underpinnings of the Oregon Beach Bill and the vegetation line are suspect and will become more so if DLCD doesn't change Goal 18, IR#5.
- Local governments are likely to face many takings cases soon due to recent court rulings related to private property rights. Goal 18, IR#5 requires re-workings to be consistent with the US Constitution.
- Hardening of the ocean shore to protect private property negatively impacts the public beach and the beach ecosystem.
- It is more feasible to add additional shore protection than to retreat from the oceanfront.

Technical Memorandum

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To: Wendie Kellington, Kellington Law Group

From: Chris Bahner, P.E., D. WRE

Date: March 25, 2021

Subject: Pine Beach and Ocean Boulevard Properties Revetment Design

1. Introduction

Pine Beach subdivision and subject Ocean Boulevard properties are located on the Oregon coast about 2 miles south of Rockaway Beach in the northwest part of Oregon (Figure 1). The landowners along the oceanfront have been losing portions of their property from coastal erosion, and experience coastal flooding during high tides combined with high wave run-up as was the case with the King Tides on February 8-12, 2020. During this event, the maximum stillwater level reached the ocean front homes, and went past the southernmost home for about 45 feet. There is a high level of risk for future damage to structures in the Pine Beach subdivision and the area to the north, which will be referred to as the "Ocean Boulevard properties" in this memorandum. There are 15 lots and 11 homes (4 lots are undeveloped) that are significantly threatened by coastal erosion and flooding, and forty homes threatened by coastal flooding. Furthermore, Pine Beach Loop and the water and sewer infrastructure that serves Pine Beach subdivision and the Ocean Boulevard properties are at risk if no actions to stop future erosion are implemented soon. As a result, WEST Consultants, Inc. (WEST) was contracted by Kellington Law Group to develop a rock riprap revetment design, which if constructed, is expected to prevent further erosion of the landowners' properties and to reduce the risk of coastal flooding. This technical memorandum documents the revetment structure design and information required by Tillamook County.

All geographic and spatial data used in this study were adjusted to a horizontal datum of the North American Datum (NAD) 1983 State Plane Oregon North, a vertical datum of North American Vertical Datum of 1988 (NAVD88), and feet units.

Figure 1. Location map

2. Loss of Property and Level of Flood Risk

In support of the design, WEST estimated the loss of property since 1994 and identified the coastal flood risk at the Pine Beach subdivision. The loss of property since 1994 was estimated using Google Earth for the period from 1994 to 2018 and the latest survey for the year 2021 (Figure 2).

The top of shoreline (identified using vegetation) was determined for the various years available from Google Earth. The following steps were followed for each year considered: (1) select the year from the historical imagery slide bar menu; (2) delineate the top of shoreline using the Add Path option (include the revetment at the Shorewood RV park starting at the northern end of the revetment); (3) convert the path to KMZ; (4) convert the KMZ to a shapefile using ArcGIS; (5) if necessary, move the line element to the control point defined using the 2018 aerial (minor shifts were noted for the years 2000 and 2005); and (6) measure the distance from the top of shoreline to the west edge of the oceanfront homes for the Pine Beach Development and Ocean Boulevard properties (identified as Shoreline Reference in Figure 2) using ArcGIS. The loss of property is summarized in Table 1. Using this data, the average annual erosion rate is 9 feet per year with the rate ranging from about 5 feet per year for the period between 1994 and 2021 to about 14 feet per year for the period between 1994 and 2000. When considering the 2005 as the basis, the average

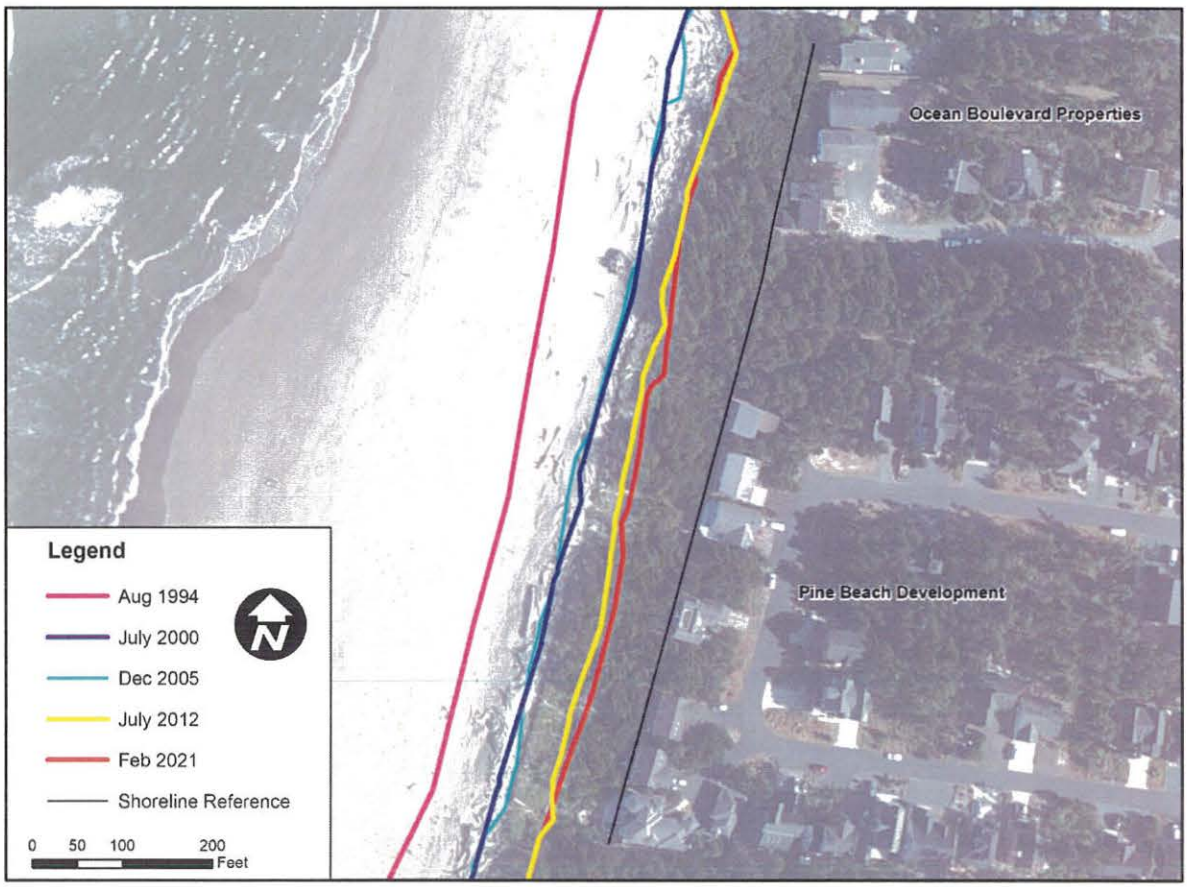


Figure 2. Top of shoreline for the period between 1994 and 2021

Table 1. Summary of Loss of Property from 1994 to 2021

Year	Distance from Western Edge of Oceanfront Homes along Pine Beach Development and Ocean Boulevard Properties (ft)	Loss of Property since 1994 (ft)
1994	221	0
2000	138	-83
2005	138	-83
2012	86	-135
2021	79	-142

annual erosion rate varies from about 4 feet per year for the period between 2005 and 2021 to about 8 feet per year for the period between 2005 and 2012. Using these rates and the distance from the top of foreshore to the homes being about 50 feet, the homes will be directly impacted by coastal erosion within four to ten years.

The present risk of significant flooding and significant damage to the 11 homes is high during King Tides and storm events in the absence of the construction of the recommended revetment.

The Pine Beach subdivision and the Ocean Boulevard properties are located within the Federal Emergency Management Agency (FEMA) Flood Hazard Zone "VE", which corresponds to areas impacted by coastal flooding and for which regulatory water surface elevations have been determined by FEMA. For coastal flooded areas, FEMA defines the stillwater (tide) levels for the 1- and 0.2-percent Annual Chance of Exceedance (ACE) and total water levels (tide plus wave runup) for the 10-, 2-, 1-, and 0.2-percent ACE. FEMA's stillwater and total water levels at the Pine Beach subdivision are summarized in Table 2 (FEMA, 2002).

Table 2. Summary of FEMA Stillwater and Total Water Levels versus Frequency

ACE (Percent)	Stillwater (feet)	Total Water Level (feet)[1]
10	-	23.4
2	-	25.0
1	11.8	25.6
0.2	12.1	26.8

Notes:

(1) Elevation is based on NAVD88 datum per FEMA FIS (FEMA,2002). The conversion factor from NAVD88 to NGVD29 is -3.54 feet.

3. Site Visit

A site visit was conducted by Chris Bahner, P.E., WEST Consultants, Inc., on January 17, 2020 and on January 30, 2021 to perform general site reconnaissance and document observations. Three board members from the Pine Beach subdivision participated in the January 17, 2020 site visit. Photos taken during the site visits are provided in Attachment 1.

Key observations from the January 2020 visit are as follow: (1) large woody debris had floated onto the backshore bench in front of the subject oceanfront properties, (2) large woody debris had accumulated at the western edge of the tree line (trees had prevented the woody debris from accumulating at the oceanfront houses), (3) beach access along the southern boundary is about 5.5 feet wide, (4) beach foreshore slope was constant and resembled a typical winter beach profile, (5) beach foreshore profile is consistent all the way up to the top of the shoreline (defined as the vegetation line, which is shown on sheet 2 of the construction plans provided in Attachment 2) with minimal vertical bank conditions, (6) a rock revetment structure is located along the Shorewood RV Park about 900 feet north of the Pine Beach subdivision, (7) the revetment consists of rock ranging in diameter from 1 to 5 feet placed at a slope of 1 Vertical (V) to 2 Horizontal (H), and (8) the rock revetment structure shows no signs of instabilities.

Key observations from the January 2021 visit are similar to the January 2020, but there were two noticeable differences: (1) the banks near the vegetation line were vertical, indicating some erosion has recently occurred, and (2) more debris existing along the beach foreshore slope.

4. Revetment Design

The revetment design includes the rock size, cross section configuration, and plan view layout. The rock size is based on typical rock size for rock revetment structures along the Oregon Coast.

They are comprised rocks ranging in diameter from 1 to 5 feet (well-graded gradation). A breaking wave height of 6.5 feet was estimated using the Hudson equation (USACE, 2011) and KD value for a well-graded gradation documented in Coastal Engineering Technical Note III-1 (CETN-III-1) (USACE, 2011). The breaking wave height would increase to 7.0 feet when using a uniform gradation with rocks ranging from 3 to 4 feet in diameter. The thickness of the revetment would also be slightly smaller. Thus, the uniform gradation is recommended to be placed with a total thickness of 6 feet. The rock should be angular and have a minimum specific gravity of 2.64 or a dry unit weight of 165 lbs/ft^3. The rock should consist of dense, natural rock fragments. They should be resistant to weathering and to water action; and free from overburden, spoil, shale and organic material. Shale and rocks with shale seams are not acceptable. The durability index and percent absorption shall be determined by American Association of State Highway and Transportation Officials (AASHTO) standards in AASHTO T 210 and AASHTO T 85, respectively. The rock revetment should also be placed over an 18-inch thick rock filter layer comprised of ODOT Class 50 (material ranging in diameter from 2 to 10 inches or fine gravel to large cobbles).

The cross section configuration includes the top and bottom elevations, top width, thickness, and side slopes. It is influenced by the physical constraints of a vegetation line along the eastern boundary, which defines the regulatory jurisdiction of the Oregon Parks and Recreation Department, and existing homes along the western edge. The cross section configure is shown in Figure 3. It consists of a top elevation of 23.8 feet, a bottom elevation of 12.0 feet, a side slope of 1V to 1.5H, and a launchable toe with an average length of about 10 feet. The top elevation was set as 3 feet above the ground along the proposed structure alignment. The maximum increase allowed by Tillamook County without a county land-use change approval is 3 feet. The survey and LiDAR data indicate that the ground along the proposed alignment is fairly flat. The average elevation along the proposed alignment was determined from the survey data to be 20.8 feet (Cook Surveying, 2019), so the top elevation of the structure will be 23.8 feet. The bottom elevation was set to be one-half the thickness of rock revetment below the elevation defined by projecting the beach foreshore slope to the eastern limit of the existing vegetation line, which was determined to be at an elevation of 15 feet. The foreshore slope was estimated from the LiDAR data to be 0.0448. This slope is consistent with the beach profiles for a medium-coarse sand beach, as documented in Figure 11-8 of *Beach Processes and Sedimentation* (Komar, 1976). A side slope of 1V to 1.5H was used because of the site constraints. A launchable toe is provided to ensure the rock revetment is not undermined by scour at the structure.

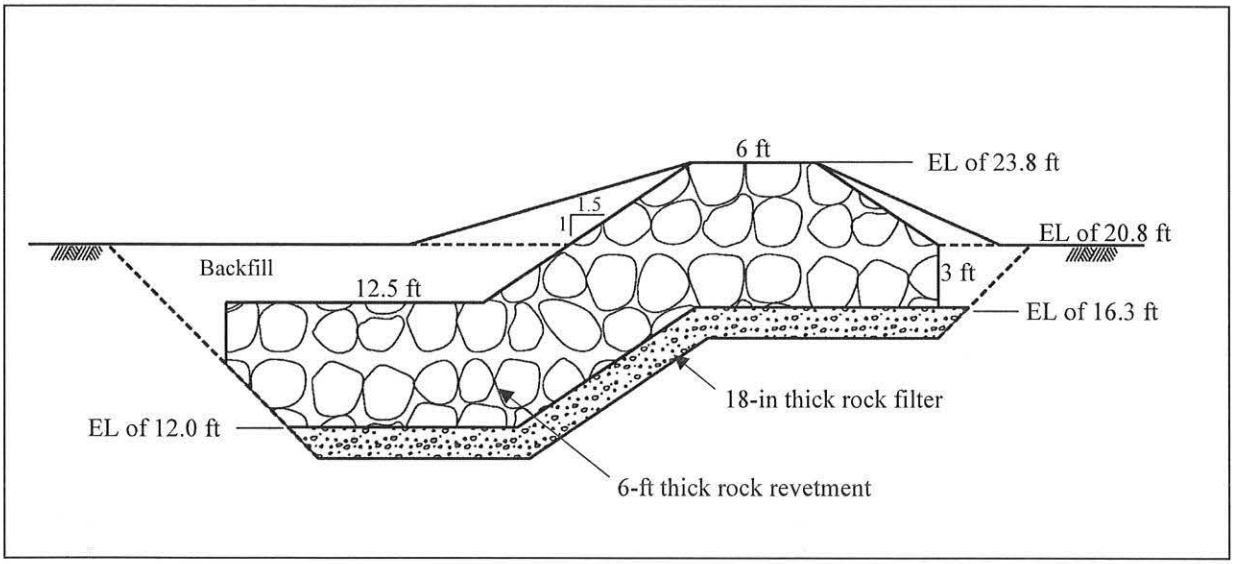


Figure 3. Cross section of proposed rock revetment structure

The layout of the proposed structure is shown in Figure 4. The proposed structure will be located landward (or east) of the existing vegetation line near the western edge of the beachfront properties and beachfront homes. The structure will be located about 185 feet landward of the "Oregon Ocean Shore Line". It will have a total length of about 840 feet. The northern and southern ends of the rock revetment will be angled into the bank to prevent flank erosion. An ecology block wall will be placed along the southern boundary and near the access ramp. Ecology blocks are concrete blocks that are used for building retaining walls. Typical blocks have a height of 2 feet, a width of 2 feet, and a length of 6 feet (or 3 feet). The wall at the southern boundary is required to ensure that the future wave runup does not flow around the main rock revetment structure and potentially flood the beachfront homes. The wall near the access ramp is required due to the physical constraints near the access area.

The construction of the rock revetment structure will require removal of the shrubs and trees where the structure will be built. All excavated sand shall be placed over and seaward of the rock revetment structure. It is also important that the disturbed area be re-planted with native grasses, shrubs, and trees; standard staked silt fences be placed along the disturbed area to prevent aeolian erosion; and that area is annually maintained in such conditions.

Construction plans for the proposed structure are provided in Attachment 2.

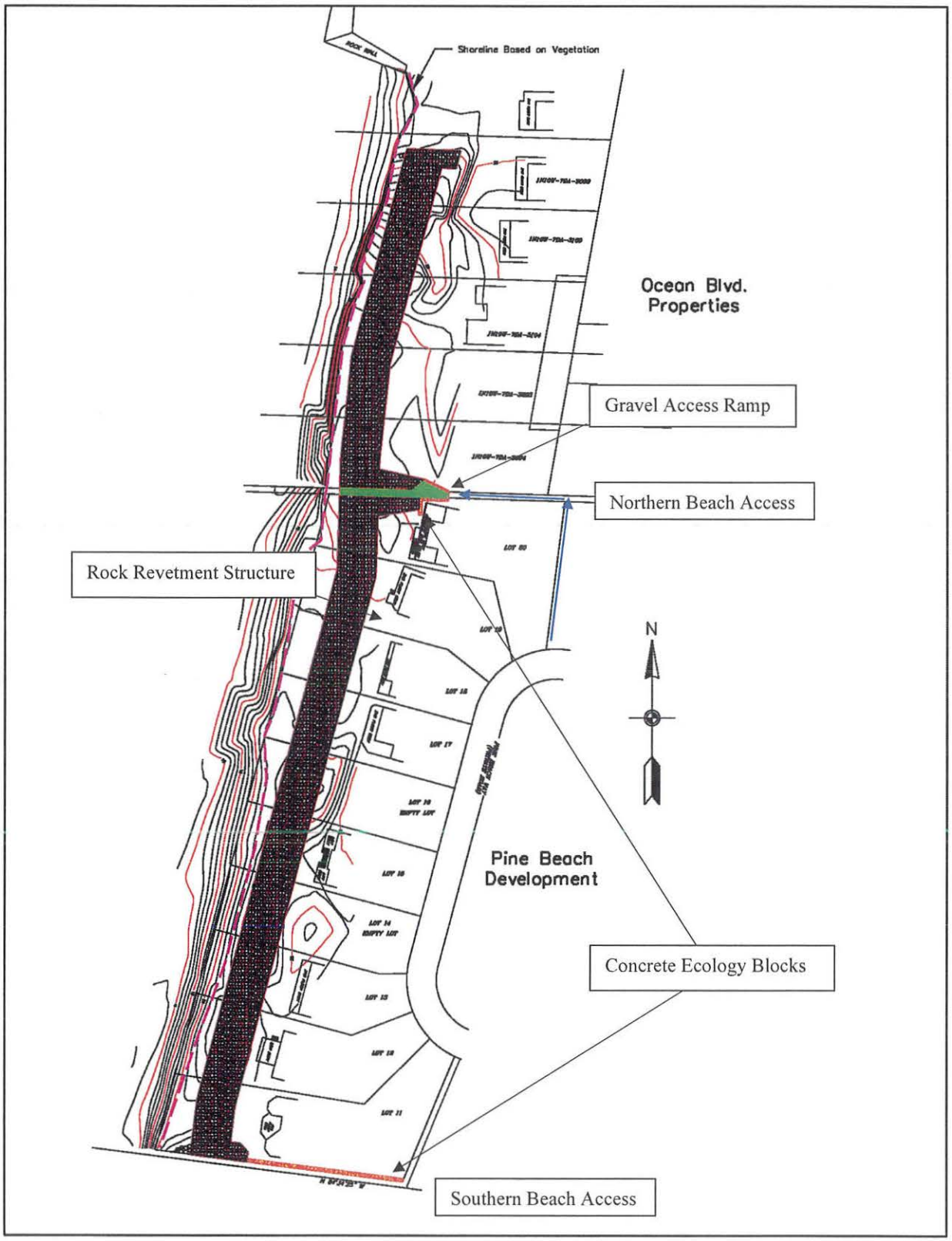


Figure 4. Plan view of proposed rock revetment structure

5. Tillamook County's "Detailed Site Investigation" Requirements

This section of the report addresses requirements of Tillamook County for the proposed revetment design to confirm that it will conform to the county's ordinance requirement.

5.1. Purpose

There is a high level of risk for future damage to structures, lots and infrastructure in the Pine Beach subdivision and Ocean Boulevard properties. There are fifteen lots and eleven homes (4 lots are undeveloped) that are significantly threatened by coastal erosion and flooding, and forty homes threatened by coastal flooding. Coastal flooding will also have an adverse impact on the water and sewer systems that Pine Beach subdivision and the Ocean Boulevard properties. Furthermore, if erosion is allowed to continue unchecked by the recommended revetment, the Pine Beach and Ocean Boulevard properties' water and sewer infrastructure is at risk as is Pine Beach Loop, which is the vehicular access to the Pine Beach subdivision development.

The proposed revetment structure will reduce the risk of damage to life, property, and the natural environment from beach erosion and coastal flooding resulting from large waves occurring during high tides. It will provide this protection over the lifetime of the structure. Due to the proximity of the shore and physical constraints, there are no other viable alternatives that are adequate to protect the Pine Beach subdivision and Ocean Boulevard properties.

The proposed structure will be located within the active eroding foredune, which has a crest elevation of about 20.8 feet and a width of about 100 feet. It will be located about 10 feet landward of the existing line of established vegetation and about 185 feet landward of the "Oregon Ocean Shore Line". The foredune has eroded about 142 feet since 1994 with the average erosion rate being 8 feet per year. This rate is consistent with the short-term rates (1960s to 2002) documented in *National Assessment of Shoreline Change: Historical Shoreline Change along the Pacific Northwest Coast* (USGS, 2012). No historic dune stabilization has been implemented and no protective structures exist within the immediate vicinity of the Pine Beach subdivision and Ocean Boulevard properties. However, there is a protective structure just north of the Ocean Boulevard properties and approximately 900 feet north of the Pine Beach subdivision, at the Shorewood RV Park.

All excavated sand shall be placed over and seaward of the rock revetment structure, so there will be no net loss of sand from the foredune area.

5.2. Location and Design of Roads and Driveways

The proposed revetment structure will be located in the backyards of the oceanfront houses along the Pine Beach Loop and Ocean Boulevard properties. It will not have any road or driveway features, or have any adverse impacts to existing roads or driveways.

5.3. Special Foundations Design

The proposed revetment structure was designed with granular filter per standards in the Oregon Department of Transportation Hydraulic Manual (ODOT, 2014). It was also designed with a launchable toe that will prevent undermining of the structure from future erosion near the structure.

5.4. Management of Stormwater Runoff During and After Construction

The proposed revetment structure will be constructed with rock, covered with sand material and planted with native beach grasses. It will be permeable and will not have any adverse impact on runoff from the project area during or after construction. Therefore, no management of stormwater runoff is required during or after construction of the proposed revetment structure. It should also be noted that there are not perennial streams or springs in the vicinity of the proposed structure.

5.5. Surrounding Property

The proposed structure will be constructed within the current backshore of the shore zone. The top of the revetment will be located about 35 feet east of the current top of foreshore. There will be no impacts to the surrounding property since it will not direct additional water to the surrounding property, increase wave heights/wave runup, or impact the natural littoral drift of sediment along the coast. The northern and southern ends of the rock revetment will be angled into the bank to prevent flank erosion.

A review of Google Earth photos of the shoreline within the vicinity of the Shorewood RV Park indicates no pronounced differences in the erosion of the shoreline south of the structure than what is naturally occurring within the area. The proposed structure will be located further inland and its location is at a higher elevation than the Shorewood RV Park, so the wave energy and erosion potential will be lower at the proposed structure. Thus, the proposed structure will not have an adverse impact to the surrounding properties. No additional measures are necessary to protect the surrounding area as a result of the proposed revetment structure.

5.6. Beach Access

The proposed project will improve the current beach access between tax lot 3204 and 123, which has accumulated large woody debris, making access difficult. The revetment design includes a gravel ramp that goes over the revetment to allow access to the beach. The ramp will consist of a 5-foot-wide gravel path that goes over the rock revetment at a 12-percent slope. Details of the path are shown in Sheet 5 of the Construction plans (Attachment 2). The proposed structure will not interfere with and there will be no impact to the other beach access along the southern boundary of the Pine Beach Subdivision.

5.7. Periodic Monitoring

Monitoring of the proposed structure should be performed by the owners on an annual basis and by an engineer or the contractor who builds the structure after a coastal event comprised of an extreme tide cycle coinciding with large waves or on a 5-year period. The annual inspections should note: (1) if rock structure is exposed, (2) any noticeable settlement of the structure, (3) displacement of rock or ecology block elements, (4) approximate distance of rock revetment to top of shoreline, and (5) vegetation conditions and identification if additional replanting is necessary. Annual inspection should be documented with pictures. The overall goal of the maintenance program will be that proposed revetment will be a sand-covered structure with native beach grasses and shrubs.

5.8. FEMA Hazard Zone "VE"

As previously stated, the proposed revetment structure will be located within the FEMA Hazard

Zone "VE," which is defined as coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. FEMA's minimum requirements as part of the National Flood Insurance Program (NFIP) for building, generally, within the "VE" zone include: (1) the building must be elevated on pile, post, pier, or column foundations; (2) the building must be adequately anchored to the foundation; (3) the building must have the bottom of the lowest horizontal structural member at or above the BFE; and (4) the building design and method of construction must be certified by a design professional. These requirements apply to construction of buildings within the "VE" zone, and only the last requirement is applicable to the proposed structure. The design and method of construction of the proposed rock structure will be certified and completed by design professionals, and the proposed structure will not cause an increase to the FEMA total water levels near the proposed structure.

5.9. Visual Effects

The recommended revetment will have no adverse visual effects as it will be covered in sand and planted with native beach grasses and maintained in that condition.

5.10. Findings and Conclusions

The rock revetment structure proposed for the Pine Beach subdivision and Ocean Boulevard properties is considered to be vital for reducing the risk of damage to life, property, and the natural environment from beach erosion and coastal flooding. The structure will be designed with adequate rock size and a launchable toe to prevent undermining of the structure. The structure will be located on private property within the FEMA Flood Hazard Zone "VE." It will meet the FEMA requirements for construction within this flood hazard zone. It will not have any adverse impacts to natural runoff of the area, beach access, or the surrounding properties. Finally, the structure will be monitored on an annual basis by the owners.

6. Summary

The beach front landowners of the Pine Beach subdivision and Ocean Boulevard properties (Figure 1) have been losing portions of their properties from coastal erosion, and have experienced coastal flooding of their homes. As a result, WEST conducted field site visits in January 2020 and January 2021, and designed a rock revetment structure to prevent future erosion of their property and to reduce the risk of coastal flooding. Photos taken during the site visits are provided in Attachment 1. A cross section of the proposed rock structure is shown in Figure 3. The plan view of the proposed structure is shown in Figure 4. Construction plans for the proposed structure are provided in Attachment 2. Information required by the Tillamook County code is also documented in Section 5 of this memorandum.

7. References

AASHTO, 2014 (January). *AASHTO T 85 - Standard Method of Test for Specific Gravity and Absorption of Coarse Aggregate.*

AASHTO, 2015 (January). *AASHTO T 210 - Method of Test for Aggregate Durability Index.*

Cook Surveying, 2019. *Site and Topography Survey for Pine Beach Ocean Front Owners.*

Federal Emergency Management Agency, 2002. *Flood Insurance Study, Tillamook County Oregon Unincorporated Areas, Community Number 410196V000.*

Komar, P.D., 1976. *Beach Processes and Sedimentation*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey

U.S. Army Corps of Engineers, Engineering Research and Development Center (formerly known as Waterway Experiment Station), 1985 (June). *CETN-III-1, Riprap Revetment Design.*

U.S. Army Corps of Engineers, 2011 (September). *EM 1110-2-1100, Coastal Engineering Manual, Part VI – Fundamentals of Design.*

U.S. Geological Survey, 2012. *National Assessment of Shoreline Change: Historical Shoreline Change along the Pacific Northwest Coast*, Open-File Report 2012-1007.

ATTACHMENT 1

JANUARY 17, 2020 AND JANUARY 30, 2021 FIELD PHOTOS

Photo 1. Looking south at the rock revetment at the Shoreline RV Park located about 900 feet north of the Pine Beach subdivision.

Photo 2. Close-up of rock revetment at the Shoreline RV Park located about 900 feet north of the Pine Beach subdivision.

Photo 3. Looking south at the beach conditions in front of the Pine Beach subdivision.

Photo 4. Looking south at the vegetation line (top of shoreline) near the northern end of the Pine Beach subdivision.

Photo 5. Looking south at the vegetation line (top of shoreline) near the northern end of the Pine Beach subdivision. Note large debris on left side of photo.

Photo 6. Looking east at the debris existing in front of the southern-most house in the Pine Beach subdivision. Note presence of large debris.

Photo 7. Looking north at the upper part of the shoreline near the northern end of the Pine Beach subdivision.

Photo 8. Looking south at the foreshore conditions south of the Pine Beach subdivision.

Photo 9. Looking north at the vegetation line (top of shoreline) near the northern end of the Pine Beach subdivision.

Photo 10. Looking east along the southern boundary of the Pine Beach subdivision.

Photo 11. Looking east along the southern boundary of the Pine Beach subdivision.

Photo 12. Looking north from the southern boundary of the Pine Beach subdivision at top of shoreline.

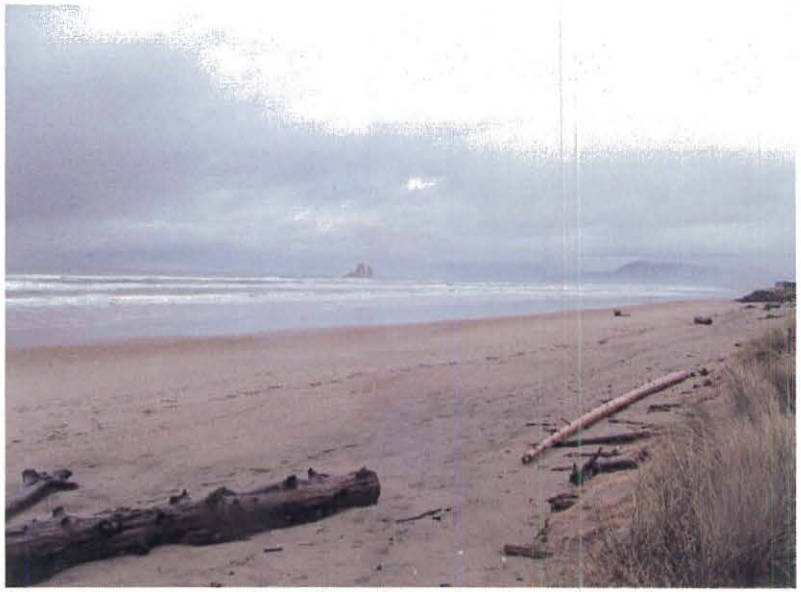


Photo 13. Looking northwest from the southern boundary of the Pine Beach subdivision at the foreshore conditions.

Photo 14. Pan view (Photos 14-15) of Pine Beach subdivision.

Photo 15. Pan view (Photos 14-15) of Pine Beach subdivision.

Photo 16. Looking north at the backshore bench in front of Pine Beach subdivision. Note presence of large debris.

Photo 17. Looking south at the backshore bench in front of Pine Beach subdivision. Note presence of large debris.

Photo 18. Looking south at the backshore bench in front of Pine Beach subdivision. Note presence of large debris.

Photo 19. Looking east along the northern boundary of the Pine Beach subdivision.

Photo 20. Looking west along the northern boundary of the Pine Beach subdivision.

Photo 21. Looking north at the vegetation line near the southern end of the Pine Beach subdivision.

Photo 22. Looking south at the vegetation line near the southern end of the Pine Beach subdivision.

Photo 23. Looking north at the foreshore conditions in front of the Pine Beach subdivision.

Photo 24. Looking north at the vegetation line from about 100 ft north of the southern end of the Pine Beach subdivision.

Photo 25. Looking south at the vegetation line from about 100 ft north of the southern end of the Pine Beach subdivision.

Photo 26. Looking north at the backshore bench in front of Pine Beach subdivision. Note presence of large debris.

Photo 27. Looking north at the top of the vegetation line from about 200 ft north of the southern end of the Pine Beach subdivision.

Photo 28. Looking south at the top of the vegetation line from about 200 ft north of the southern end of the Pine Beach subdivision.

Photo 29. Looking north at the backshore bench from the northern end of Pine Beach subdivision.

Photo 30. Looking south at the backshore bench from the northern end of Pine Beach subdivision. Note presence of large debris.

Photo 31. Looking south at the beach\vegetation line from about 50 ft south of the revetment at the Shoreline RV Park.

Photo 32. Looking south at the backshore bench from 50 ft south of the revetment at the Shoreline RV Park.

ATTACHMENT 2

CONSTRUCTION PLANS

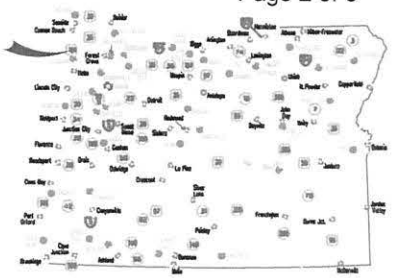
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS
3	REVETMENT LAYOUT
4	REVETMENT DETAILS
5	REVETMENT RAMP DETAILS

PLANS FOR PROPOSED PROJECT

PINE BEACH DEVELOPMENT AND OCEAN BLVD. PROPERTIES ROCK REVETMENT

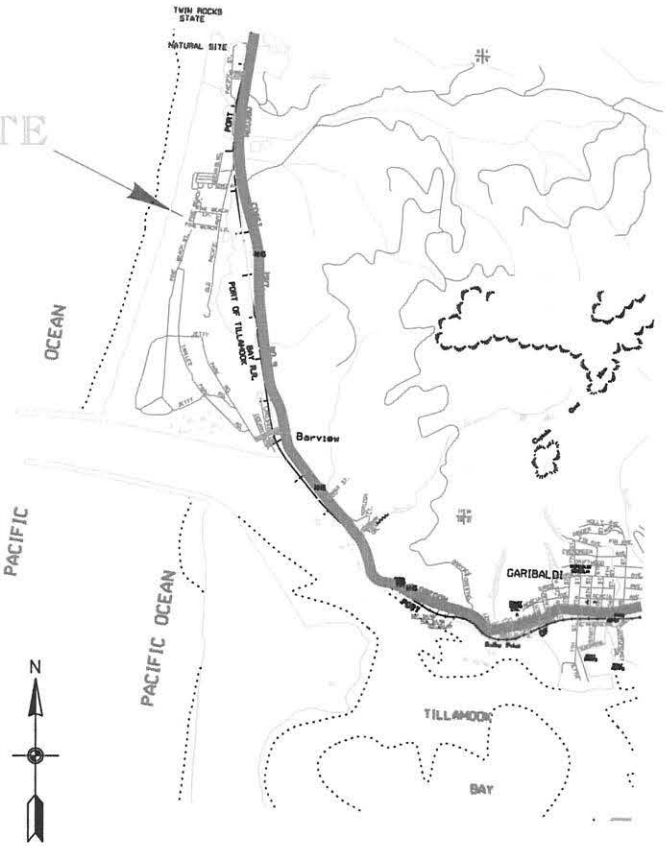
TILLAMOOK COUNTY

MARCH 2021



ATTENTION:
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Center is (503) 232-1987.)

PROJECT SITE



GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL SHALL CONFORM TO THESE PLANS, THE PROJECT SPECIFICATIONS AND THE APPLICABLE REQUIREMENTS OF THE 2018 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS.
3. ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULE ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER AT (503) 232-1987. EXCAVATORS MUST NOTIFY ALL PERTINENT COMPANIES OR AGENCIES WITH UNDERGROUND UTILITIES IN THE PROJECT AREA AT LEAST 48 BUSINESS-DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS PRIOR TO COMMENCING AN EXCAVATION, SO UTILITIES MAY BE ACCURATELY LOCATED.
4. THE OWNER OR ENGINEER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR HIS CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ROADWAYS, KEEPING THEM CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, AND PROVIDING DUST CONTROL AS REQUIRED.
6. CONTRACTOR SHALL MAINTAIN ALL UTILITIES TO ADJACENT BUILDINGS AT ALL TIMES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND SCHEDULING ALL WORK WITH THE OWNER.

REGISTERED PROFESSIONAL ENGINEER
67050
Chris Bahner
OREGON
7/9/2001
CHRIS D. BAHNER

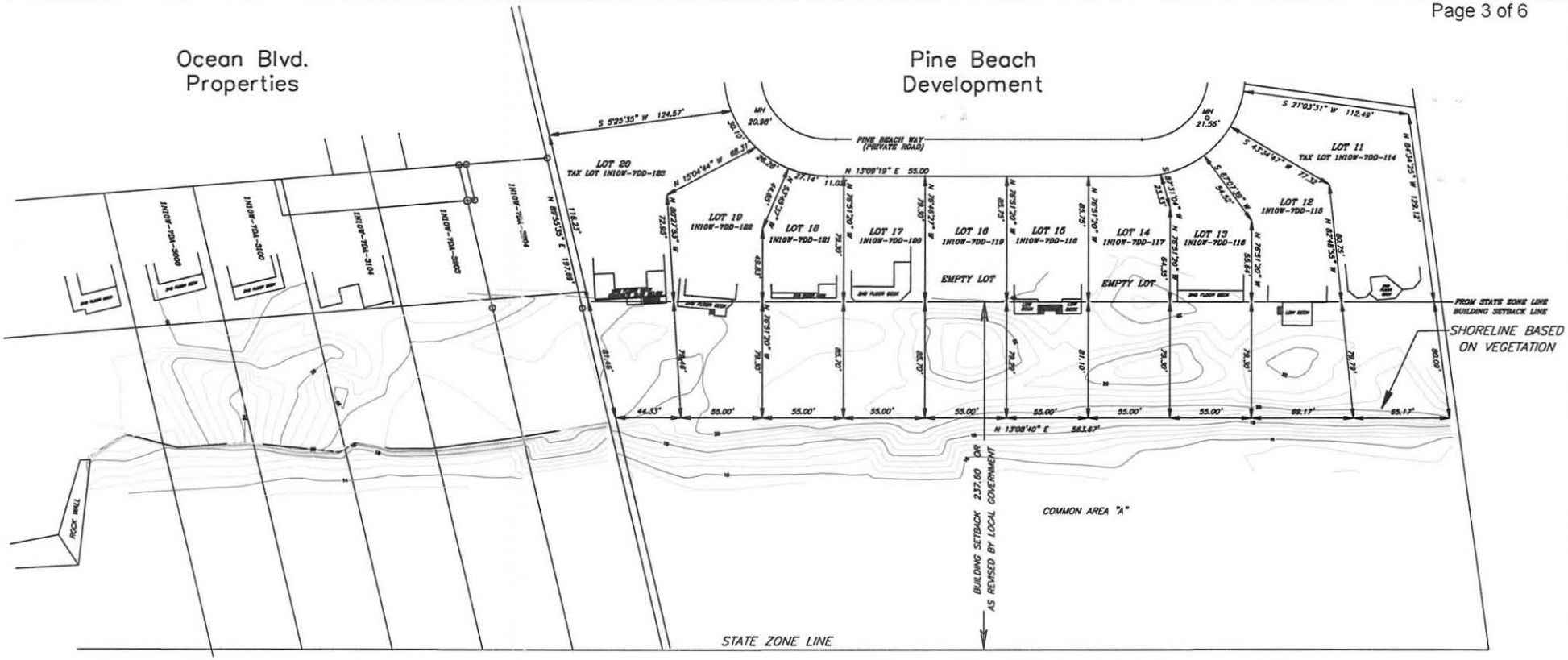
RENEWAL DATE: 12-31-2021

DESIGN ENGINEER

PINE BEACH DEVELOPMENT
ROCK REVETMENT
TILLAMOOK COUNTY

WEST Consultants, Inc.

SHEET NO. 1



NOTES

1. PINE BEACH DEVELOPMENT. TAX LOTS 114–123, SE–SE SECTION 7, T.1.N., R.10W. LOTS 11–20, PINE BEACH REPLAT TILLAMOOK COUNTY, OREGON.

2. OCEAN BEACH BLVD. PROPERTIES. TAX LOTS 3000, 3100, 3104, 3203 & 3204, NE–SE SECTION 7, T.1.N., R.10W., TILLAMOOK COUNTY, OREGON.

3. SURVEY COMPLETED BY C. WAYNE COOK LAND SURVEYING – 3180 ALDERCREST, TILLAMOOK, OREGON, (503–842–8380).

4. SURVEY COMPLETED FEBRAURY 2021.

5. VERTICAL DATUM OF NORTH AMERICAN VERTICAL DATUM OF 1988.

PLAN VIEW

70 35 0 70 140FT

SCALE: 1"=70'

REGISTERED PROFESSIONAL ENGINEER
67050
OREGON
7/9/2001
CHRIS D. BAHNER

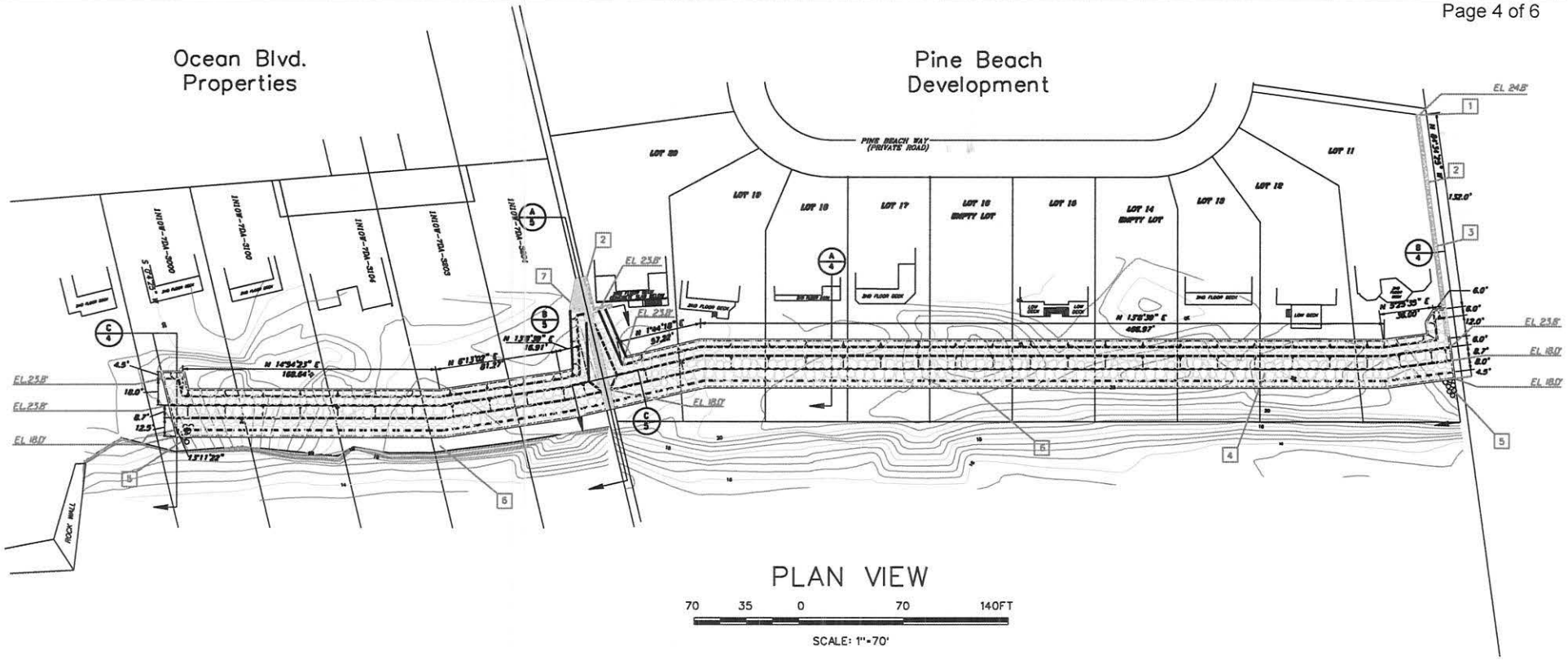
RENEWAL DATE: 12-31-2021

N

PINE BEACH DEVELOPMENT
AND OCEAN BLVD. PROPERTIES
ROCK REVETMENT
TILLAMOOK COUNTY

EXISTING CONDITIONS

SHEET NO. 2



PLAN VIEW

70 35 0 70 140FT

SCALE: 1"=70'

NOTES

1. CONTROL POINT AT CORNER OF WOOD FENCE ALONG THE SOUTHERN BOUNDARY OF PINE BEACH DEVELOPMENT LOT 11. X-COORDINATE OF 7,320,174.35 FT AND Y-COORDINATE OF 717,513.41 FT (HORIZONTAL DATUM OF NORTH AMERICAN DATUM OF 1983, STATE PLANE OREGON NORTH, FEET).
2. CONSTRUCT ECOLOGY BLOCK STRUCTURE. SEE DETAIL D ON SHEET 4.
3. REMOVE AND REPLACE EXISTING FENCE.
4. CONSTRUCT ROCK REVETMENT OVER GRANULAR FILTER. ROCKS SHOULD BE UNIFORM GRADATION RANGING IN SIZE FROM 3 TO 4 FT IN DIAMETER WITH THE ROCK HAVING A MINIMUM SPECIFIC GRAVITY OF 2.65. THE ROCK SHOULD CONSIST OF DENSE, NATURAL ROCK FRAGMENTS. ROCKS SHOULD BE RESISTANT TO WEATHERING AND TO WATER ACTION; AND FREE FROM OVERBURDEN SPOIL, SHALE AND ORGANIC MATERIAL. SHALE AND ROCKS WITH SHALE SEAMS ARE NOT ACCEPTABLE. THE DURABILITY INDEX AND PERCENT ABSORPTION SHALL BE DETERMINED BY AASHTO T 210 AND AASHTO T 85, RESPECTIVELY. COVER ROCK REVETMENT WITH SAND MATERIAL. SEE DETAIL A ON SHEET 4.
5. PLACE 7 3-FT-DIAMETER ROCKS AT AN ELEVATION OF 20.8 FT AND RANDOMLY SPACED NEAR THE NORTHERN AND SOUTHERN END OF PROPOSED STRUCTURE.
6. SAVE EXISTING LARGE LOGS, AND PLACE THROUGHOUT BENCH AREA. REPLANT DISTURBED AREA WITH NATIVE GRASS AND TREES. PLANTING COMPLETED BY OWNERS.
7. CONSTRUCT RAMP. SEE DETAIL ON SHEET 5.
8. ALL ELEVATIONS ARE BASED ON THE VERTICAL DATUM OF NORTH AMERICAN VERTICAL DATUM OF 1983.

REGISTERED PROFESSIONAL ENGINEER
67050
Chris Bahner
OREGON
7/9/2001
CHRIS D. BAHNER

RENEWAL DATE: 12-31-2021

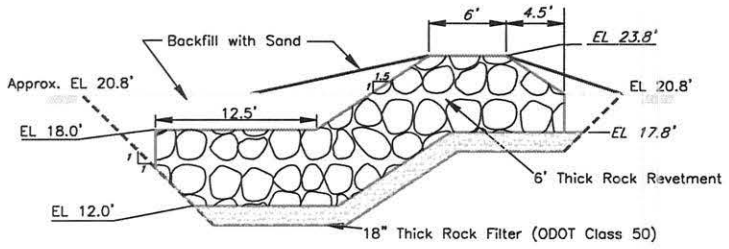
N

PINE BEACH DEVELOPMENT AND OCEAN BLVD. PROPERTIES ROCK REVETMENT
TILLAMOOK COUNTY

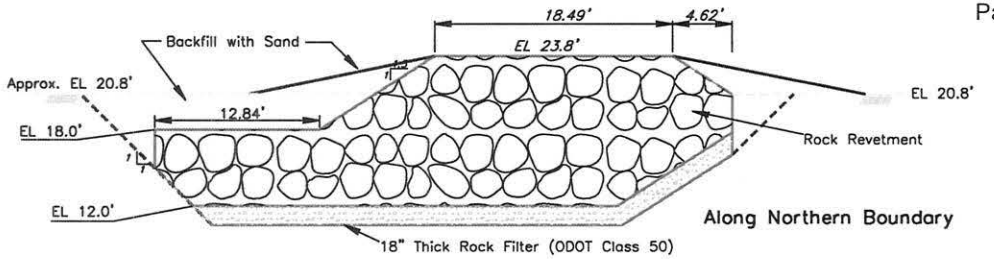
REVETMENT LAYOUT

SHEET NO. 3

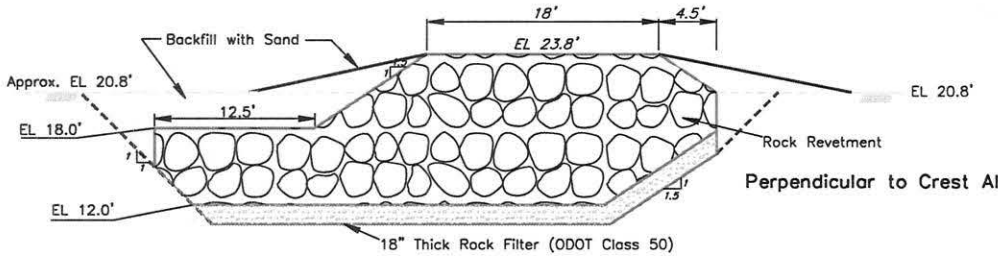
ALL ELEVATIONS ARE BASED ON THE VERTICAL DATUM OF NORTH AMERICAN VERTICAL DATUM OF 1988



DETAIL A – TYPICAL SECTION OF ROCK REVETMENT
(NOT TO SCALE)

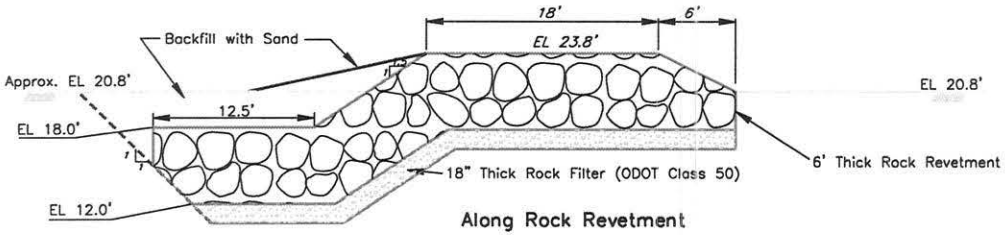


Along Northern Boundary

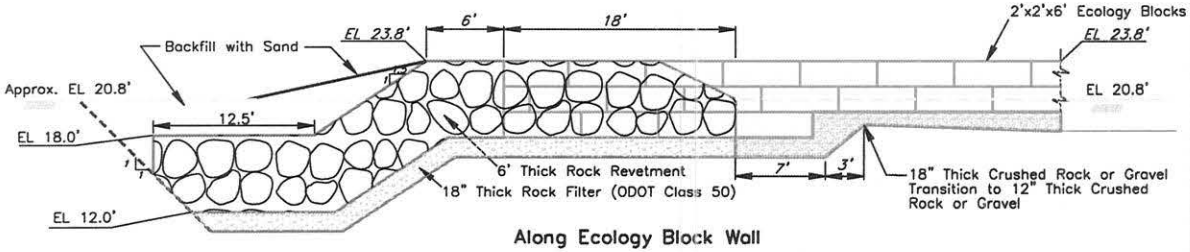


Perpendicular to Crest Alignment

DETAIL C – ALONG NORTHERN BOUNDARY
(NOT TO SCALE)

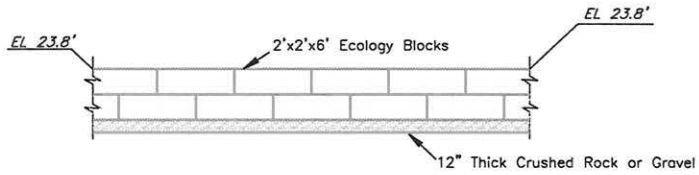


Along Rock Revetment



Along Ecology Block Wall

DETAIL B – ALONG SOUTHERN BOUNDARY
(NOT TO SCALE)



DETAIL D – ECOLOGY BLOCK WALL
(NOT TO SCALE)

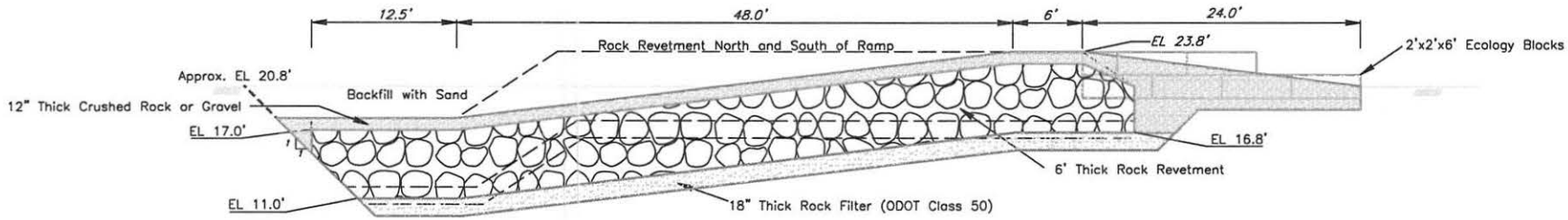
REGISTERED PROFESSIONAL ENGINEER
67050
OREGON
7/9/2001
CHRIS D. BAHNER
RENEWAL DATE: 12-31-2021

PINE BEACH DEVELOPMENT AND OCEAN BLVD. PROPERTIES ROCK REVETMENT
TILLAMOOK COUNTY

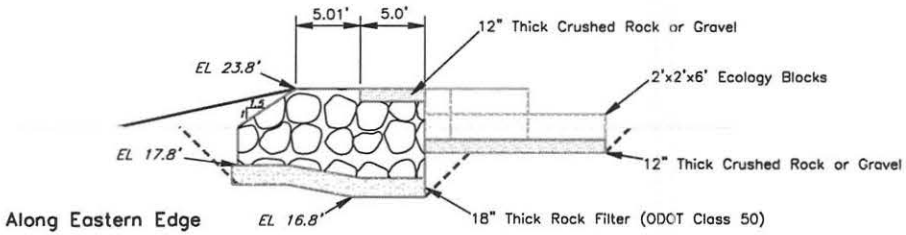
REVETMENT DETAILS

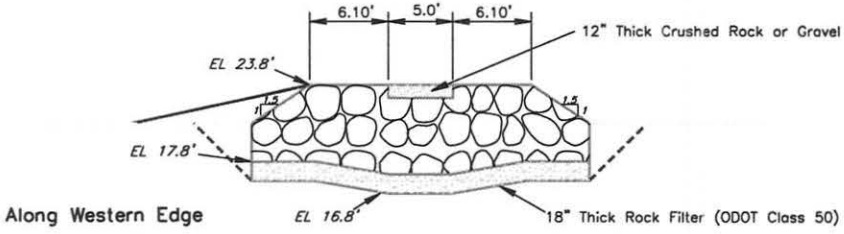
SHEET NO. 4

ALL ELEVATIONS ARE BASED ON THE VERTICAL DATUM OF NORTH AMERICAN VERTICAL DATUM OF 1988

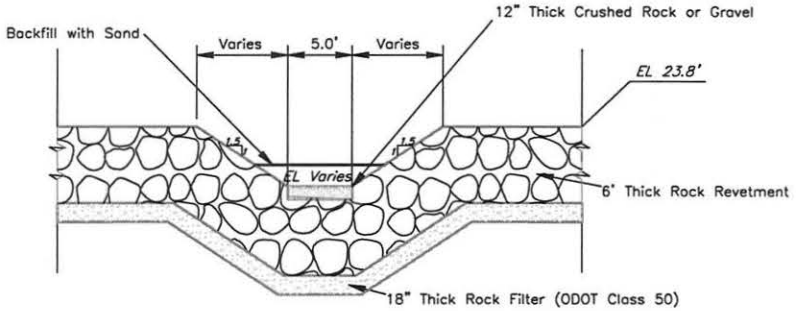


DETAIL A – TYPICAL PROFILE OF ACCESS RAMP
(NOT TO SCALE)





DETAIL C – TYPICAL SECTION OF ROCK REVETMENT
(NOT TO SCALE)



DETAIL C – TYPICAL SECTION OF ACCESS RAMP
(NOT TO SCALE)

REGISTERED PROFESSIONAL ENGINEER
67050
OREGON
7/9/2001
CHRIS D. BAHNER
RENEWAL DATE: 12-31-2021

PINE BEACH DEVELOPMENT
AND OCEAN BLVD. PROPERTIES
ROCK REVETMENT
TILLAMOOK COUNTY

ACCESS RAMP DETAILS

SHEET NO. 5

Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

201 Laurel Avenue
Tillamook, Oregon 97141

Land of Cheese, Trees and Ocean Breeze

Building (503) 842-3407
Planning (503) 842-3408
On-Site Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1-(800) 488-8280

DEPARTMENT OF COMMUNITY DEVELOPMENT
STAFF REPORT AND RECOMMENDATIONS
for
Preliminary Subdivision "Pine Beach Replat, Unit I"
Preliminary Subdivision "Pine Beach Replat, Unit II"
Variance Request V-94-19

STAFF REPORT DATE: September 1, 1994
PLANNING COMMISSION HEARING DATE: September 8, 1994

REPORT PREPARED BY: Lynda Willard, Operations Manager

I. GENERAL INFORMATION

Subdivision Name:	"Pine Beach Replat, Unit I" "Pine Beach Replat, Unit II"
Owner:	Jackson Roholt, et al. 10659 S.W. Lancaster Road Portland, OR 97219
Developer:	David Farr and Donald Nussmeier 25425 S.W. Swift Shore Drive West Linn, OR 97068
Designer & Engineer:	Handforth, Larson & Barrett, Inc. P. O. Box 219 Manzanita, OR 97045
Plat Size:	Unit I: 32 Lots in 7.8 Acres Unit II: 11 Lots in 2.4 Acres Total: 43 Lots in 10.2 Acres
Location:	Watseco; Tax Lots 100, 101 & 102 of Section 7DD, Township 1 North, Range 10 West
Zone:	R-2 (Medium Density Urban Residential)

Table of Contents:

Proposed Development: "Unit I"-the developers are requesting Preliminary Subdivision approval for the creation of a 32-lot subdivision on 7.8 acres; "Unit II"-the developers are requesting Preliminary Subdivision approval for the creation of an 11-lot subdivision on 2.4 acres; and "Variance Request V-94-

19"-the developers are requesting approval to reduce the required minimum 150 ' road curve radius from 150' to 45' for two road curves on Pine Beach Loop for the proposed "Pine Beach Replat, Unit I" subdivision.

Description of Site and Vicinity: The subject requests are for property located within the Barview-Watseco-Twin Rocks Community Growth Boundary. More specifically, this property is located within the Watseco area, between Pacific Boulevard and the Pacific Ocean, immediately north of Camp Magruder and approximately two miles south of Rockaway Beach.

The subject property is designated as Tax Lots 100. 101 & 102 of Section 7DD, Township 1 North, Range 10 West of the Willamette Meridian; Tillamook County, Oregon.

Existing Services: The Subject parcel is located within the Twin Rocks Sanitary District, Watseco-Barview Water District, School District #56, and the Garibaldi Rural Fire Protection District. The subject parcel obtains access from Pacific Boulevard which is a public right-of-way.

II. APPLICABLE ORDINANCE PROVISIONS

These applications are for property located within an R-2 (Medium Density Urban Residential) zone. The proposed subdivisions are reviewed against the standards of Sections 21, 22, 23, 24, 41, and 42 of the Land Division Ordinance. Permitted uses and lots must meet the requirements of the R-2 zone, Section 3.014 of the Land Use Ordinance. These applications must also meet the requirements of the Beach and Dune and Flood Hazard Overlay zones. The variance from road standards of the Land Division Ordinance is reviewed against the review criteria of Section 51 of the Land Division Ordinance.

III. ENVIRONMENTAL CONSIDERATION AND OTHER APPLICABLE FINDINGS

Topography/Vegetation: This part of the coast consists of relatively flat dunefields stabilized by logs and vegetation. The topography of the property is generally flat, with a slight (approximately 5 foot) rise at the west end adjacent to the beach. The property is covered almost entirely with pines of varying ages, showing a gradation as one moves from west to east. The eastern end of the property at Pacific Blvd. is dominated by mature conifer species and salal. On moist winter days a number of mosses, lichens, and mushrooms may be found covering ground and trees alike. Further west, the mature stand gives way to younger pines, and eventually to bushy shore pines which have been shaped by the wind. Among the shore pines are salal and beach grasses.

Aerial photographs show a general thickening of vegetation since 1967 as younger pines have matured. The pines at the western end are interspersed with beach grass forming a foredune. The foredune vegetation ends abruptly at approximately the Beach Zone Line, where a 3-7 foot bluff separates the platted property from an open sand beach. This bluff is a nearly vertical face where the ends of buried beach logs are exposed. There is evidence of recent wave undercutting and slumping of the bluff. Although there is little vegetation on the beach west of the bluff, American Beachgrass is attempting to establish itself in small, isolated clumps adjacent to the bluff.

Soils: The 1975 publication Beaches and Dunes of the Oregon Coast, prepared by the U.S.D.A. Soil Conservation Service and the Oregon Coastal Conservation and Development Commission indicates that this area is a combination of active foredune, open dune sand conditionally stable, younger stabilized dune, and older stabilized dune classifications. In the time since that report, the increase in vegetation density and the prevalence of conifer species indicates that the stability of these soils has increased. Today, the site consists almost entirely of recently stabilized foredunes and older stabilized dunes. The older stabilized dunes are confined to the mature forest areas, whereas the younger forest stands indicate more recently stabilized dunes.

Geology: Since construction of the Tillamook Bay North Jetty, the area running from Watseco Creek to Barview has experienced periods of accretion. This property is part of that accumulation of beach sand adjacent to an older dune ridge all lying west of Highway 101. To the east rise steep foothills composed chiefly of sedimentary rocks. Trapped between the sand and the foothills is Smith Lake, a fresh water lake. Smith Lake is surrounded by a complex set of wetland types, indicating that part of this sandy area has been stable for a long period of time. The DOGAMI Bulletin #74 shows the western two-thirds of the

property to be an area of "High Ground Water" (with water table 6' or less below surface during wet seasons.)

Wetlands: The National Wetlands Inventory Map for the Garibaldi area shows that the 4.56 acre parcel east of Pacific Boulevard contains wetlands designated PFOC and PSSC. These wetlands have not been field delineated, but it is apparent that wetland areas lie immediately adjacent to the existing road. The Department has notified the Oregon Division of State Lands. The developer has submitted a letter which states that he has no intention of disturbing or modifying the wetland area at any time. The property to be developed has some of the characteristics of interdune deflation areas. Wetland areas are also characteristic of interdune areas. No wetlands were immediately recognized by staff in the field. However, the dune characteristics, heavy forest vegetation, and mapped high water table are evidence that some wetland areas may be present. The applicants have submitted recent wetland information contained within their report.

Other Findings of Fact:

A. The lots are 6,050 square feet or larger and the minimum lot size for the zone is 5,000 square feet. The density of the proposed development is 4.2 lots per acre. There are 10 ocean front lots for which special building setback and height regulations apply. (see Applicant's packet)

B. The property totals 16.8 acres, and is bisected by Pacific Boulevard. The 4.56 acres east of Pacific Boulevard is heavily vegetated and contains wetlands designated on the National Wetlands Inventory Map. The remaining 12.25 acres of the ownership lies west of Pacific Boulevard and is the area designated to be developed in this proposal.

C. The applicant has stated that there is no plan to develop the property east of Old Pacific Highway (Pacific Boulevard) at this time, and that they have no intention of modifying the wetland area at any time.

D. Element 14 (Urbanization) of the Tillamook County Comprehensive Plan established a Community Growth Boundary around the unincorporated communities of Twin Rocks and Barview. The Boundary was established by making findings which met the Goal 14 definition of "urban areas". Goal Element 14 explains: "A community growth boundary separate from that of the City of Rockaway has been developed so that Twin Rocks/Barview residents could retain their own sense of livability." Density of residential development in the Twin Rocks/Barview area is from 3 to 9 units per acre.

E. Under the Goal 2 exception process a Goal 17 (Shorelands) exception was taken for this area. However, no Goal 18 exception has been taken for this area.

F. Section 2.2 of the Goal 18 element of the Comprehensive Plan describes beach and dune capabilities. This section indicates that recently stabilized foredunes have low levels of tolerance for urban development and are prone to activation if the vegetative cover is removed. Older stabilized dunes have high levels of tolerance for urban development.

G. National Flood Insurance Rate maps indicate that a portion of the property is subject to flooding.

H. The existing adjacent zone to the north is R-2 and includes the Watseco subdivision. The area is bordered on the south by Camp Magruder, zoned RM Recreation Management. The property is bordered on the east by the Southern Pacific Railroad right of way, Highway 101, and land designated Forest (F).

I. The only road access from Highway 101 is via Pacific Boulevard. Highway 101 is currently developed with a two lane road at its intersection with Pacific Boulevard. The railroad right of way is immediately west of and parallel to Highway 101, and crosses Pacific Boulevard at this point. The distance to the subject area is 0.25 miles along Pacific Boulevard from this intersection.

J. Pacific Boulevard is currently improved with an asphalt surface approximately 15 feet wide. The development will improve Pacific Boulevard adjacent to the subdivision plat. This road section has been routed westward to avoid impacts to the wetlands along the eastern side of the road.

K. The developer has submitted proposed covenants, conditions and restrictions along with a planning justification statement, an engineering summary statement, a dune hazard report, wetland report, flood study, and a tentative plat. This information is, by this reference, made a part hereof.

L. The original plat of "Pine Beach" was recorded in 1932, and contained 121 lots which were generally 40 feet by 80 feet in size. The platted lots were bordered by Lakeside Drive at the Southern Pacific right of way on the east, and by Ocean Boulevard on the west. Six lots were sold in 1932 and 1933. The entire plat, with the exception of Second Street between Pacific Highway and Ocean Boulevard and the separate ownerships along Second Street, was vacated in 1941. The ownership was conveyed to the heirs of the owner, Elizabeth Jackson, in 1985.

M. Notices were mailed to 51 individuals and agencies, as required by law, prior to this hearing. To date staff has only received those agency responses found in the blue section of the report. Response submitted by individuals is found in the salmon colored pages. There comments are, by this reference, made a part hereof.

IV. ANALYSIS

Comprehensive Plan Ordinance (32)

Tillamook County established a Community Growth Boundary (CGB) around Barview, Watseco and Twin Rocks based on the procedures and requirements of the Goal 2 exceptions process. Planning for the these unincorporated communities was completed in accordance with Goal 14 Urbanization. This area is described as a "functionally urban area" primarily due to sewer and water service availability, a significant growth rate, and existing residential densities of 3 to 9 dwellings per acre. The proposed plat is located within this Community Growth Boundary (CGB). This is consistent with Plan policies for development within CGBs which encourage development within urban areas before conversion of urbanizable land and resource lands. The proposed density is less than 5 dwellings per acre.

The plat is also located in a beach and dune area as identified by the Goal 18 Element of the Comprehensive Plan. The Plan found that "younger and older stabilized dunes" are the most suitable dune forms for urban and rural development. Residential development can easily occur in these areas without creating any adverse effects or hazards on the site or in surrounding areas.

The plats are within a dune area suitable for development subject to a site evaluation. Land Use Ordinance Section 3.085(5) implements evaluation requirements and development standards through Dune Hazards Reports. The applicant has submitted a Dune Hazards Report.

Land Use Ordinance (33)

Section 3.014 Medium Density Urban Residential Zone (R-2), Subsection (4) Standards. All land divisions and development in the R-2 zone must conform to the standards of this section, unless more restrictive supplemental regulations apply or variance approval is granted

Findings: Only residential uses are proposed. All of the proposed lots in Unit I meet the size, width, and depth requirements of this section. One lot (# 43) in Unit II does not conform to the minimum required lot depth. A variance for that lot will be reviewed by the Planning Commission at their September 22 meeting. All other required standards will be reviewed at the time of building permit application.

Conclusion: Staff finds that the requirements of LUO Section 3.014 are met in Unit I and will need to be reviewed further for the one lot in Unit II later in September through the variance process

Section 3.060 Flood Hazard Overlay Zone (FH), requires that the following standards be met when reviewing subdivision proposals within the flood plane areas;

"(i) All subdivision proposals shall be consistent with the need to minimize flood damage.

"(j) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

"(k) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

"(l) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less)."

Findings: These standards either will be met or have been justified within the applicants submittal information. The flood information provided by the applicant has been reviewed and approved by FEMA and as a result will be accepted by the County.

Conclusion: The applicant has provided sufficient information to indicate that these standards will be met.

Section 3.085 Beach and Dune Overlay Zone (BD): This zone contains requirements which are intended to regulate development in a manner that conserves, protects and, where appropriate, restores the natural resources, benefits, and values of coastal beach and dune areas, and reduces the hazard to human life and property from natural events or human-induced actions in these areas. The Overlay Zone establishes guidelines and criteria for the assessment of hazards resulting from beach and dune processes and development activities in beach and dune areas. The applicable portions of this section are listed below.

Applicability: Section 3.085 (2) A and B, defines areas where the provisions of the BD Overlay Zone apply. Applicability is based on dune type and the inventory of beach and dune landforms contained in the Soil Conservation Service 1975 report, Beaches and Dunes of the Oregon Coast.

Findings: The SCS report indicates that the plat site is fronted by Active Foredunes on the west, conditionally stable dunes inland initially, with an area of Younger Stabilized Dunes further inland. In 1993, the author of the 1975 SCS report, Dr. Frank Reckendorf, revisited the site at the request of Tillamook County. Dr. Reckendorf noted that the foredune area has eroded away recently, and the site is a mixture of conditionally stable dunes to the west of the proposed plat and younger stabilized dune in the location of the proposed plat.

The applicant has submitted a supplemental study indicating that the portions of the parcel designated for development are not subject to ocean undercutting or wave overtopping in a 100-year storm event. Section 3.085(4)(A) permits residential development in this type of dune area subject to the site development requirements of Section 3.085(5).

Staff notes that this site is not a location where beachfront protective structures are authorized by an exception to Goal 18 or where development existed as of January 1, 1977.

Site Development Standards: Section 3.085(5)(A) General Development Criteria.

Findings: No deflation plain or groundwater resources are to be impacted.

The Land Grading Practices of Subsection 2 apply to this request. Some grading will be required to site Pine Beach Loop road and for lot development. The drainage and erosion standards apply. The Dune Hazard Report contains the required erosion control and vegetation plans.

Conclusion: Staff finds that the proposal can meet these standards. A recommended condition of approval is requiring a vegetation conservation plan be approved prior to development.

Dune Hazard Report: Section 3.085(5)(B) requires a Dune Hazard Report prior to the approval of subdivisions. Subsection (3) of this section allows the applicant to submit a report which meets the standards of a Preliminary Site Investigation unless a Detailed Investigation is recommended by the consultant. All reports must contain the Summary Findings and Conclusions under subsection (3)(c).

Subsection (3)(a) Preliminary Site Investigation. The Preliminary Site Investigation is conducted by a qualified person, examples of which are listed. The purpose of the Preliminary Site Investigation is to describe the site, identify hazards and recommend either standards for development or additional investigation is needed. Descriptive geographic information is required.

Findings: The June 3, 1994 Dune Hazards report was prepared by Ron Larson, a Registered Professional Engineer, and Paul See, a Registered Professional Geologist.

Additionally, an Engineering Report prepared by David Simpson, a Coastal Engineer, dated September 1993 studies potential flooding conditions. This report was prepared for a Flood Insurance Rate Map Revision Request for the Pine Beach Replat. The map revision request was accepted by FEMA on April 16, 1994.

The report contains all the required descriptive geographic elements, as applicable.

Conclusions: Staff finds that the report adequately describes the geology and hazards of the site for the purposes of a Preliminary Site Investigation.

Subsection 3(b) Detailed Site Investigation. The purpose of the Detailed Site Investigation is to fully describe the extent and severity of identified hazards. The report is to recommend development standards to assure that proposed alterations and structures are properly designed so as to avoid or recognize the hazards identified and described.

Findings and Conclusions: Staff finds the report identifies situations where more detailed information would be required and recommends all the necessary development standards. Compliance with these standards is a recommended condition of approval.

Subsection (3)(c) Summary Findings and Conclusions. The Preliminary and Detailed Site Reports shall include the following summary findings and conclusions:

"1. The proposed use and the hazards it might cause to life, property, and the natural environment;

"2. The proposed use is reasonably protected from the described hazards for the lifetime of the structure.

"3. Measures necessary to protect the surrounding area from any hazards that are a result of the proposed development;

"4. Periodic monitoring necessary to ensure recommended development standards are implemented or that are necessary for the long-term success of the development."

Findings: Staff finds that the report makes the required findings and conclusions and recommends the Commission adopt the report as part of the basis for its decision.

Land Division Ordinance (35)

Section 21, Tentative Plat; General Information: This section specifies what general information is required on all tentative subdivision plats. The proposed name of the subdivision, the date, northpoint and scale of the drawing; description of the proposed tract; identification of the map as a tentative plat; names and addresses of those involved in preparation; is to be indicated on the Tentative Plat.

Findings: The proposed name of the subdivisions "Pine Beach Replat, Units I & II" duplicate the existing subdivision that is being replatted. Other than that the proposed names do not resemble or duplicate the name of any other subdivision in the county. All of the other information required under this section is included on the Preliminary Subdivision Plat maps, dated June 3, 1994, and supporting plans and documents submitted by the applicant. The applicants "Application Package for Pine Beach Replat I and II Index" lists all the documentation provided by the applicant all of which are in support of these requests, and are by the reference, made a part hereof.

Conclusion: This requirement is met.

Section 22, Tentative Plat; Existing Conditions: This section specifies the information required showing existing conditions in and surrounding the proposed subdivision.

Findings: Sheets 1 and 2 contain this information.

Conclusion: This requirement is met.

Section 23, Tentative Plat; Proposed Plan of Land Division: This section specifies the information required showing the proposed plan of land division. The Tentative Plat must show proposed street names, location width, grades, typical cross section, and curve radii, and how proposed streets intersect existing streets; description of easements, location and dimension of all lots and lot and block numbers; storm water drainage plan; water distribution plan; sewage disposal plan; and certificates or letters of service availability from utilities or special districts.

Findings: Sheets 1 and 2 and the applicants submitted information show the required information.

Conclusion: This requirement is met.

Section 24, Tentative Plat; Supplemental Information: This section allows the Department to require certain additional information to supplement the proposed plan of subdivision. Staff requested additional information under the items listed below.

"2. Special studies of areas which appear to be hazardous due to local geologic conditions."

"6. In areas subject to flooding, materials shall be submitted to demonstrate that the requirements of the Flood Hazard Overlay Zone (FH) of the County's Land Use Ordinance will be met."

Findings: Staff requested of and received documents from the applicant pertaining to flooding, wetlands and beach and dunes. Those reports are contained within the applicants submittal information which is a part of this report. Staff has reviewed all of the reports and finds that they are consistent with the applicable regulations and that the proposal is consistent with those reports.

Conclusion: This requirement is met.

Section 41 Improvement Requirements specifies improvements which shall be installed at the expense of the developer. These improvements include water supply, sewage disposal, streets, access to lots, and drainage.

Findings: All of the improvements required under this section are either indicated as being provided by the developer, or will be included as conditions of approval.

Conclusion: This requirement is met.

Section 42. Improvement Standards provides that the design, improvement, and construction of all roads and streets resulting from the division of land shall comply with the following standards and requirements to the extent possible given topography, aesthetics, safety, or other design considerations. This section also contains design standards for other elements of subdivisions, and gives the county authority to require reservation or dedication of land for public purposes.

Findings: With the exception of curve radii on two corners, the applicant indicates that all improvement standards will be met. This request includes a variance for two road radii and that discussion is contained further on in this report.

The Public Works Department has reviewed the plans and has submitted comments regarding their observations.

A special setback line is indicated on the plat which delineates the oceanfront setback line. No structures will be built westward of this line in the future.

Conclusion: The variance is discussed later, however, if the Commission approves the variance this requirement will be met.

Land Division Ordinance Section 51 Variance Application. The applicant is proposing a reduction in curve radii on two curves required by the street standards of LDO Section 42. The Planning Commission may authorize a variance to the LDO standards if it makes the following determinations:

"1. **Where there has already been tentative approval of the land division, a variance is necessary to serve the proposed lots or parcels;"**

Findings: No tentative approval has been granted.

"2. **Substantial hardship would result from strict compliance with these regulations or the conditions of the preliminary approval, due to special circumstances or conditions affecting the property, over which the developer has no control;"**

Findings: Item 1 of the applicants justification addresses this criteria and Staff concurs with the applicants analysis.

"3. **The variance complies with the intents and purposes of these regulations, and will not be injurious to the use of the tract for homesites or to other property in the vicinity;"**

Findings: Through conversations with the Public Works Department Staff it has been understood that the proposal is a logical request and is justified in this situation.

"4. **The requested variance is the minimum necessary to alleviate the hardship."**

Findings: The applicants address this criteria well within their report and Staff concurs with their analysis.

Conclusion: Staff feels that all review criteria have been adequately justified. Additionally, Staff feels that denying the applicants variance request for road curves in Unit I would require a redesign of the plat and probably lead to not only a decrease in lots, potentially, but an unusual loop situation for the roadway. If the Commission agrees that denial of this variance is a substantial hardship to the applicant then Staff feels the requirements of LDO, Section 51 are met.

Road Approach Ordinance (44)

Section VII Standards contains the design requirements for vehicle access to and from roads. These requirements include sight distance, minimum separation between approaches and from intersections, a standard profile of the slope at which a driveway may leave the edge of a traveled way, and other design standards. Lots platted through the subdivision process must be able to meet these requirements when they are developed.

Findings: All of the lots are planned to access onto streets that need little or no grading. Therefore, access should not be limited in any way.

V. CONCLUSIONS

Staff concludes that the applicants have satisfied the minimum application requirements, and can satisfy all applicable ordinance requirements prior to final plat approval. Staff also concludes that all of the Variance Review Criteria have been met as they apply to Variance Request V-94-19.

VI. RECOMMENDATION AND SUGGESTED CONDITIONS OF APPROVAL

Based upon the findings of fact, conformance with applicable Variance Review Criteria and other relevant information contained within this report, Staff recommends **APPROVAL** of Preliminary Subdivisions "Pine Beach Replat, Units I & II" and Variance Request V-94-19, subject to the following conditions:

A. Prior to development requiring a building permit, each future property owner shall provide a project-specific and site-specific Detailed Site Investigation/Dune Hazard Report meeting the requirements of the Beach and Dune Overlay Zone.

B. The Mandatory Standards listed in the Dune Hazard Report and modified Dune Hazard Report, dated June 3, 1994, for the Pine Beach Replat shall be required for all development or construction as outlined within this applications.

C. A vegetation conservation plan shall be required when applying for a building permit. The following elements shall be included in vegetation plans and on building plans. These are minimum standards/requirements. Staff may require further information prior to building permit approval, including but not limited to:

1. A signed written statement that excavation will not start more than 30 days prior to pouring foundation footings for houses or trenching for utilities installation.

2. A signed written statement that the site shall be stabilized by reestablishment of vegetation or other approved means no later than 9 months after termination of major construction.

3. Plans indicating methods to be used to protect footings from erosion and undermining during construction.

4. Plans indicating proposed method of stormwater disposal.

5. Stabilization plan for continued maintenance of disturbed areas.

6. Written documentation which describes protection measures for undisturbed areas such as installation of construction fencing.

7. Building plans shall show that the following lot coverage standard will be met: Disturbed lot area shall be the minimum necessary to place structures on a lot, but in no case shall the disturbed area for ocean front lots be greater than 50% of the lot, or not greater than 60% of lot area for non-oceanfront lots.

8. A signed written statement that tree topping will be limited to that which is necessary to maintain the stability of the tree.

D. Vegetative measures to maintain the existing foredune at or above its current height shall be implemented prior to or concurrent with any development of the parcel. Reasonable efforts shall be implemented to guard against adverse flood effects.

E. The development shall conform to all PUD policies.

F. The development shall conform to all applicable Fire District regulations.

G. The development shall meet all conditions contained within the Public Works Department letter regarding this application and all regulations contained within the Tillamook County Land Division Ordinance, except where a Variance to those regulations has been granted.

H. The development shall meet all of the conditions, regulations, and concerns of the Twin Rocks Sanitary District, Twin Rocks-Watseco Water District and United Telephone.

I. The building setback line delineated on the approved tentative plan of "Unit I" is to remain for all subsequent development in this subdivision. This information shall be written onto the final plat as text and shall be so delineated on the plat map.

J. All taxes owed shall be paid in full.

K. The common area will be held as an undivided interest by lot owners of the subdivision.

L. Access to the beach will be limited to the two platted easements.

M. The applicant shall conform to all Federal, State, and County regulations and shall obtain all required permits prior to construction and/or development.

VII. EXHIBITS

All Exhibits mentioned within this report are by this reference incorporated herein.

A. Assessor Map
B. Agency Responses and Staff Letters (blue pages)
C. Letters From Individuals (salmon pages)
D. Justification by Applicant (within binder)

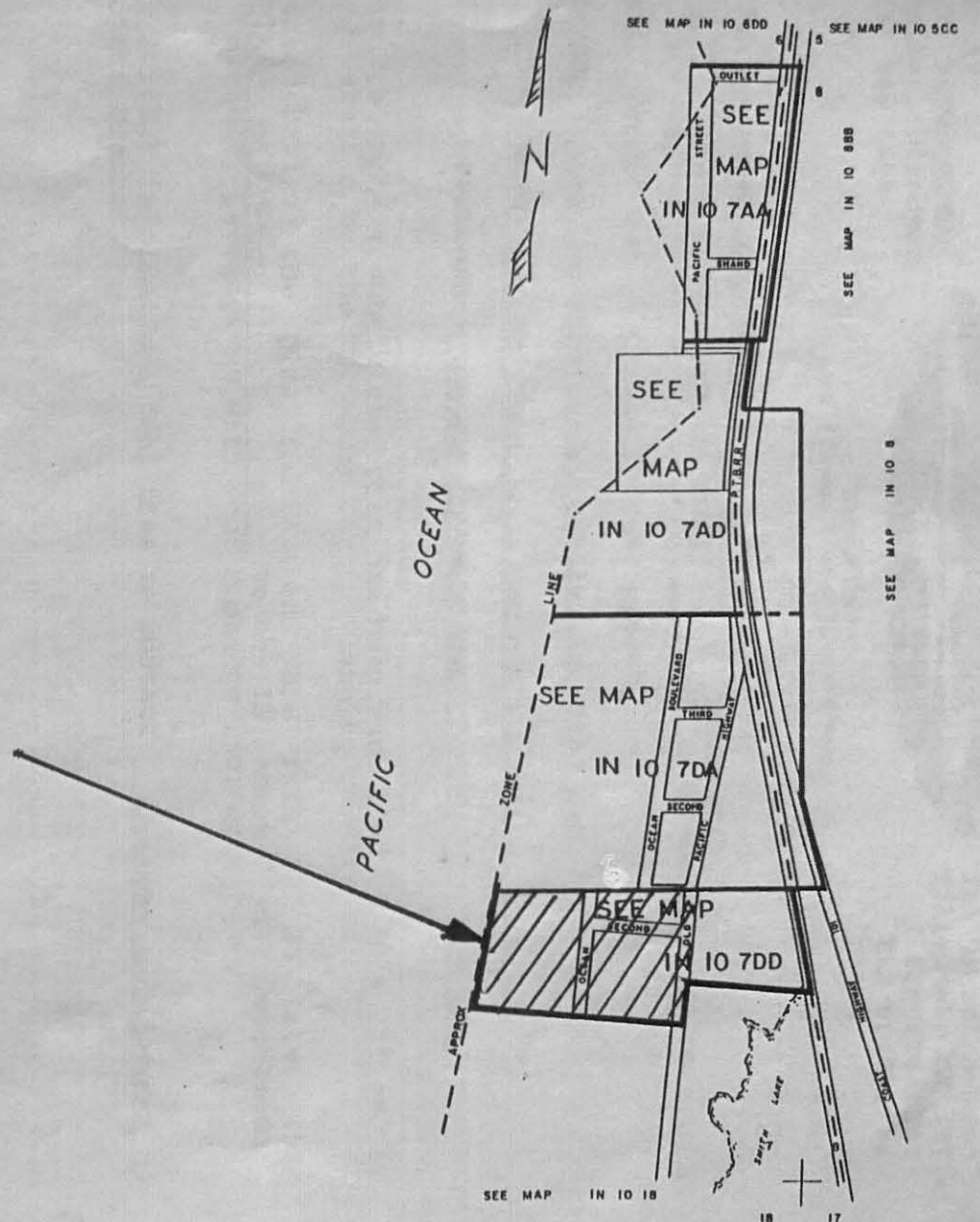
SECTION 7 T.1N. R.10W.W.M.

AMOOK COUNTY

1"= 400'

IN 10 7
INDEX

This map was prepared for assessment purposes only



REQUEST LOCATION

PACIFIC

C-466

PINE BEACH REPLAT UNIT 1

SE 1/4 SECTION 7, T1N, R10W, W.M. COUNTY

JUNE 24, 1996

DECLARATION:

KNOW ALL PEOPLE BY THESE PRESENTS THAT PINE BEACH DEVELOPMENT L.L.C., AN OREGON LIMITED LIABILITY COMPANY AND CENTENNIAL BANK, BEING THE OWNERS OF THE LAND HEREIN DESCRIBED, DO HEREBY MAKE, ESTABLISH, AND DECLARE THE ANNEXED MAP OF "PINE BEACH REPLAT UNIT 1", AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, TO BE A TRUE AND CORRECT MAP AND PLAT THEREOF. ALL LOTS BEING OF THE DIMENSIONS SHOWN ON SAID MAP. AREA 'A' IS A COMMON AREA. WE DO HEREBY DEDICATE FOREVER, THE EAST 10.00 FEET OF THAT PORTION OF PARCEL 3, PARTITION PLAT NO. 1994-003, THAT LIES WEST OF OLD PACIFIC HIGHWAY AS A PUBLIC WAY, WITHOUT RESERVATION. EASEMENTS E-1 THROUGH E-4 AS SHOWN HEREON ARE HEREBY GRANTED AS NON-EXCLUSIVE EASEMENTS FOR THE PURPOSES STATED HEREIN. ALL STREETS WITHIN THIS PLAT ARE PRIVATE.

PINE BEACH DEVELOPMENT L.L.C.
BY DONALD K. NUSSMEIER,
ITS MANAGING MEMBER

PINE BEACH DEVELOPMENT L.L.C.
BY DAVID L FARR, ITS MANAGING MEMBER

CENTENNIAL BANK
BY JEFFERY P. TAINER,
ITS ASSISTANT VICE-PRESIDENT

ACKNOWLEDGEMENT:

STATE OF OREGON >
> S.S.
COUNTY OF WASHINGTON >

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON July 30th, 1996, BY DONALD K. NUSSMEIER, AND DAVID L FARR, AS MANAGING MEMBERS OF PINE BEACH DEVELOPMENT L.L.C., ON BEHALF OF THE COMPANY AND JEFFERY P. TAINER, AS ASSISTANT VICE-PRESIDENT OF CENTENNIAL BANK, ON BEHALF OF CENTENNIAL BANK.

NOTARY PUBLIC

MY COMMISSION EXPIRES: 7/30/98

OFFICIAL SEAL
ALICE M DEWEES
NOTARY PUBLIC - OREGON
COMMISSION NO. 043843
MY COMMISSION EXPIRES JUL 30, 1998

MONUMENT NOTES:

(1) FOUND OSHD ALUMINUM CAP ON A 5/8" IRON ROD STAMPED "WAT 1973", TOP 0.3' BELOW GROUND, 3.5' NORTHEAST OF METAL WITNESS STAKE, AT SOUTHWEST QUADRANT OF OLD PACIFIC HIGHWAY AND HIGHWAY 101. USED FOR NGS TIE. SET BY OSHD AS BEACH ZONE LINE CONTROL.

(2) FOUND OSHD ALUMINUM CAP ON A 5/8" IRON ROD STAMPED "AQU 1973", TOP FLUSH WITH GROUND, 1.0' WEST OF BROKEN METAL WITNESS STAKE, 10.5' EAST OF EAST EDGE OF PAVEMENT OF HIGHWAY 101. USED FOR NGS TIE. SET BY OSHD AS BEACH ZONE LINE CONTROL.

(257) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "ZAROSINSKI TATONE LS 1349", TOP 0.1' ABOVE SURFACE, 2.5' SOUTH OF CENTERLINE OF A FOOT PATH. NORTH 0.04' AND WEST 0.07' OF CALCULATED POSITION FOR THE NORTHEAST CORNER OF PARCEL 1, PARTITION PLAT NO. 1994-003. SEE MAP B-1218.

(258) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB INC", TOP FLUSH WITH SURFACE AND IN CENTERLINE OF A FOOT PATH. S 89°55'35" W 85.14' AND N 00°04'25" W 0.08' OF SET MONUMENT FOR THE MOST NORTHERLY NORTHEAST CORNER OF THE EXTERIOR BOUNDARY FOR PINE BEACH REPLAT. SEE MAP B-1760.

(262) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB INC", TOP 0.5' BELOW SURFACE, SOUTH 0.06' AND WEST 0.03' OF CALCULATED POSITION. PULLED THIS MONUMENT. SEE PARTITION PLAT NO. 1994-003.

(265) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB INC", TOP 0.6' BELOW SURFACE, SOUTH 0.07' AND EAST 0.19' OF CALCULATED POSITION. PULLED THIS MONUMENT. SEE PARTITION PLAT NO. 1994-003.

(268) FOUND COUNTY SURVEYOR'S BRASS CAP SET IN CONCRETE. INITIAL POINT FOR PINE BEACH, TOP FLUSH WITH SURFACE. HELD FOR BASIS OF BEARINGS. SEE REMTNESS BIN #30

(269) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "ZAROSINSKI TATONE LS 1349", TOP FLUSH WITH SURFACE. HELD FOR BASIS OF BEARINGS. SEE MAP B-1218.

(272) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "ZAROSINSKI TATONE LS 1349", TOP FLUSH WITH SURFACE. BEARS N 84°34'25" W 8.74' FROM SOUTHEAST CORNER OF LOT 9. SEE MAP B-1218.

(286) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "A DUNCAN LS 793", TOP FLUSH WITH SURFACE. SOUTH 0.14' AND EAST 0.06' OF CALCULATED POSITION FOR THE SOUTHWEST CORNER OF LOT 10, BLOCK 4, PLAT OF PINE BEACH. SEE MAP A-5178.

APPROVALS:

STATE OF OREGON >
> S.S.
COUNTY OF TILLAMOOK >

EXAMINED AND APPROVED BY THE FOLLOWING:

Allan E. Duncan 6-13-96
COUNTY SURVEYOR DATE

Ken Burdick 8-20-96
COUNTY COMMISSIONER DATE

Tim Sutz 8-19-96
COUNTY ASSESSOR DATE

COUNTY COMMISSIONER DATE

Josephine Veltri
by Susan Holmes 9-11-96
COUNTY CLERK Deputy DATE

Jerry C. Rose 9/19/96
COUNTY COMMISSIONER DATE

TAXES ARE PAID IN FULL TO JUNE 30, 1997.

Debi K Pointer 9-10-96
COUNTY TAX COLLECTOR DATE

Vicki M. Kirkpatrick 9-11-96
CHAIRMAN DATE
TILLAMOOK COUNTY PLANNING COMMISSION

MONUMENT NOTES:

(287) FOUND 1/2" IRON PIPE WITH PLUG AND TAGK, TOP 0.2' ABOVE SURFACE. SOUTH 0.38' AND WEST 1.45' OF CALCULATED POSITION FOR THE SOUTHWEST CORNER OF LOT 10, BLOCK 4, PLAT OF PINE BEACH. NO RECORD.

(289) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "A DUNCAN LS 793", TOP 0.2' ABOVE SURFACE. SOUTH 0.08' AND EAST 0.06' OF CALCULATED POSITION FOR THE SOUTHEAST CORNER OF LOT 7, BLOCK 4, PLAT OF PINE BEACH. SEE MAP A-5178.

(293) FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB INC", TOP FLUSH WITH SURFACE. S 89°55'35" W 190.41' AND N 00°04'25" W 0.14' OF SET MONUMENT FOR THE MOST NORTHERLY NORTHEAST CORNER OF THE EXTERIOR BOUNDARY FOR PINE BEACH REPLAT. SEE MAP B-1760.

SHEET INDEX:

LEGEND:

- o INDICATES 5/8" X 40" REBAR SET WITH YELLOW PLASTIC CAP MARKED "HLB ASSOC. INC."
- ◉ INDICATES MONUMENT FOUND AS NOTED HEREON USED FOR CONTROL.
- • INDICATES MONUMENT FOUND AS NOTED HEREON.
- ( )[1] INDICATES RECORD VALUE PER PARTITION PLAT NO. 1994-003.
  NO ( ) INDICATES MEASURED VALUE.
- S.F. INDICATES SQUARE FEET.
- (G & N) INDICATES GROSS AND NET AREA
- (G) INDICATES GROSS AREA
- (N) INDICATES NET AREA

TILLAMOOK COUNTY SURVEYORS OFFICE SEP 11 1996

REGISTERED PROFESSIONAL LAND SURVEYOR
Ronald G. Larson
OREGON
July 13, 1984
2102
RONALD G. LARSON
RENEWAL DATE: DECEMBER 31, 1996

EASEMENTS OF RECORD:

RIGHTS AS CONTAINED IN PATENT FROM UNITED STATES OF AMERICA, TO LLOYD C. SMITH, HIS HEIRS AND ASSIGNS, AS DISCLOSED BY INSTRUMENT RECORDED SEPTEMBER 22, 1880, IN BOOK 1, PAGE 321, TILLAMOOK COUNTY DEED RECORDS.

EASEMENTS:

E-1: A 15.00' WIDE NON-EXCLUSIVE EASEMENT FOR SEWER SYSTEM IMPROVEMENTS, INGRESS AND EGRESS TO TWIN ROCKS SANITARY DISTRICT.

E-2: A NON-EXCLUSIVE EASEMENT FOR SEWER SYSTEM IMPROVEMENTS, INGRESS AND EGRESS TO TWIN ROCKS SANITARY DISTRICT.

E-3: A 8.00' WIDE NON-EXCLUSIVE EASEMENT FOR UTILITIES TO TILLAMOOK PEOPLE'S UTILITY DISTRICT.

E-4: A 8.00' WIDE NON-EXCLUSIVE EASEMENT FOR ELECTRICAL UTILITIES TO TILLAMOOK PEOPLE'S UTILITY DISTRICT.

CONDITIONS & RESTRICTIONS:

SEE BOOK 381, PAGE 172 TILLAMOOK COUNTY DEED RECORDS FOR DECLARATIONS, COVENANTS, RESTRICTIONS AND RESERVATIONS.

SURVEYOR'S CERTIFICATE:

STATE OF OREGON >
>S.S.
COUNTY OF TILLAMOOK >

I, RONALD G. LARSON, CERTIFY THAT:

I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE TRACT OF LAND REPRESENTED ON THE ANNEXED MAP, THE EXTERIOR BOUNDARY OF "PINE BEACH REPLAT UNIT1" BEING DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST RIGHT-OF-WAY LINE OF PACIFIC HIGHWAY WHICH POINT IS SOUTH 89°55'35" WEST 10.05 FEET AND SOUTH 05°25'35" WEST 357.13 FEET FROM THE INITIAL POINT OF PINE BEACH, RECORDED AS MAP C-71, PLAT RECORDS OF TILLAMOOK COUNTY, LOCATED IN SECTION 7, TOWNSHIP 1 NORTH, RANGE 10 WEST OF THE WILLAMETTE MERIDIAN, TILLAMOOK COUNTY, OREGON, SAID POINT BEING THE INITIAL POINT OF THIS SUBDIVISION PLAT AND MARKED BY A 5/8" X 40" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB ASSOC. INC. ";

THENCE NORTH 84°34'25" WEST 230.00 FEET TO A 5/8" X 40" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB ASSOC. INC. ";

THENCE NORTH 05°25'35" EAST 40.00 FEET TO THE SOUTHEAST CORNER OF LOT 7, BLOCK 4, PINE BEACH;

THENCE NORTH 84°34'25" WEST ALONG THE SOUTH LINE OF LOTS 7,8 AND 10, BLOCK 4, PINE BEACH AND THE WESTERLY EXTENSION THEREOF 220.00 FEET TO THE WEST RIGHT-OF-WAY LINE OF OCEAN BOULEVARD;

THENCE NORTH 05°25'35" EAST ALONG SAID WEST RIGHT-OF-WAY LINE 220.00 FEET TO THE INTERSECTION WITH THE WESTERLY EXTENSION OF THE NORTH LINE OF LOT 10, BLOCK 2, PINE BEACH;

THENCE SOUTH 84°34'25" EAST ALONG SAID WESTERLY EXTENSION 5.00 FEET TO A 5/8" X 40" REBAR WITH YELLOW PLASTIC CAP STAMPED "HLB ASSOC. INC. ";

THENCE NORTH 05°25'35" EAST 54.28 FEET TO THE EASTERLY EXTENSION OF THE NORTH LINE OF PARCEL 1, PARTITION PLAT NO. 1994-003, RECORDS OF TILLAMOOK COUNTY;

THENCE NORTH 89°55'35" WEST 520 FEET, MORE OR LESS, TO THE MEAN HIGH WATER LINE OF THE PACIFIC OCEAN;

THENCE SOUTHERLY ALONG SAID MEAN HIGH WATER LINE 550 FEET, MORE OR LESS, TO SOUTH LINE OF PARCEL 3, PARTITION PLAT NO. 1994-003, THAT LIES WEST OF OLD PACIFIC HIGHWAY;

THENCE SOUTH 84°34'25" EAST ALONG SAID SOUTH LINE 1048 FEET, MORE OR LESS, TO THE WEST RIGHT-OF-WAY LINE OF PACIFIC HIGHWAY;

THENCE NORTH 05°25'35" EAST ALONG SAID WEST RIGHT-OF-WAY LINE 638.09 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF FIRST AVENUE;

THENCE SOUTH 89°55'35" WEST ALONG SAID SOUTH RIGHT-OF-WAY LINE 10.05 FEET TO A POINT WHICH IS 10.00 FEET WESTERLY AS MEASURED PERPENDICULAR TO THE WEST RIGHT-OF-WAY LINE OF PACIFIC HIGHWAY;

THENCE SOUTH 05°25'35" WEST PARALLEL WITH SAID WEST RIGHT-OF-WAY LINE 357.13 FEET TO THE INITIAL POINT.

HLB & ASSOC., INC.
HANDFORTH LARSON & BARRETT
SURVEYING • ENGINEERING • PLANNING

TILLAMOOK COUNTY
180 LANEDA AVE.
MANZANITA, OR 97130
(503) 368-5394
FAX: (503) 368-5847

CLATSOP COUNTY
4253A HWY 101 N.
GEARHART, OR 97138
(503) 738-3425
FAX: (503) 738-7455

12771601.DWG

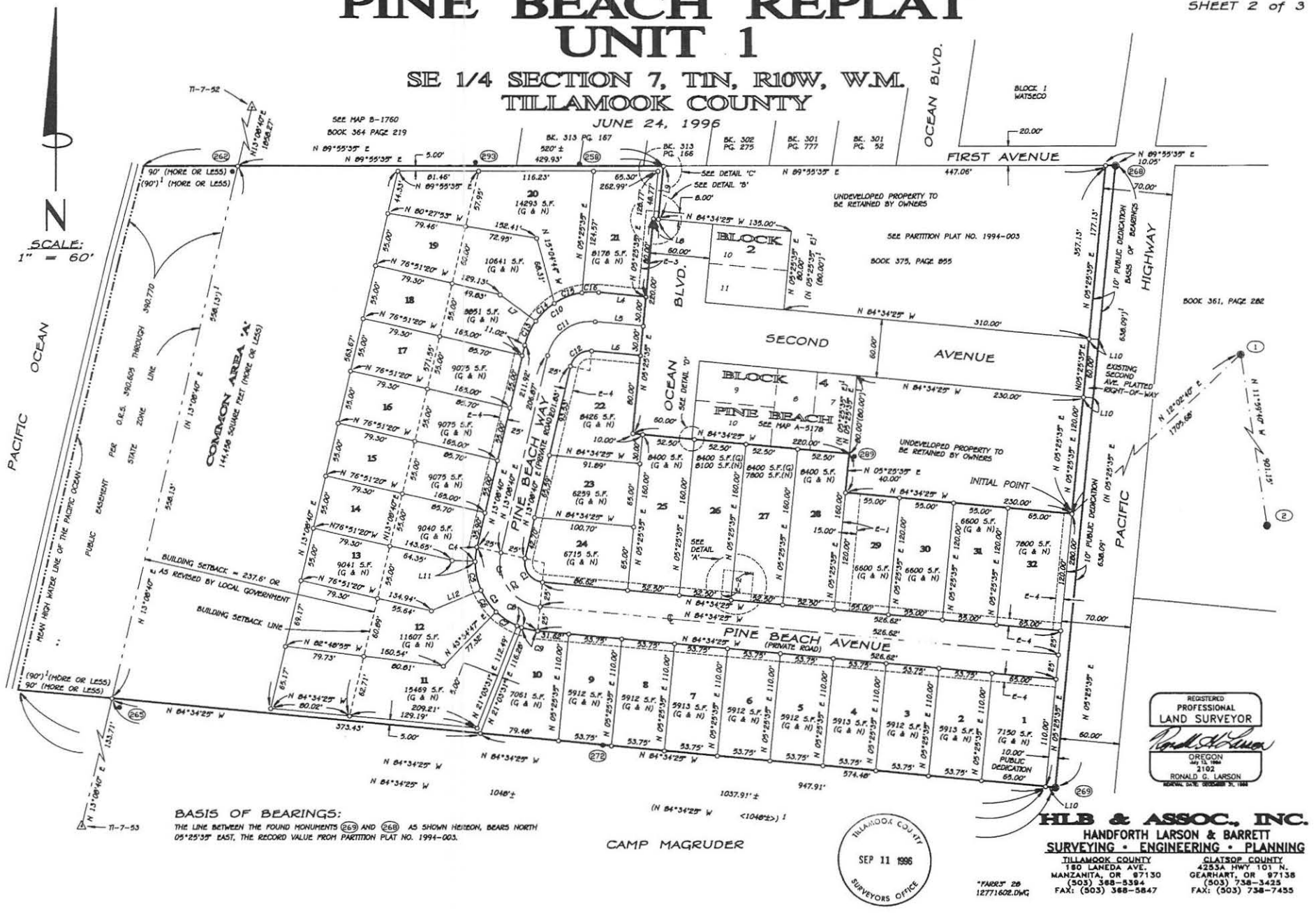
C-466

PINE BEACH REPLAT
UNIT 1

SE 1/4 SECTION 7, T1N, R10W, W.M.
TILLAMOOK COUNTY

JUNE 24, 1996

SHEET 2 of 3



BASIS OF BEARINGS:
THE LINE BETWEEN THE FOUND MONUMENTS (269) AND (268) AS SHOWN HEREON, BEARS NORTH 05°25'35" EAST, THE RECORD VALUE FROM PARTITION PLAT NO. 1994-003.

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
July 13, 1984
2102
RONALD G. LARSON
RENEWAL DATE: DECEMBER 31, 1996

TILLAMOOK COUNTY SURVEYORS OFFICE
SEP 11 1996

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(503) 738-3425
FAX: (503) 738-7455

"FARR" 28
12771602.DWG

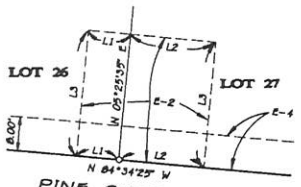
996-3

PINE BEACH REPLAT
UNIT 1

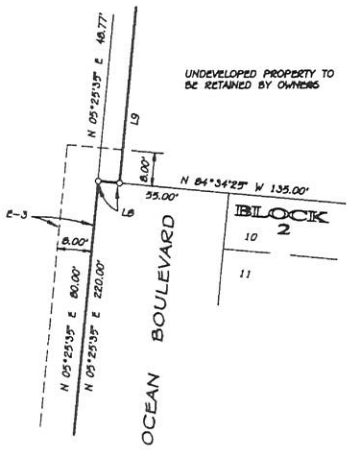
SE 1/4 SECTION 7, T1N, R10W, W.M.
TILLAMOOK COUNTY

JUNE 24, 1996

SHEET 3 of 3



DETAIL 'A'
NOT TO SCALE



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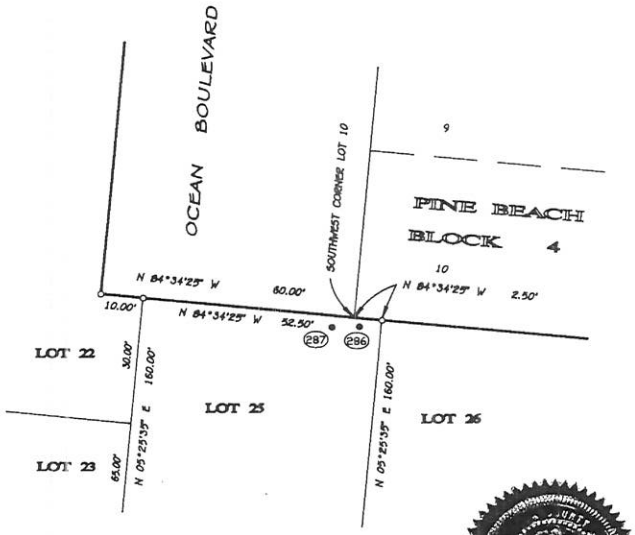

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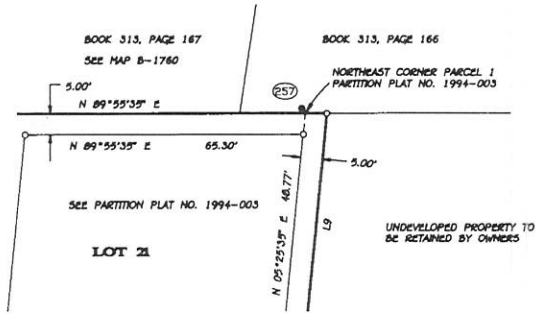

DETAIL 'C'
NOT TO SCALE

LINE TABLE DATA

LINE	DIRECTION	DISTANCE
L1	N 84°34'25" W	10.00'
L2	N 84°34'25" W	20.00'
L3	S 05°25'35" W	30.00'
L4	S 84°34'25" E	48.16'
L5	S 84°34'25" E	48.84'
L6	N 84°34'25" W	49.51'
L7	S 53°49'37" E	44.85'
L8	N 84°34'25" W	5.00'
L9	S 05°25'35" W	54.28'
L10	N 84°34'25" W	10.00'
L11	N 87°31'04" W	23.33'
L12	N 67°07'39" E	54.52'

NARRATIVE:

THIS SURVEY WAS CONDUCTED AS A DEPENDENT RESURVEY OF THE SUBJECT PROPERTY DESCRIBED AS PARCELS 1, 2 AND 3, PARTITION PLAT NO. 1994-003, RECORDED FEBRUARY 2, 1994, IN PLAT CABINET B, SLIDE 248, TILLAMOOK COUNTY RECORDS, EXCEPTING THEREFROM THAT PORTION OF SAID PARCEL 3 THAT LIES EAST OF OLD PACIFIC HIGHWAY AND WEST OF THE SOUTHERN PACIFIC RAILROAD RIGHT OF WAY. THE PURPOSE OF THIS SURVEY IS TO SUBDIVIDE THE SUBJECT PROPERTY INTO THIRTY-TWO LOTS AND A COMMON AREA. THE NORTH AND SOUTH 5.00 FEET OF SAID COMMON AREA ARE PRIVATE WALKWAYS FOR ACCESS TO THE BEACH.

HELD THE INITIAL POINT OF PINE BEACH AND MONUMENT (269) FOR BASIS OF BEARINGS. HELD RECORD ANGLES FROM PARTITION PLAT NO. 1994-003 TO ESTABLISH THE NORTH AND SOUTH LINES OF PLAT BOUNDARY.

PORTIONS OF OCEAN BOULEVARD ARE BEING VACATED WITH THE FILING OF THIS PLAT AND FILED AS ROAD VACATION PETITION #481. THE WEST RIGHT-OF-WAY LINE OF PACIFIC HIGHWAY IS BEING MONUMENTED THIS SURVEY TO INCLUDE THE 10.00 FOOT WIDE PUBLIC DEDICATION.

CURVE TABLE DATA

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	20.00'	34.11'	30.12'	N 35°42'52" W	97°43'05"
C2	45.00'	76.75'	67.78'	N 35°42'52" W	97°43'05"
C3	70.00'	119.39'	105.43'	N 35°42'52" W	97°43'05"
C4	70.00'	14.90'	14.87'	N 07°08'51" E	12°11'39"
C5	70.00'	30.20'	29.97'	N 11°24'40" W	24°43'22"
C6	70.00'	26.86'	26.69'	N 34°45'52" W	21°59'03"
C7	70.00'	25.74'	25.60'	N 56°17'27" W	21°04'07"
C8	70.00'	5.00'	5.00'	N 68°52'21" W	04°05'36"
C9	70.00'	16.68'	16.64'	N 77°44'46" W	13°39'18"
C10	70.00'	100.53'	92.11'	N 54°17'08" E	82°16'55"
C11	45.00'	64.62'	59.21'	N 54°17'08" E	82°16'55"
C12	20.00'	28.72'	26.32'	N 54°17'08" E	82°16'55"
C13	70.00'	27.14'	26.97'	N 24°15'04" E	22°12'48"
C14	70.00'	26.28'	26.13'	N 46°06'47" E	21°30'37"
C15	70.00'	30.10'	29.87'	N 69°11'10" E	24°38'10"
C16	70.00'	17.01'	16.97'	N 88°27'56" E	13°55'20"

STATE OF OREGON >
> S.S.
COUNTY OF TILLAMOOK >

I HEREBY CERTIFY THAT THIS PLAT WAS RECEIVED FOR RECORD ON THE 11th DAY OF SEPTEMBER 1996 AT 2:41 P O'CLOCK AND RECORDED IN PLAT CABINET B-443-0 TILLAMOOK COUNTY RECORDS, AS INSTRUMENT NO. 353540.
JOSEPHINE VELTRI, COUNTY CLERK.

BY: Josephine Veltri, by Susan Holmes, deputy

CERTIFICATE OF COUNTY CLERK:

STATE OF OREGON >
> S.S.
COUNTY OF TILLAMOOK >

I, JOSEPHINE VELTRI, DO HEREBY CERTIFY THAT I AM THE QUALIFIED CLERK OF TILLAMOOK COUNTY, OREGON AND THAT THIS COPY IS THE FULL, COMPLETE AND TRUE COPY OF THE ORIGINAL PLAT OF SAME, AS RECORDED IN PLAT CABINET B-443-0 OF PLAT RECORDS OF TILLAMOOK COUNTY, OREGON, RECORDED SEPTEMBER 11, 1996 AT 2:41 P O'CLOCK, AS INSTRUMENT NO. 353540.

Josephine Veltri, by Susan Holmes, deputy
JOSEPHINE VELTRI

I, RONALD G. LARSON, DO HEREBY CERTIFY THAT THIS IS A FULL, COMPLETE AND TRUE COPY OF THE ORIGINAL PLAT AS REFERENCED ABOVE.

Ronald G. Larson
RONALD G. LARSON, PLS 2102

TILLAMOOK COUNTY SURVEYORS OFFICE
SEP 11 1996

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
July 13, 1984
2102
RONALD G. LARSON
RENEWAL DATE: DECEMBER 31, 1996

HLB & ASSOC., INC.
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Manzanita, OR 97130

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FAX: 503-368-5847

June 3, 1994

Mr. Dave Farr & Mr. Don Nussmeier
25425 SW Swift Shore Drive
West Linn, OR 97068

RE: Dune Hazard Report and Modified Dune Hazard Report, Tax Lot 100, 101 & 102, 1N 10 7DD, PINE BEACH REPLAT, Watseco, Oregon

Dear Dave & Don:

In accordance with the requirements of the Tillamook County Development Ordinance, our firm has made a preliminary site investigation of the subject property, referenced above, using available geologic maps, published and unpublished geologic reports, along with a site inspection. We have visited the site of the subject property in the Watseco area on numerous occasions in the past two years in order to address the engineering, geologic and dune hazards of the specific site and to make recommendations for proposed residential development and residential construction thereon.

Our site visits were made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic and dune hazards. Mr. See's report on the subject property is attached to this report, and together with this report is the required Dune Hazard Report and Modified Dune Hazard Report for the proposed Tentative Plat for the PINE BEACH REPLAT. Also incorporated into this report by reference is a special report prepared by Frank Reckendorf, Sedimentation Geologist with the USDA SCS, dated Jan. 29, 1993, and a flood hazard investigation and report prepared by David Simpson, Coastal Engineer, dated September, 1993. The proposed subdivision development is as shown on the accompanying Tentative Plan, dated June 3, 1994, consisting of 2 sheets.

GENERAL SITE DESCRIPTION

The oceanfront property lies West of Pacific Boulevard and is located just North of Camp Magruder. The spot elevation map of the property is shown on Sheet 2 of the Tentative Plan. Elevations over the site vary from approximately 15 feet (in isolated low spots) to 21 feet (in isolated high spots). In general the site is quite flat with an average elevation of 17 feet (NGVD). That area which lies West of the proposed most Westerly building sites is a broad, low lying area which is the remaining portion of the back side of the foredune. The highest point of the remaining portion of the foredune is located very near to the Ocean Shores Boundary line as shown on Sheet 2 of the Tentative Plan.

There is much information available regarding the dune classification. In 1975, Reckendorf identified this area in 1973 as younger stabilized dunes (DS), with some inclusions of open dune sand conditionally stable (OCS). In 1993 Mr. Reckendorf prepared a special report for the subject property. In that report, Mr. Reckendorf made the following statement: "Since the time of dune mapping (1973) the shrub and tree species have essentially filled in the

map inclusion areas of OSC, that are east of the setback line at 180 feet." Mr. Reckendorf states further: "No active foredune occurs in the reach today, and erosion has removed essentially all of any prior conditionally stable foredune." Mr. Reckendorf concludes that the Westerly portion of the property where no development is proposed is classified as open dune sand conditionally stable (OSC). Mr. Reckendorf further concludes that the portion of the property where development is proposed is within a younger stabilized dune (DS), according to the SCS classification system. The dune classification of "younger stabilized dune" is used for the dune classification of the developed area related to this report.

In terms of Tillamook County's Beach and Dune Hazard Overlay Ordinance (Sec. 3.085), the portion of this property proposed for development is classified as Category (3) - Other Beach and Dune Areas: b.(2) Younger or Older Stabilized Foredunes.

The crest height and width of the foredune remnant is a variable on this property, however, the general dimensions could be stated as an overall dune width of about 40 feet (which includes only the back slope of the dune), a crest width of about 5 feet (near the beach level) and an average crest height of 18.6 feet (based upon an average of 14 points) with variation between 17.5 feet to 20.7 feet (NGVD).

The elevation of the crest of the remaining portion of the dune, as of April 1993 and as of June 1994, is located at elevations ranging from 17.5 feet (NGVD) to 20.7 feet (NGVD). A review of the 1967 OSHD aerial photos shows the dune at about elevation 16 feet. It can be seen that the foredune has grown significantly in elevation as the accretion process has continued with time.

HISTORY OF ACCRETION AND EROSION

A review of CoE and OSHD aerial photos for this area dated 1939, 1945, 1953, 1960, 1967, 1970, 1973, 1978, 1980 and 1984 show a steady increase in vegetation over the entire property. Copies of those aerial photos are included in the accompanying flood hazard study by David Simpson. These maps have also been previously submitted to Tillamook County and are available in the PINE BEACH REPLAT file. Also previously submitted are clear mylar overlays at the scales of 1"=100' for the 1967 photo and 1"=200' for the other OSHD photos. The most Westerly line of vegetation has moved Westward since at least 1939 as described by Frank Reckendorf (1/29/93), David Simpson (9/93) and Paul See (6/2/94). The original plat of PINE BEACH, dated 1932, shows the ocean beach to be located at least 320 feet East of where it is today. A copy of the original plat map for PINE BEACH have been previously submitted to Tillamook County and is available in the PINE BEACH REPLAT file.

Evidence of relatively active beach erosion is presented and discussed by John Marra (12/92), by David Simpson (9/93), by Frank Reckendorf (1/29/93) and by Paul See (6/2/94). Each of these individuals describes the erosion process as being cyclical with an overall net accretionary trend in this area. The winter of 1993-94 showed a net buildup in the sand on the beach which accumulated at the foreslope of the remnant of the foredune.

DISCUSSION OF FLOOD HAZARDS

Potential hazards due to ocean flooding have recently been studied, calculated and identified by a new flood hazard study by David Simpson, Coastal Engineer, dated September 1993. This new study was made at the request of the

developers and was carried out in accordance with existing regulations of the Federal Emergency Management Agency (FEMA) which manages the National Flood Insurance Program (NFIP). In summary, the study determined new flood hazards for this property which would result from an "eroded dune profile". The study determined the theoretical erosion which could occur and the resulting flood hazard zones, all in accordance with current FEMA regulations.

The new flood hazard zones are as shown on Sheet 2 of the Tentative Plan. A velocity flood hazard zone (VE zone Elevation = 19') is located on the Westerly approximately 150' (at the North end) to 195' (at the South end) of the subject property in an area where no development or structures will be allowed. Immediately East of the velocity flood hazard zone is an area of shallow flooding (AE zones with water depths of 1' to 3'). Only the most Southwesterly corner of the buildable portion of Lot 11 is affected by the AE flood zone. The balance of the property to the East of the AE zone is located in a B flood hazard zone which is an area between the 100 year and 500 year flood. There are no special requirements or restrictions for development in a B zone.

With respect to the one lot which is affected by the AE flood zone, there are demonstrated methods and accepted practices for construction standards and regulations in this flood hazard zone. Numerous structures have been built to such standards throughout this area and other areas of Tillamook County. Construction according to the required flood hazard standards will provide adequate protection from flood hazards for the life of the structures.

DISCUSSION OF SAND EROSION HAZARDS

Wind erosion and migration of sand is a hazard to any property near the beachfront which consists of sand. As Mr. See and the other geologists point out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the pathways to the beach. There are currently only three main beach access paths which provide access to the dry sand beach from this property (see aerial photos). Currently, there are no significant signs of erosion at these beach access pathways. During the winters of 1991-92 and 1992-93, the subject property experienced local erosion of the dune. The winter of 1993-94 saw an increase in sand accretion at the toe of the scarp on the ocean side of the foredune remnant. Open dune sand built up on what is now beach until at least 1984. The 1984 aerial photos shown the most Westwardly progression of dune sand. Since the 1984 aerial photo, the unvegetated, open dune sand on the beach has eroded Easterly some 80 to 90 feet to the position it is at today.

Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation, both on the foredune and on the younger stabilized areas to the East of the foredune. For this reason, it is recommended that natural beach vegetation be maintained on Lots 11 through 20 and the common area to the West of those lots. See below the specific standards for vegetation maintenance and removal. Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may

be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

The question of how much more dune erosion due to wave action may occur on this property has been investigated by David Simpson in 1993 in the revised flood hazard study. Mr. Simpson has determined that all proposed development on this property will be located outside of the extent of erosion. The maximum extent of erosion was determined in accordance with current FEMA standards at a 1:40 positive landward slope from the still water level intersection on the beach profile. The maximum extent of erosion is as shown on Sheet 2 of the Tentative Plan and is located on the Westerly approximately 115' (at the North end) to 160' (at the South end) of the subject property in an area where no development or structures will be allowed.

MODIFIED DUNE HAZARD REPORT FINDINGS AND CONCLUSIONS

1. Finding - The maximum extent of erosion is as shown on Sheet 2 of the Tentative Plan and is located on the Westerly approximately 115' (at the North end) to 160' (at the South end) of the subject property.
   Conclusion - The setback requirement of 237.6 feet from the Ocean Shores Boundary Line will provide reasonable protection from erosion for the lifetime of the structures.
2. Evidence of recent, active beach or dune erosion has been presented and discussed in the foregoing section of this report.
3. Finding - The average retreat of the shoreline has been calculated based upon aerial photographs. Since the 1984 ODOT Ocean Shores aerial photo, the unvegetated, open dune sand on the beach has eroded Easterly some 80 to 90 feet to the position it is at today.

DISCUSSION OF FOUNDATION SUPPORT HAZARDS IN SAND

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dunefield was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert the property owners and foundation contractors to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractors should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2-inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance.
3. Any logs discovered to be within 6 feet of the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

DISCUSSION OF EARTHQUAKE HAZARDS

Mr. Reckendorf comments on the potential hazard of dune destabilization due to fire. In short, fire can destroy or severely damage dune vegetation and thus destabilize the sand, making it vulnerable to wind erosion. Mr. Reckendorf advises that "care should be taken to include vegetative firebreaks in any development plan in a woody area, such as the younger stabilized dunes."

DISCUSSION OF EARTHQUAKE HAZARDS

Mr. See comments on the potential regional hazard of severe earthquake on a average 600 year interval basis. The most serious such earthquake, for which evidence goes back about 7700 years, is estimated to have been a magnitude of about 8 on the Richter scale. The 600 year period is about eight times the average life of a wood frame residence. Both Mr. See and Mr. Reckendorf note that this property is at risk from the very destructive earthquake phenomenon known as liquifaction, because of the type of soil on the property. Mr. Reckendorf notes that the hazard of liquifaction is greatest at the remnant of the conditionally stable foredunes near the beach where no development will take place. Present building code requirements for the State of Oregon do not address earthquakes of this magnitude, but there are recognized construction methods which can be used by contractors for owners wishing a degree of added protection in less than maximum earthquakes.

The property is located in a 90 mph wind zone with full exposure to ocean winds (Exposure 'C' as per UBC Section 2311(c).), therefore, the buildings must be designed to withstand the minimum required lateral wind loads. In general, one-story and two-story wood frame residential construction designed to withstand 90 mph Exposure 'C' wind loadings will also withstand earthquake loads. The hereinafter optional standards are recognized construction methods used for wind resistant wood frame construction which are also very effective in protecting against earthquake forces.

SITE INVESTIGATION SUMMARY

Existing and potential hazards have been identified and described in this report, and the referenced and attached reports. Known hazards have been investigated and development standards for buildable areas are included in this report. The new flood hazard zones has been determined. The general site and property, including property boundaries, is as shown on Sheet 1 of the Tentative Plan. The geographic information is as follows:

a. Dune landform identification is included in this report.
b. Dune stabilization in this area has historically been none other than natural accretion and natural revegetation.
c. History of erosion or accretion is detailed in Mr. See's report, in Mr. Reckendorf's report, in Mr. Simpson's report and further herein.
d. General topography including spot elevations are shown on Sheet 2 of the Tentative Plan.
e. Base flood elevation and areas subject to flooding are discussed herein. A new flood study has been completed for this property to determine current flood hazards. A copy of the FEMA LOMR and revised NFIP FIRM is attached hereto.
f. There are no perennial streams or springs on the property. All storm water percolates directly into the native sand. Smith Lake is located to the East of Pacific Blvd.
g. The State Beach Zone Line is located as shown on Sheet 1 of the Tentative Plan.

h. There are no beachfront protective structures in the vicinity.
i. The elevation and width of the foredune crest is as stated herein and as shown on the Tentative Plan, Sheet 2.
j. Land grading practices are included in the Development Standards.

In accordance with Section 3.085(5)B.3.b.1. it is a recommendation of this report that a detailed site investigation be prepared for each lot of the subdivision, since building and grading plans for site preparation of each individual lot are not available for review as part of the preliminary site investigation. Such reports shall be submitted at the time of building permit application in order to address specific development plans for each lot. The building and grading plans should be prepared in accordance with the following development standards.

DEVELOPMENT STANDARDS

A. Mandatory Standards:

1. **Development Density and Design** - The Westerly portion of the property which is subject to erosion and wave overtopping should remain undeveloped. The calculated Oceanfront Setback Line, which is located at 237.6' Easterly from the Ocean Shores Boundary Line, will limit the Westerly edge of buildings and will keep those buildings out of the area which is subject to erosion and wave overtopping. Development density in the balance of the property should be in conformance with the underlying residential zoning requirements.

2. **Location and Design of Roads and Driveways** - The roads used for the development of this property should be one continuous loop in order to minimize road length. Roads should be designed to Tillamook County Road Standards. The roads proposed on the Tentative Plan are acceptable. Similarly, driveway lengths should be minimized. Driveways should not be looped on an individual lot and multiple driveways on one individual lot should not be allowed.

3. **Foundations** - Residential foundations should be continuous reinforced concrete perimeter foundation systems. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. It is further recommended that minimum 18" wide footings be used for two-story construction, and that minimum 16" wide footings be used for one-story construction.

   All footings should bear directly on undisturbed native sand. The bottom of all footings should be excavated to below any organic material, or at least 12 inches below existing grade for single story construction and 18 inches below existing grade for two story construction. Do not place house footings on fill material. We recommend that the building contractors be alerted to the need to protect the footings during construction from sand erosion and undermining. All foundations excavations should be tested for the presence of buried logs within 6 feet of the ground surface as described hereinbefore.

4. **Stormwater Drainage** - All roof drainage should be collected with eave gutters and downspouts and piped to discharge either into on-site drywells or onto splash blocks adjacent to the footings such that all collected

drainage is disposed of on each building site by percolation into the porous native sand. Accumulated surface drainage should also be collected and discharged. During construction, roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed.

5. **Oceanfront Setback** - All proposed structures located on the most Westerly building sites of this property must be placed on each lot in accordance with the oceanfront averaging setback requirements of Tillamook County. For the subject property, the minimum most Westerly Oceanfront Setback Line has been determined by the Tillamook County Zoning Ordinance, Sec. 3.085(4)A.1.c.(1)(b), for all of the Westerly lots to be at 237.6 feet East of the Ocean Shores Boundary Line. It is a recommendation of this dune hazard report that the Oceanfront Setback Line be located at a minimum distance of 237.6 feet Easterly, as measured perpendicular thereto, from the Ocean Shores Boundary Line. No building construction should occur West of this line. The above recommendation for a Oceanfront Setback Line of 237.6 feet applies to the Westerly edge of any foundation of a proposed structure, including any exterior deck on the West side of a structure.

6. **Native Vegetation and Land Grading Standards** - Vegetation removal around the proposed structures on all lots should be kept to the minimum required for the placement of the structure and utilities in order to reduce the potential of wind erosion of the unprotected native sand. The vegetation which remains in accordance with this standard will assure that large areas devoid of vegetation are not created and that the subdivision development will not create a cumulative adverse effect on the stability of the native beach sand in this area. Clearing of vegetation and excavation shall not start more than 30 days prior to pouring concrete foundations or trenching for utilities.

   We recommend that the building contractors or property owners revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock. The site shall be revegetated or stabilized no later than 9 months after termination of major construction.

   No beach grass vegetation should be mowed, cut or removed, and no trees should be removed in that area located West of a line 20 feet West of the actual structure locations on Lots 11 through 20, however, in that area of those lots, trees may be topped and/or limbed. In the common area West of Lots 11 through 20, no vegetation should be removed or disturbed other than topping of trees. All such tree topping and limbing activities should not damage the root structure, disturb the ground surface, or kill the trees. Vegetation may be removed as required to construct new beach access pathways on the proposed 5' wide access areas on the South side of Lot 11 and on the North side of Lot 20.

7. **Excavation Standards** - Because the site is already relatively flat, land grading activities will be very minimal. The only cut proposed for the project will be made at the new roadways just West of Pacific Blvd. The cut slopes should be dressed and revegetated to a maximum slope of 2:1. The excess excavated material should be thinly spread at a uniform

thickness in the road rights-of-way to the West. It is proposed that pathways will be constructed on the proposed 5' wide access areas on the South side of Lot 11 and on the North side of Lot 20. These pathways should follow the grade of the existing ground surface in order to minimize excavation.

8. **Beach Access** - No new beach access paths should be constructed on the Westerly 100 feet of the common area West of Lots 11 through 20. The three existing main beach access paths should be monitored periodically (not less than annually) for signs of erosion, particularly at the Westerly edge of the vegetation. If local erosion at these pathways increases, such as might occur due to increased foot traffic, then sand fences with gates should be installed to control the erosion.

9. **Fire Breaks** - Firebreaks now exist as a beach access walkway on the North property line and as a trail just North of the South property line. These walkways or trails form effective firebreaks in the woody areas of the younger stabilized dunes and should be left open and void of low-growing dry woody vegetation. For the fire break on the South side of the property, individual lot owners who choose to revegetate the fire breaks should do so with purple beach pea.

10. **Periodic Monitoring** - The Architectural Review Committee (ARC) established by the subdivision CC&R's will be responsible for monitoring all development activity, both on the individual lots and on the streets and common areas, to ensure that all required development standards and conditions of the subdivision approval are being met. See the accompanying draft CC&R's for details of operation of the ARC.

    At a minimum, the ARC should review all site plans prior to the start of construction to determine the area of each lot to be disturbed during construction and to determine that all required development standards and conditions of the subdivision approval are being met. This review is in addition to the plan review and approval by the Tillamook County Department of Community Development. The ARC should conduct an on-site monitoring of the vegetation on each lot on a monthly basis throughout the course of construction on each lot. Such monitoring should continue on a monthly basis until 90 days after the end of construction on each lot. All bare sand areas outside of the immediate construction area on each lot shall be noted in the monitoring and shall be immediately revegetated. At the end of the monitoring period for each lot, the ARC should submit a written report to the Tillamook County Department of Community Development summarizing the monitoring activities throughout the construction period for that lot. This monitoring is in addition to any monitoring that may be done by the Tillamook County Department of Community Development.

B. Optional Standards for Added Seismic Protection:
These are standards not strictly required under conditions set out in the flood regulations and the Uniform Building Code lateral force resistance provisions for this area, but which a concerned property owner might wish to include in home construction to provide additional safety in view of the available information on the greater potential for major earthquakes and tsunamis with a possibility of a maximum worst-case tsunamis runup up to 31 feet high, and earthquakes in about the 8 or greater Richter category.

While no practical measures could guarantee protection in a maximum event, some reasonable steps could provide a degree of assurance against damage in lesser events. The design of the structure for wind loadings of 110 or 120 mph winds will generally add only a small cost to the entire structure and will effectively increase protection for both additional wind and earthquake loads. Examples of the results of such increased design loads are:

a. Install foundation anchor bolts on closer than normal spacing.
b. Secure floor framing to mudsills with galvanized steel framing anchors.
c. Secure roof framing to walls with galvanized steel hurricane clips.
d. Use plywood shear wall construction, with plywood sheathing applied to greater than building code requirements for plywood shear walls.

CONCLUSIONS

1. The proposed use of this property is a residential subdivision as shown on the Tentative Plat of PINE BEACH REPLAT. The hazards identified on this property include sand accretion and erosion hazards, flood hazards, foundation support hazards, fire hazards, and earthquake hazards.

2. The proposed development and use of this property in accordance with the mandatory standards set out herein will provide a residential subdivision reasonably protected from the hazards described herein for the life of typical residential structures, although not completely protected from major earthquake and tsunami, the possibility of which is discussed herein.

3. Development of this property in accordance with the recommended standards will involve negligible adverse effects to the surrounding area, therefore, no additional measures are necessary to protect the surrounding area from any hazards that are a result of the proposed development.

4. Development of this property in accordance with the optional standards set forth will provide additional, but not complete, protection against potential earthquakes and tsunami of the nature discussed herein.

LIMITATION

This report is based on site inspections of the subject property and vicinity and a review of the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are offered as professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied. Should you have any questions regarding our investigation and this report, please contact our office.

Very truly yours,
HANDFORTH LARSON & BARRETT, INC.

Ronald G. Larson, PE, PLS
<pb_94.dhr>
cc: Paul See, Geologist

REFERENCES

Beaches and Dunes of the Oregon Coast, by Frank Reckendorf, USDA SCS, 1975.

Pine Beach Development, letter to Till. Co. Dept. Of Comm. Devel., by John Marra, DLCD, December 4, 1992.

Special Report - Pine Beach Development, by Frank Reckendorf, USDA SCS, Jan. 29, 1993.

Engineering Report, FIRM Revision Request,Pine Beach Replat, by David P. Simpson, Coastal Engineer, September 1993

PAUL D. SEE AND ASSOCIATES, INC.

300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

June 1, 1994 #1064 ref 8022

Ronald G. Larson
Handforth Larson and Barrett, Inc.
P. O. Box 219
Manzanita, OR 97130

RE: Geologic inspection, Pine Beach Development, Watseco area. (Farr)
T1N, R10W, Sec 7DA

Dear Ron:

The following letter report documents my inspection of the above described development site with you to evaluate applicable beach and dune hazards. On-site inspection reveals identical circumstances to those existing on adjoining frontage to the north, evaluated in detail in July of 1990, wherein a wide and relatively flat but hummocky dunefield has accumulated as a result of natural barrier development across an otherwise irregular shoreline, and coastal sand transport has been interrupted by construction of the Tillamook Bay north jetty in 1917.

The average elevation of the local dunefield lies between 17 and 20 feet, NGVD. Although this beach has experienced a net accretion over the past 70 years, severe storms have periodically eroded the dune front resulting in scattered property damage from Manhattan Beach to Tillamook Bay. Inspection of 1939, 1967, 1973, 1978, and 1984 Corps of Engineers and Oregon State Highway Division aerial photos reveals ongoing net accretion, with an apparently fresh local field of scattered drift logs over a 200+/- foot wide strip in 1967. Pine, willow, and beach grass vegetation had gradually obscured these logs from aerial view by 1984, but field inspection confirms their presence to this date. Periodic erosion, particularly during and following the 1982-83 El Nino event, removed several tens of feet of the dune frontage, exposing a dense tangle of logs weathered from the dune front. All present storm-tossed logs on the vegetated surface are old and decayed, however, having apparently been deposited prior to 1967.

Notwithstanding the periodic erosion by storm surf, records confirm that this segment of shoreline has been prograding since at least 1939. Because of the transcient and unpredictable episodes of regression, no consistent rate of accretion can be applied. However, between 1917 and this date, the shoreline has accreted westerly at least 1000 feet. Cooper (1) depicts an average of 300 meters of post-jetty accretion between 1917 and 1939. Stembridge (2) notes that the least prograding between the Nehalem River and Tillamook Bay totals more than 30 feet between 1939 and 1975.

The surface profile in this area includes a relatively low foredune, only

slightly higher than the hummocky, vegetated plain to its east. The area has obviously not experienced a net regression in the past 50 years, although the presence of fresh appearing logs in 1967 is evidence of storm wash-over at some point prior to that date.

The property is well vegetated with beach pines and willow and other upland shrubs and grasses. This cover has obviously developed in a few decades, and the shoreline remains at some risk from severe episodic storm wave overtopping due to its elevation. However, revised Velocity (storm wave) flooding limits have been modelled by Simpson (3), indicating an easterly limit of Velocity flooding at 200 feet from the beach, or well short (70 to 130 feet west) of the proposed construction setback, established at 237 feet east of the State Coastal Zone line.

In conclusion, the property appears to be relatively safe from long-term net erosion and shoreline regression. Current modelling of Velocity flooding will not impact the area proposed for development. The Tillamook Bay north jetty will continue to present a barrier to southerly offshore sand transport, causing a continued net accretion along this beach. No evidence exists to suggest reversal of a trend that has continued for more than 70 years.

The developer should be advised that contrary to long-held assumption, there is now abundant evidence for a series of geologically recent and severe regional earthquakes. Recent discoveries confirm a history of as many as thirteen major earthquakes originating in the local Cascadia subduction zone during the past 7700+/- years. Based on the calculated time span between such events, (approximately 600 years average, 340 years minimum), it follows that a major regional earthquake is indeed possible in the foreseeable future. The most recent event seems to have occurred about the year 1690. Current projections estimate a 20 to 30 percent chance of a magnitude 8 or greater regional quake in the next 50 years.

Coastal dunefields such as this are at risk from liquefaction of saturated sands at depth which can cause differential foundation settlement during strong seismic tremors, as well as impact from an accompanying tsunami. Whitmore (4) has calculated an initial tsunami wave height of 12.63 feet along the Rockaway Beach area for an 8.0 magnitude Cascadia earthquake, with an additional 18.17 feet allowance for error, diurnal tide maximum, and 2.2 feet of coseismic subsidence, for an overall runup potential of 30.8 feet under worst-case conditions.

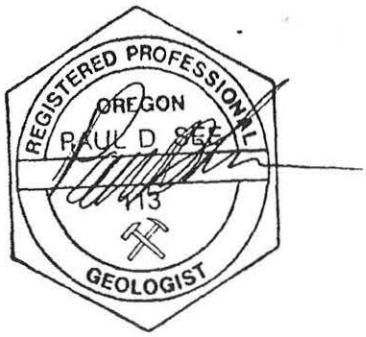
Risks associated with great Cascadia earthquakes must naturally be considered in light of the long and varied intervals between events. While our understanding of Northwest seismicity is expanding rapidly, the timing or magnitude of future events can only be broadly estimated.

Observations and recommendations incorporated herein are the result of

personal site inspection, the works of other specialists, and generally accepted principles of geologic investigation for a report of this nature. No warranties are expressed or implied.

Sincerely,

Paul D. See



References cited:

(1) Cooper, William S., **Coastal Sand Dunes of Oregon and Washington,** Geological Society of America Memoir # 72, June, 1958 Pl. 2

(2) Stembridge, James Edward, Jr. **"Shoreline Changes and Physiographic Hazards on the Oregon Coast"**, PhD dissertation, U of O 1975, p. 63.

(3) Simpson, David P., **Flood Insurance Rate Map Revision Request, Pine Beach Replat**, September, 1993.

(4) Whitmore, Paul, Alaska Tsunami Warning Center, Palmer, Alaska. Total wave height calculations for selected Tillamook County beaches, completed November 15, 1993.

HANDFORTH
LARSON &
BARRETT, INC.

Civil Engineering & Surveying

P.O. Box 219
160 Laneda Avenue
Manzanita, OR 97130

TEL: 503-368-5394
FAX: 503-368-5847

November 5, 1992

Tillamook County Planning Department
Courthouse Building
Tillamook, OR 97141

RE: Dune Hazard Report, Tax Lot 100, 1N 10 7DD, PINE BEACH REPLAT, Watseco, Oregon

Dear Staff:

In accordance with the requirements of the Tillamook County Development Ordinance, we have made an investigation of the subject property, referenced above, using available geologic maps, published and unpublished geologic reports, along with a site inspection. We have visited the site of the subject property in the Watseco area in order to address the engineering, geologic and dune hazards of the specific site and to make recommendations for proposed residential development and residential construction thereon. Our site visit was made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic and dune hazards. Mr. See's report on the subject property (2 pages dated February 18, 1992 with reference to 4 pages dated July 9, 1990) is attached to this report, and together with this report is the required dune hazard report for the proposed Tentative Plat for the PINE BEACH REPLAT. The proposed subdivision development is as shown on the attached Tentative Plan, consisting of 2 sheets.

INVESTIGATION

The oceanfront property lies West of Pacific Boulevard and is located just North of Camp Magruder. The spot elevation map of the property is shown on Sheet 2 of the Tentative Plan. Elevations over the site vary from approximately 15 feet (in isolated low spots) to 21 feet (in isolated high spots). In general the site is quite flat with an average elevation of 17 feet (NGVD). That area which lies West of the proposed most Westerly building sites is a broad deflation zone followed to the West by the primary foredune. The top of the foredune is located generally directly on the State Zone Line or within a few feet thereof. The top of the dune location is as shown on Sheets 1 and 2 of the Tentative Plan.

A review of OSHD aerial photos for this area dated 1967, 1973, 1978 and 1984 show a steady increase in vegetation over the entire property. Copies of those aerial photos are attached hereto, along with clear mylar overlays at the scales of 1"=100' for the 1967 photo and 1"=200' for the other photos. The most Westerly line of vegetation has moved Westward since at least 1939 as noted in Mr. See's reports. The original plat of PINE BEACH, dated 1932, shows the ocean beach to be located at least 320 feet East of where it is today. A copy of that map is included as Attachment 2 of the Property Ownership History report. The Westerly portion of the dune is classified as an Conditionally Stable Foredune and the Easterly portion of the property is classified as an Older Stabilized Dune.

Wind erosion and migration of sand is a hazard to any property near the beachfront which consists of sand. As Mr. See points out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the pathways to the beach. There are currently only three main beach access paths which provide access to the dry sand beach from this property (see aerial photos). Currently, there are no significant signs of erosion at these beach access pathways. Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation. For this reason, it is recommended that natural beach vegetation be maintained on Lots 11 through 20 and the common area to the West of those lots. See below the specific standards for vegetation maintenance and removal. Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dunefield was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert the property owners and foundation contractors to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractors should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2-inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance. Any logs discovered to be within 6 feet of the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

FLOOD HAZARD DISCUSSION

Potential hazards due to ocean flooding have been identified by the National Flood Insurance Program (NFIP). The Flood Insurance Rate Map (FIRM) for the Watseco area shows all of the subject property to be located in an 'AO' flood zone with a specified depth of flooding of one foot of water. A copy of the FIRM is attached to this report. A Velocity Flood Hazard Zone (V13), with a predicted 100 year base flood elevation of 22 feet, is located immediately West of the subject property. The current elevation of the crest of the dune is, coincidentally, now also approximately 22 feet (NGVD). After a review of the previously noted aerial photos, it can be seen that the foredune has grown significantly in elevation as the accretion process as continued with time.

The crest height and width of the foredune is a variable on this property, however, the general dimensions could be stated as an overall dune width of about 50 feet, a crest width of about 5 feet and a crest height of about 22 feet (NGVD). The foredune and deflation dune field to the East of the foredune is providing the protection from ocean flooding for this property. Every effort should be made to maintain the dune at or above the 100 year base flood elevation. This will be accomplished through the protection of the existing European beach grass and other vegetation on this property. Even at a lower elevation, however, the property will not be subject to velocity ocean flooding until the crest height is at least three feet lower than the 100 year base flood elevation. By definition, a velocity flood hazard zone cannot exist unless the ground elevations can support a three foot high breaking wave.

EARTHQUAKE HAZARD DISCUSSION

Mr. See comments on the potential regional hazard of severe earthquake on a roughly 600 year interval basis. The most serious such earthquake, for which evidence goes back about 7700 years, is estimated to have been a magnitude of about 8.5 on the Richter scale. There is no frequency estimate for such a maximum event, but it is far longer than 600 years. The 600 year period is about eight times the average life of a wood frame residence. Mr. See also notes that this property is at risk from the very destructive earthquake phenomenon known as liquifaction, because of the type of soil on the property. Present building code requirements for the State of Oregon do not address earthquakes of this magnitude, but there are recognized construction methods which can be used by contractors for owners wishing a degree of added protection in less than maximum earthquakes.

The property is located in a 90 mph wind zone with full exposure to ocean winds (Exposure 'C' as per UBC Section 2311(c).), therefore, the buildings must be designed to withstand the minimum required lateral wind loads. In general, one-story and two-story wood frame residential construction designed to withstand 90 mph Exposure 'C' wind loadings will also withstand earthquake loads. The hereinafter optional standards are recognized construction methods used for wind resistant wood frame construction which are also very effective in protecting against earthquake forces.

SITE INVESTIGATION SUMMARY

Existing and potential hazards have been identified and described in this report, including Mr. See's reports. Known hazards have been adequately investigated and development standards for buildable areas are included in this report. The general site and property, including property boundaries, is as shown on Sheet 1 of the Tentative Plan. The geographic information is as follows:

a. Dune landform identification is included in this report.
b. Dune stabilization has historically been none other than natural accretion.
c. History of erosion or accretion is detailed in Mr. See's reports.
d. General topography including spot elevations are shown on Sheet 2 of the Tentative Plan.
e. Base flood elevation and areas subject to flooding are discussed herein and a copy of the NFIP FIRM is attached hereto.
f. There are no perennial streams or springs on the property. All storm water percolates directly into the native sand. Smith Lake is located to the East of Pacific Blvd.
g. The State Beach Zone Line is located as shown on Sheet 1 of the

Tentative Plan.

h. There are no beachfront protective structures in the vicinity.
i. The elevation and width of the foredune crest is as stated herein and as shown on Sheet 2 of the Tentative Plan.
j. Land grading practices are included in the Development Standards.

DEVELOPMENT STANDARDS

A. Mandatory Standards:

1. **Foundations** - Residential foundations should be continuous reinforced concrete perimeter foundation systems. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. It is further recommended that minimum 18" wide footings be used for two-story construction, and that minimum 16" wide footings be used for one-story construction.

   All footings should bear directly on undisturbed native sand. The bottom of all footings should be excavated to below any organic material, or at least 12 inches below existing grade for single story construction and 18 inches below existing grade for two story construction. Do not place house footings on fill material. We recommend that the building contractors be alerted to the need to protect the footings during construction from sand erosion and undermining. All foundations excavations should be tested for the presence of buried logs within 6 feet of the ground surface as described hereinbefore.

   Due to the 'AO' flood hazard zone requirements, all finish floor elevations must be located at least two feet above the finish grade adjacent to the foundation of each residential building.

2. **Drainage** - All roof drainage should be collected with eave gutters and downspouts and piped to discharge either into on-site drywells or onto splash blocks adjacent to the footings such that all collected drainage is disposed of on each building site by percolation into the porous native sand. Accumulated surface drainage should also be collected and discharged. Roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed.

3. **Oceanfront Setback** - All proposed structures located on the most Westerly building sites of this property must be placed on each lot in accordance with the oceanfront averaging setback requirements of Tillamook County. The minimum most Westerly Oceanfront Setback Line will be determined by the Planning Commission for all of the Westerly lots, however, as each of the individual structures is constructed, the oceanfront averaging setback requirements of Tillamook County will apply on a case by case basis for each individual lot.

   It is the recommendation of this dune hazard report that the Oceanfront Setback Line be located at a minimum distance of 180 feet Easterly, as measured perpendicular thereto, from the Ocean Shores Boundary Line. No building construction should occur West of this line. The above

recommendation for a Oceanfront Setback Line of 180 feet applies to the Westerly edge of any foundation of a proposed structure, excluding any exterior deck on the West side of the structure.

4. **Vegetation** - Vegetation removal around the proposed structures on all lots should be kept to the minimum required for the placement of the structure and utilities in order to reduce the potential of wind erosion of the unprotected native sand. The vegetation which remains in accordance with this standard will assure that large areas devoid of vegetation are not created and that the subdivision development will not create a cumulative adverse effect on the stability of the native beach sand in this area. We recommend that the building contractors or property owners revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock.

   No beach grass vegetation should be mowed, cut or removed, and no trees should be removed in that area located West of a line 20 feet West of the actual structure locations on Lots 11 through 20, however, in that area of those lots, trees may be topped and/or limbed. In the common area West of Lots 11 through 20, no vegetation should be removed or disturbed other than topping of trees. All such tree topping and limbing activities should not damage the root structure, disturb the ground surface, or kill the trees. Vegetation may be removed as required to construct new beach access pathways on the proposed 5' wide access areas on the South side of Lot 11 and on the North side of Lot 20.

5. **Oceanfront Erosion** - Undercutting by wave action along this portion of the ocean front has not historically been a problem. Historically, this area has been subject to net accretion over a long period of time. Although it is impossible to predict what future winter storms may do to the coastline, it would seem likely that no significant wave undercutting will probably occur, based upon the history of this site. The proposed common open space on the West side of the plat and the proposed building setback line are designed and recommended to allow for the possibility of some very significant erosion to occur without adversely affecting the building sites.

6. **Land Grading Standards** - Because the site is already relatively flat, land grading activities will be very minimal. The only cut proposed for the project will be made at the new roadways just West of Pacific Blvd. The cut slopes should be dressed and revegetated to a maximum slope of 2:1. The excess excavated material should be thinly spread at a uniform thickness in the road rights-of-way to the West. It is proposed that pathways will be constructed on the proposed 5' wide access areas on the South side of Lot 11 and on the North side of Lot 20. These pathways should follow the grade of the existing ground surface in order to minimize excavation.

7. **Beach Access** - No new beach access paths should be constructed on the Westerly 100 feet of the common area West of Lots 11 through 20. The three existing main beach access paths should be monitored periodically (not less than annually) for signs of erosion, particularly at the Westerly edge of

the vegetation. If local erosion at these pathways increases, such as might occur due to increased foot traffic, then sand fences with gates should be installed to control the erosion.

B. Optional Standards for Added Seismic Protection:
These are standards not strictly required under conditions set out in the flood regulations and the Uniform Building Code lateral force resistance provisions for this area, but which a concerned property owner might wish to include in home construction to provide additional safety in view of the available information on the greater potential for major earthquakes and tsunamis with a possibility of a tsunamis up to 15 meters high, and earthquakes in about the 7 to 9 Richter category.

While no practical measures could guarantee protection in a maximum event, some reasonable steps could provide a degree of assurance against damage in lesser events. The design of the structure for wind loadings of 110 or 120 mph winds will generally add only a small cost to the entire structure and will effectively increase protection for both additional wind and earthquake loads. Examples of the results of such increased design loads are:

a. Install foundation anchor bolts on closer than normal spacing.
b. Secure floor framing to mudsills with galvanized steel framing anchors.
c. Secure roof framing to walls with galvanized steel hurricane clips.
d. Use plywood shear wall construction, with plywood sheathing applied to greater than building code requirements for plywood shear walls.

CONCLUSIONS

1. Development of this lot in accordance with the mandatory standards set out herein will provide a residence adequately protected from ordinary hazards, although not necessarily from major earthquake and tsunami, the possibility of which is discussed herein.
2. Development of this lot in accordance with the recommended standards will involve negligible adverse effects on the environment, on adjacent uses, and to the surrounding area.
3. Development of this property in accordance with the optional standards set forth will provide additional, but not complete, protection against potential earthquakes and tsunami of the nature discussed herein.

LIMITATION

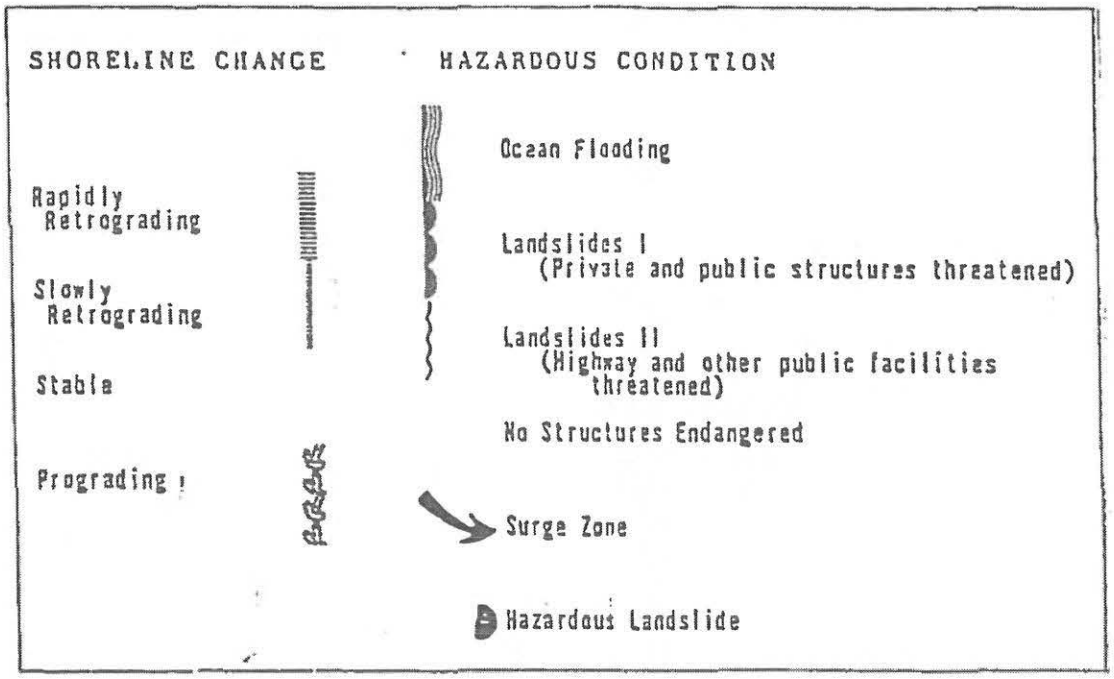
This report is based on a site inspection of the subject property and vicinity and a review of the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are offered as professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied. Should you have any questions regarding our investigation and this report, please contact our office.

Very truly yours,
HANDFORTH LARSON & BARRETT, INC.

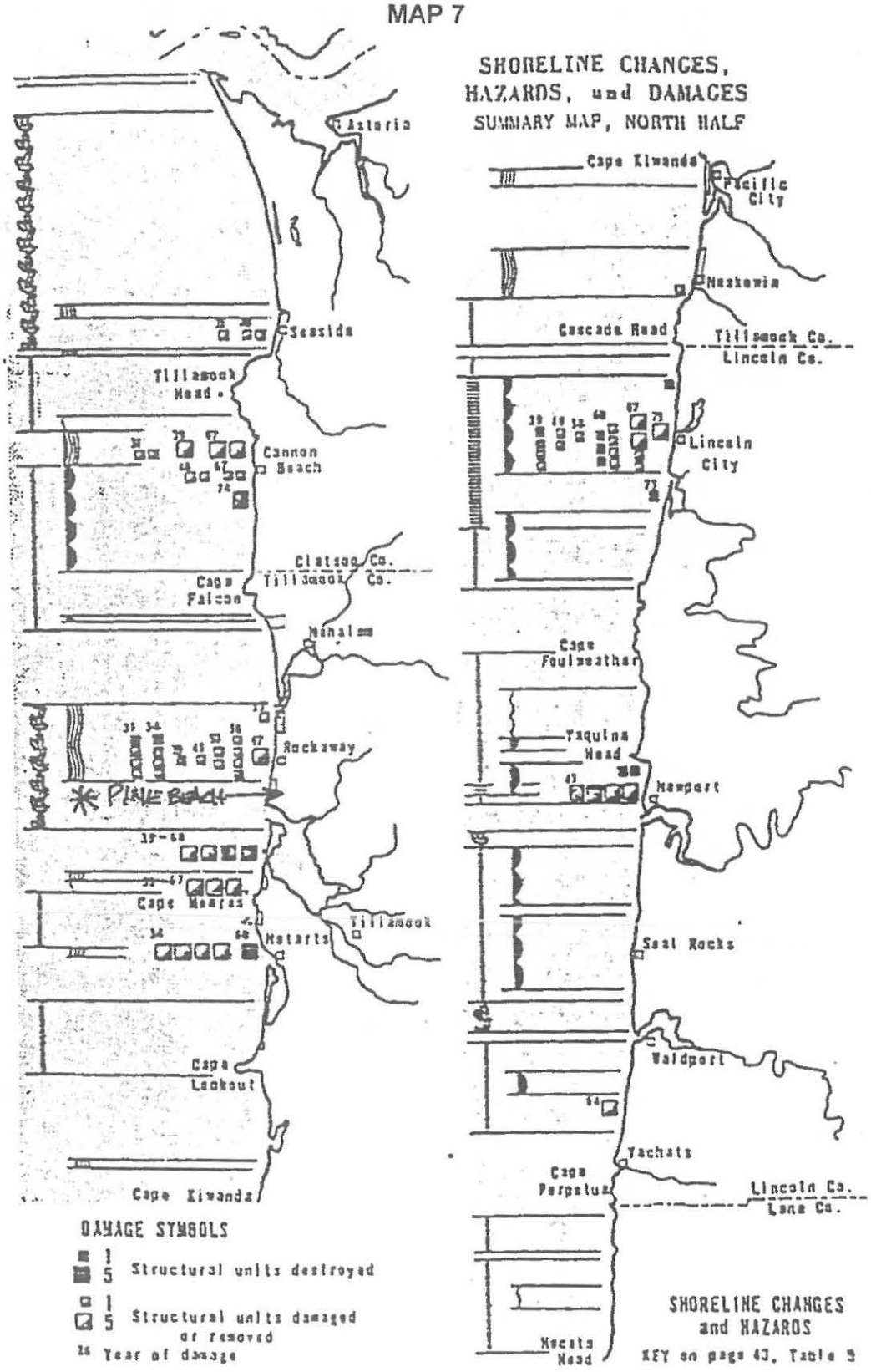
Ronald G. Larson

Ronald G. Larson, PE, PLS
<pinebch.dhr>

REGISTERED PROFESSIONAL ENGINEER 9443 OREGON SEPTEMBER 23, 1977 RONALD G. LARSON

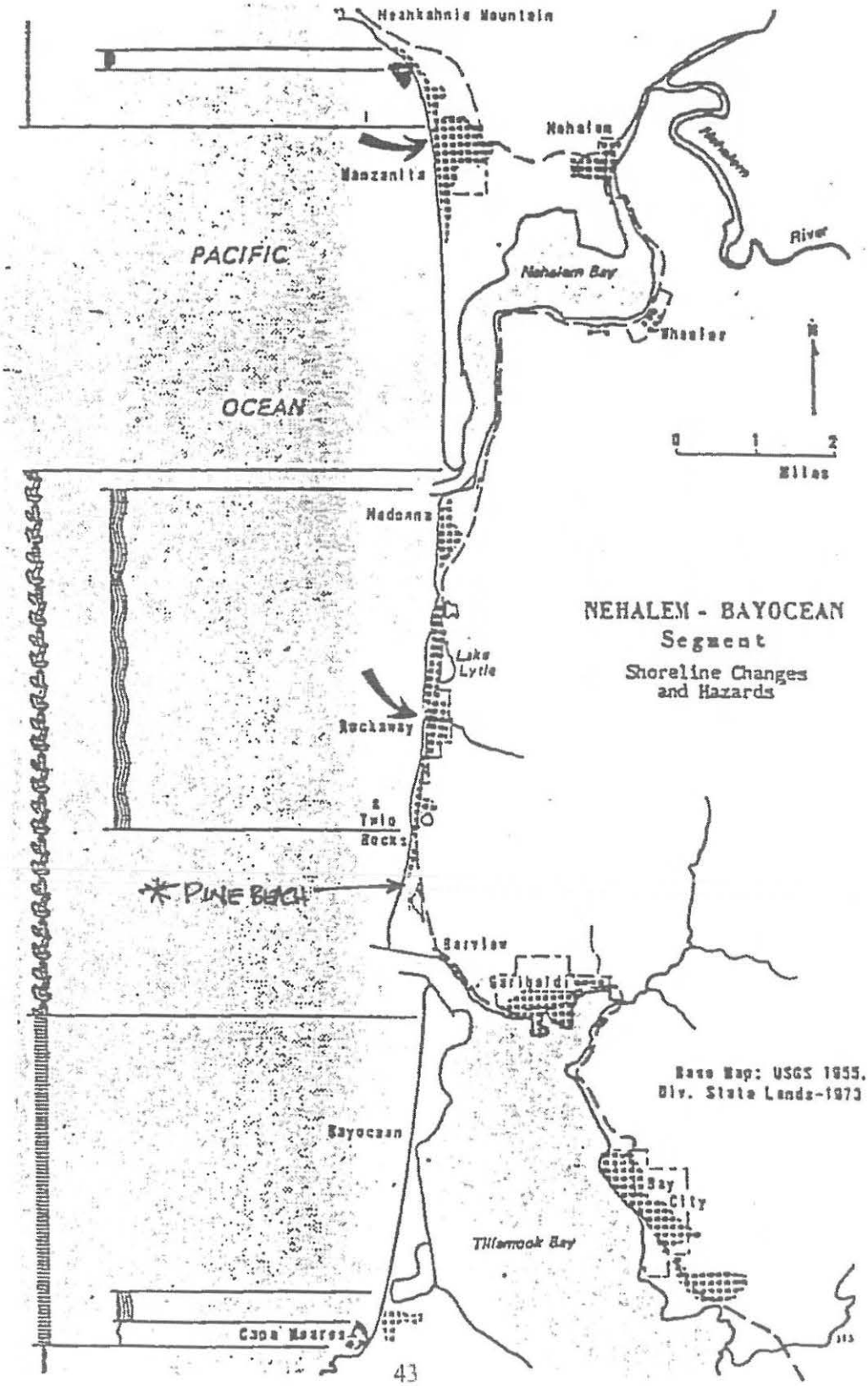

SHORELINE CHANGE
HAZARDOUS CONDITION
Rapidly Retrograding
Slowly Retrograding
Stable
Prograding
Ocean Flooding
Landslides I
(Private and public structures threatened)
Landslides II
(Highway and other public facilities threatened)
No Structures Endangered
Surge Zone
Hazardous Landslide

MAP 7



source: Stembridge

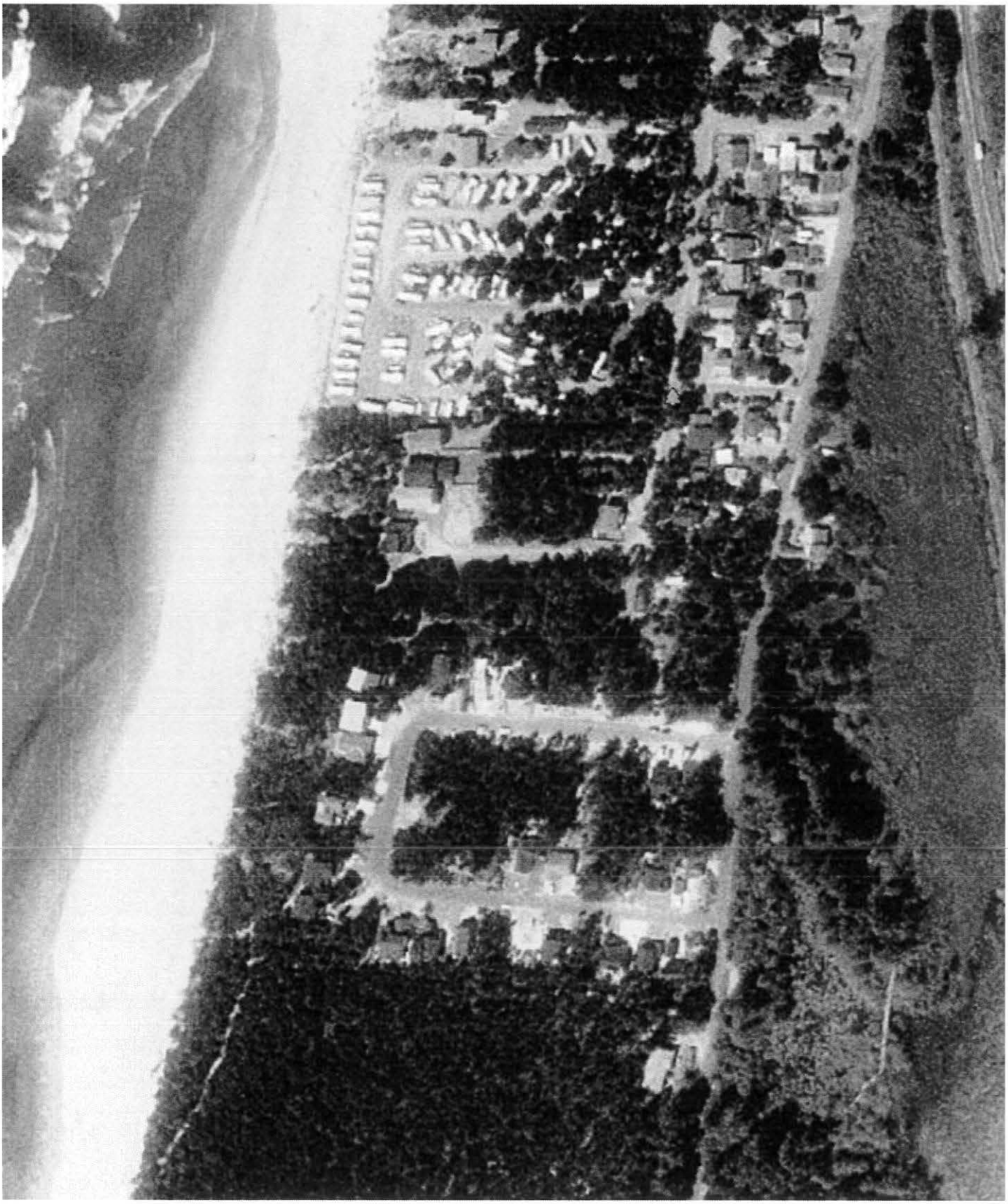
MAP 8



source: Stembridge

Beach Erosion History – Google Earth

1994



2000

August 2005

December 2005

2011

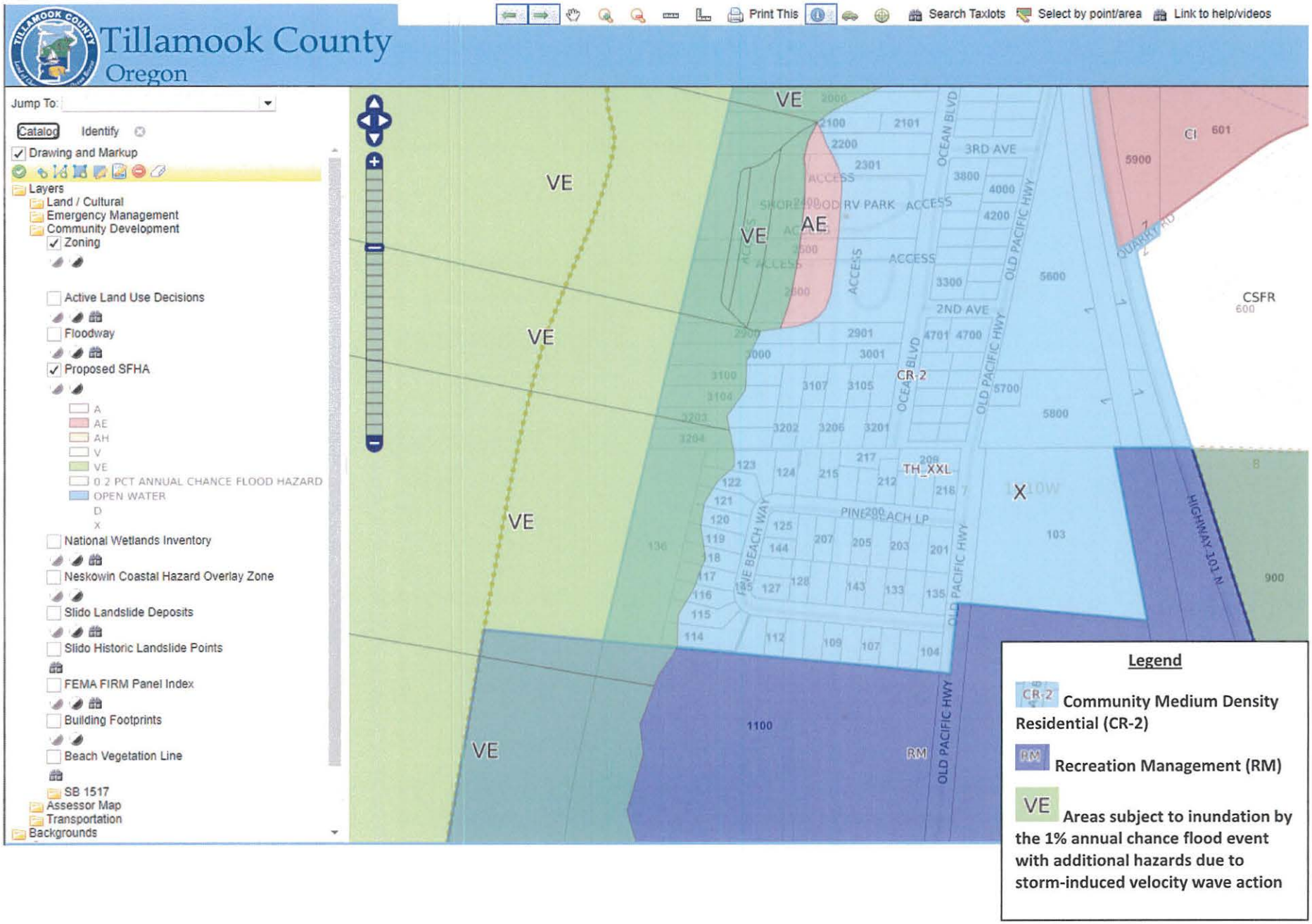
2014

2016

2017

2020

County Zoning Map



TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:14:27 pm

Account #	62425	Tax Status	ASSESSABLE
Map #	1N1007DA03000	Acct Status	ACTIVE
Code - Tax #	5624-62425	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	DOWLING, DAVID A & ANGELA M	Deed Reference #	2020-6069
Agent		Sales Date/Price	09-03-2020 / $695,000.00
In Care Of		Appraiser	EVA FLETCHER
Mailing Address	19690 WILDWOOD DR WEST LINN, OR 97068		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	27131-1

Situs Address(s)	Situs City
ID# 17560 OCEAN BLVD	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	338,830			Land	0	
	Impr.	351,300			Impr.	0	
Code Area Total		690,130	619,010	619,010		0	
Grand Total		690,130	619,010	619,010		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	0	☑		CR-2	Market	97	A	0.67		322,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.67		338,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1989	145	Two story or more	112	2,816			351,300
				Grand Total		2,816			351,300

Exemptions/Special Assessments/Potential Liability

Code Area	Type							
5624								
SPECIAL ASSESSMENT:								
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020		

Comments: 02/07/13 Reappraised land. Tabled values. RBB 08/29/17 Corrected mapping error that occurred during conversion to GIS. Size change only.ef

TILLAMOOK COUNTY CONSTRUCTION/PLACEMENT PERMIT APPLICATION
for
Building, Planning and Sanitation

Call when ready

APPLICANT

Permit # 89-027

Legally Recorded Owner Ralph Winczewski

Mailing Address 6615 S.E. Plum Dr Phone 322-0052

City Milwaukie State OR Zip Code 97222

CONTRACTOR/INSTALLER

Building Contractor D.L.I. Const. Reg. No. 48198
Sanitation Installer Reg. No.
Mobile Home Installer Reg. No.

LOCATION INFORMATION

Area Netarts 17560 Ocean Blvd.

Township 1N Range 10 Section 7DA Tax Lot 3000

Zone R-2 Lot Size 330' x 60' x x or Acres

****

PROPOSED USE

X /Single Family Dwelling
/ /Mobile Home/RV Placement
/ /Addition
/ /Accessory Structure
/ /Demolition/Move
/ /Temporary MH/RV Placement
/ /Replacement
/ /Alteration
/ /Public/Commercial/Industrial

MOBILE HOME/RECREATION VEHICLE

License Number
Make
Year

SIZE OF STRUCTURE

32 x 32' Dimensions
24' Height
2 Stories gar 1 story
1 Units
4 Bedrooms

WASTE DISPOSAL

X /Sewer District
/ /Septic Tank/Drainfield

WATER SUPPLY

Privat /Public/Creek/Spring/Well

VARIANCE/CONDITIONAL USE

File No.

SETBACKS

190' Front Yard
68' Rear Yard
5' Left Side
15 Right Side
River/Estuary/Creek Ocean

ROAD ACCESS

/ /State Highway
X /County Road/Public Way #
/ /Private Road

CONSTRUCTION COST INCLUDING LABOR AND MATERIALS @ 70,000.00

DATE RECEIPT # 12651

SANITATION	N/A	Dan	2-15-89	Sanitation Fee $ —
PUBLIC WORKS		GWY	2-15-89	D.E.Q. Surcharge —
HOUSE #	*	WILLARD	2-13-89	Building Fee 343.00
PLANNING	*	WILLARD	2-13-89	Plan Check Fee 222.95
PLAN CHECK		Nancy	1-30-89	5% State Surcharge 17.15
BUILDING OFFICIAL		Nabay	2-15-89	Planning Review Fee 50.00
				M.H/RV Fee (Planning) —
				M.H/RV Fee (Building) —
				B&D/GHZ Review Fee 50.00
				TOTAL DUE $ 6[illegible].10

SIGNATURE INDICATES COMPLIANCE WITH THE CURRENT LAND USE ORDINANCE COMPREHENSIVE PLAN AND STATEWIDE PLANNING GOALS. THE TYPES AND LEVELS OF SERVICES PROVIDED IN CONJUNCTION WITH THE DEVELOPMENT AUTHORIZED BY THIS PERMIT MEET TILLAMOOK COUNTY COMPREHENSIVE PLAN POLICIES.

Signed SP Title 2-13-89 Date

CITY CONCURRENCE IF INSIDE U.G.B.: _____

Signed Title Date

****

Conditions: NEW HOUSE NUMBER:

* MUST CONFORM TO BEACH & DUNE REPORT RECOMMENDATIONS, FLOOD HAZARD ORD (3.060) STANDARDS & HOUSE # CONDITIONS, HEIGHT MUST NOT EXCEED 24' AVG.

****

Separate State of Oregon permits are required for electrical, plumbing, an mechanical work. The property owner is responsible for obtaining these additional permits prior to work being done.

This application, when approved, includes only the work described abov and/or plans and specifications bearing the same permit number. Th applicant agrees to comply with all applicable codes and ordinance governing zoning, sanitation and construction.

The granting of this permit does not presume to give authority to violat or cancel the provisions of any state or local law regulating constructio or the performance of construction.

This application, if approved, becomes null and void if buildin construction is not commenced within 180 days, is discontinued for 18 days, or installation of sewage disposal system and/or placement of mobil home or recreation vehicle is not completed within 1 year from the date o approval.

Prior to construction or placement, it is advisable that you check you deed for other restrictions that may apply.

FEES ARE NOT REFUNDABLE

APPLICANT: [signature] DATE 1-23-88

Revised 12/86

Handforth & Larson, Inc. Civil Engineering & Surveying

P.O. BOX 219 MANZANITA, OREGON 97130 (503) 368-5394

December 7, 1988

Mr. Ralph Winczewski
6615 SE Plum Drive
Milwaukie OR 97222

RE: Dune Hazard, Tax Lot 3000, 1N 10 7DA, Watseco, Oregon

Dear Mr. Winczewski:

At your request our firm has visited the site of your property in the Watseco area in order to address the engineering and geologic hazards of the specific site and to make recommendations for residential construction thereon. Our site visit was made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic hazards. Mr. See's report on the subject property is attached to this report, and together with this report is the required dune hazard report for the subject property. The site is shown on the enclosed vicinity map.

INVESTIGATION

The property lies on the West side of Ocean Boulevard. The enclosed spot elevation map of the property shows spot elevations on the property (on NGVD) as well as the high point of the dune formation. The top dune formation is approximately 40 feet West of the proposed building site.

A review of OSHD aerial photos for this area dated 1967, 1973, 1978 and 1984 show a steady increase in vegetation over the entire property. The most Westerly line of vegetation has moved Westward since at least 1939 as noted in Mr. See's report. The Westerly portion of the dune is classified as an Active Foredune and the Easterly portion of the property is classified as an Older Stabilized Dune.

Wind erosion and migration of sand is a hazard to any beachfront property which consists of sand. As Mr. See points out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the walkways to the beach. Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation. For this reason, it is recommended that no vegetation be cut to the West of the proposed building site.

CONDITION OF PERMIT

Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dune was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert your foundation contractor to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractor should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2 inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance. Any logs discovered to be near the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

Potential hazards due to ocean flooding have been identified by the National Flood Insurance Program. The Flood Insurance Rate Map (FIRM) for the Watseco area shows the subject property to be located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is immediately adjacent to a velocity zone (V13) with a predicted base flood elevation of 22 feet. The current elevation of the crest of the dune is now also approximately 22 feet (NGVD). Thus the crest and width of the dune field is providing all of the protection from flooding for this property. Every effort should be made to maintain the dune at or above the 100 year base flood elevation. This will be accomplished through the protection of the existing European beach grass and other vegetation on this property.

FLOOD CERTIFICATE REQUIRED

DEVELOPMENT STANDARDS

Development standards which are recommended for the subject property to adequately protect the proposed development from the above described potential hazards are as follows:

1. The foundation of the structure should be on continuous concrete footings. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. All footings should bear directly on undisturbed native sand. Do <u>not</u> place house footings on fill material. The bottom of all footings should be a minimum of 12 inches below grade for single story construction and 18 inches below grade for two story construction in native sand. We recommend that the building contractor be alerted to the need to protect the footings during construction from sand erosion and undermining.

CONDITION

2. Roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed. All collected runoff water should be disposed of either on splash pads or in drywells.

3. The structure may be placed on the property in accordance with the standard setback requirements of Tillamook County. More specifically, the Oceanfront Setback Line should be located as shown on the enclosed Topographic Study Map at 40 feet East of the Northwest property corner on the North property line and 68 feet East of the Southwest property corner on the South property line. No building construction should occur West of this line and no vegetation should be removed or disturbed West of this line. No beach grass or other vegetation should be cut West of this line. ↑ CONDITION

4. Vegetation removal around the proposed structure should be kept to the minimum required for the placement of the structure. We recommend that your contractor revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock. CONDITION ←

5. Undercutting by wave action along this portion of the ocean front has not historically been a problem. Although it is impossible to predict what future winter storms may do to the coastline, it would seem likely that no significant wave undercutting will probably occur. If such undercutting were to begin, remedial measures, such as riprap construction, would need to be implemented.

FINDINGS AND CONCLUSIONS

Based upon our site specific investigation of this property and the recommended development standards, the following are our conclusions:

a) The proposed residential use will have negligible adverse effects on adjacent uses and the surrounding area.

b) There are no hazards to life, property, and the natural environment which may be caused by the proposed use, subject to the conditions for development stated in the foregoing development standards.

c) The proposed residential use, subject to the foregoing development standards, will be adequately protected from the described hazards, notwithstanding the fact that riprap protection may be necessary in the future should erosion occur.

d) No periodic monitoring of site conditions is recommended other than monitoring of any erosion of the foredune, should it occur.

LIMITATION

This report is based on a site investigation of the subject property and vicinity and a review of existing aerial photography and the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied.

Very truly yours,
HANDFORTH & LARSON, INC.

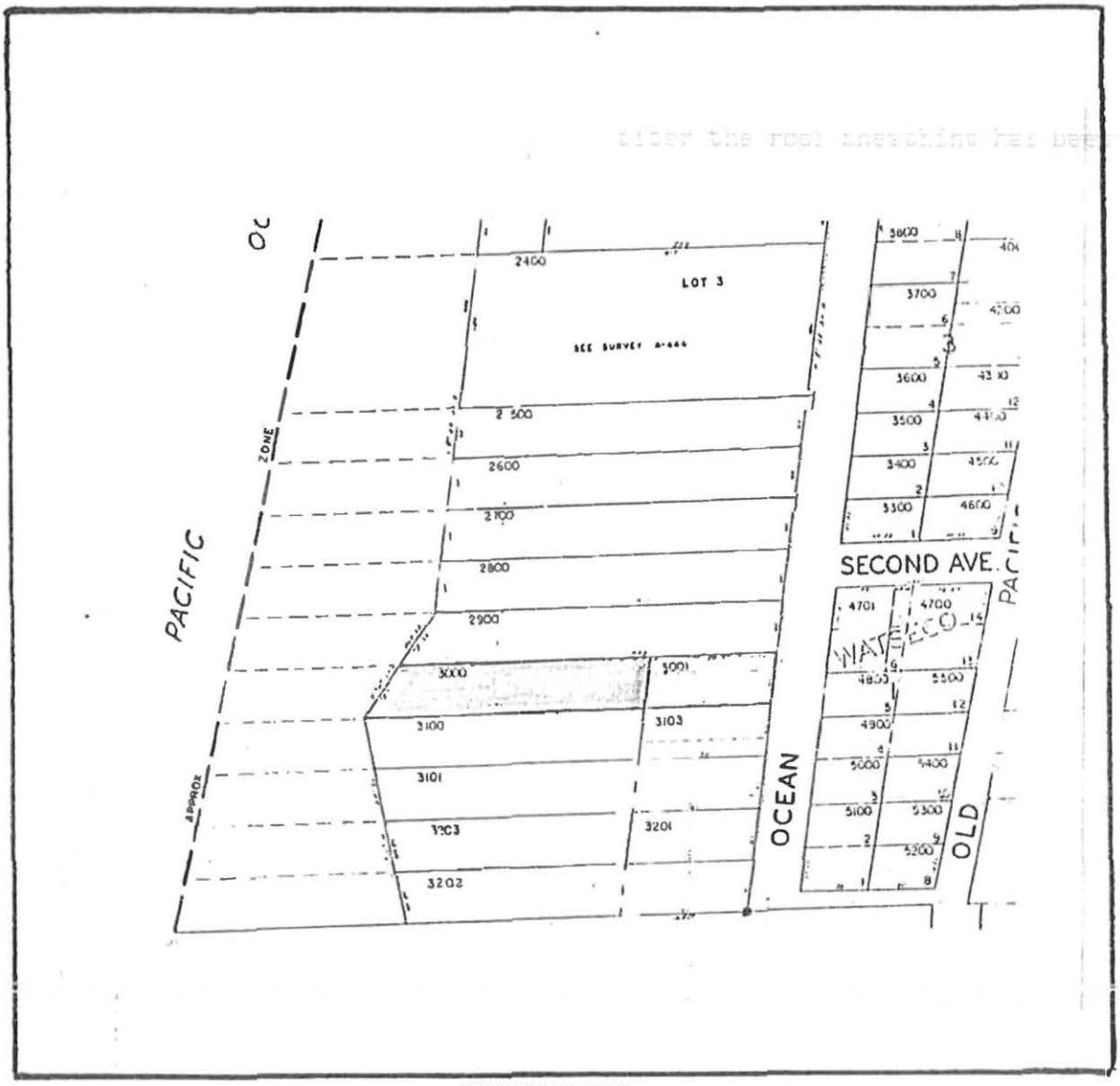
Ronald H Larson

Ronald G. Larson, PE, PLS

jj

cc: Paul D. See

Hardforth & Larson, Inc. Civil Engineering & Surveying
P.O. BOX 219 MANZANITA, OREGON 97130 (503) 368-5394



VICINITY MAP
SCALE 1" = 200'

ENGINEERING GEOLOGIC HAZARDS REPORT

Tax Lot 3000, 1N 10 7DA
WATSECO, Section 7, Township 1 North
Range 10 West of the Willamette
Meridian, Tillamook County, Oregon.

OWNER:

Ralph Winczewski
6615 SE Plum Drive
Milwaukie OR 97222

HLI Job #2659

PAUL D. SEE

300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

#8098

September 15, 1988

Ronald G. Larson
Handforth and Larson, Inc.
P. O. Box 219
Manzanita, Oregon 97130

Re: Tax lot 3000, T1N, R10W, Sec 7DA, Watseco, Tillamook Co. (Winczewski)

Dear Ron:

The following observations and conclusions derive from our joint inspection of the above described property on September 8, 1988.

The property rests on a relatively flat but hummocky dunefield at an approximate elevation of 16+ feet. Sand has accumulated along this shoreline partly as a natural barrier across an otherwise irregular foothill frontage, and partly as a result of the interruption of coastal sand transport by construction of the Tillamook Bay north jetty in 1917.

Although this beach has experienced a net accretion in the past 70 years, severe storms have periodically eroded the dune front resulting in scattered property damage from Manhattan Beach to Tillamook Bay. Cooper[1] describes intense erosion in January, 1939, and Schlicker[2] describes with an accompanying photograph the abrupt erosion of 12+/- foot high dunes at Watseco Creek in the winter of 1971-72, along an area that had been stable for 15 years. The 1986 Nedonna Beach Foredune Study[3], although not directly incorporating this area, utilizes examples of erosion/deposition in the Watseco Creek area to illustrate factors applicable to their area of study. Concentrating on the effect of drift logs, they declare that: "Driftwood deposits on the backshore can either be a benefit or destructive force to the foredune, Massive driftwood deposits that interlock can provide excellent wave protection by breaking up wave energy before it reaches the foredune. They also collect wind-blown sand and can be the start of new foredunes. Backshore deposits known to the study team on other beaches are sometimes 50 to 100 feet wide and a mile long. They tend to create a false sense of security for oceanfront property owners".

Inspection of 1967, 1973, 1978, and 1984 Oregon State Highway Division aerial photos reveals a relatively fresh local field of scattered drift logs over a 200+/- foot wide strip in 1967. Vegetation had gradually obscured these logs from aerial view by 1984, but field inspection reveals that they have remained in place to date. Periodic erosion, particularly during the 1982-83 El Nino, has removed several tens of feet of the dune frontage, exposing a dense tangle of logs weathered from the dune. The low wave-cut bank visible on the 1984 photo is still observable at this time.

The surface profile in this area is atypical of most sandy beach fronts.

No true foredune exists, although the western edge of the dunefield is slightly higher than the hummocky, log-strewn plain to its east. Obviously the area has not experienced a net regression since 1967, although the presence of the fresh logs at that time is evidence of extreme wash-over just prior.

Notwithstanding the record of frequent storm damage, Stembridge[4] notes in 1975 that "with the exception of Neahkahnie and Manzanita beaches in the extreme north, the entire Rockaway-Nehalem shoreline has been prograding since at least 1939", and "The least prograding between the Nehalem River and Tillamook Bay totals more than 30 feet since 1939". He further notes the confusion among other investigators over erosion/deposition trends along this beach, citing their use of newspaper accounts of storm damage as evidence of long-term erosion.

A hummocky dune about eight feet higher than the building site and west of the property would inhibit damage from prolonged storm surf erosion or wash-over. However, the low elevation and vulnerability of the nearby trailer court on the north permits a degree of velocity flooding in the general area, including the subject property.

Quoting further from the Foredune Management Study, "Driftwood logs should not be removed when they accumulate in an eroded portion of a foredune because they aid the natural repair of the foredune.

"The accumulation of drift logs near Watseco Creek are not well interlocked and could be pushed or floated farther inland where they could block Watseco Creek. As a result, Watseco could move south and possibly endanger existing development. The logs at Watseco could also be washed out and transported to other shorelines. It is our opinion that the logs in the former foredune area should remain to aid in the rebuilding of the foredune".

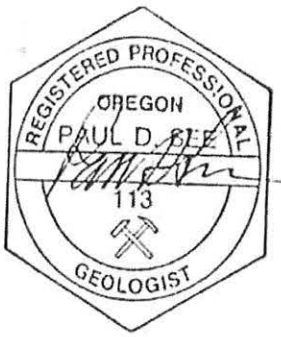
In summary, the property is well vegetated with beach pines and other upland grasses and shrubs. However, this has obviously developed in a few decades, and remains at slight risk from severe episodic storm wave overtopping due to its elevation. The presence of the numerous old drift logs and living vegetation would diminish velocity flooding at the building site. The Tillamook Bay north jetty will continue to present a barrier to southerly offshore sand transport, causing a continued net accretion along this beach. The timing and magnitude of future storm surges and consequent erosion cannot be predicted, however, and damage from velocity flooding cannot be ruled out.

Notwithstanding the possibility of flooding, the property appears to be relatively safe from long-term erosion and shoreline regression. No evidence exists to suggest a reversal in trend that has continued for more than 70 years.

The observations and recommendations incorporated in this letter report are the result of personal site inspection, the works of other specialists, and generally accepted principles of geologic investigation for a report of this nature. Conditions described are believed to accurately represent circumstances at the time of inspection. No warranties are expressed or implied.

Sincerely,

Paul D. See



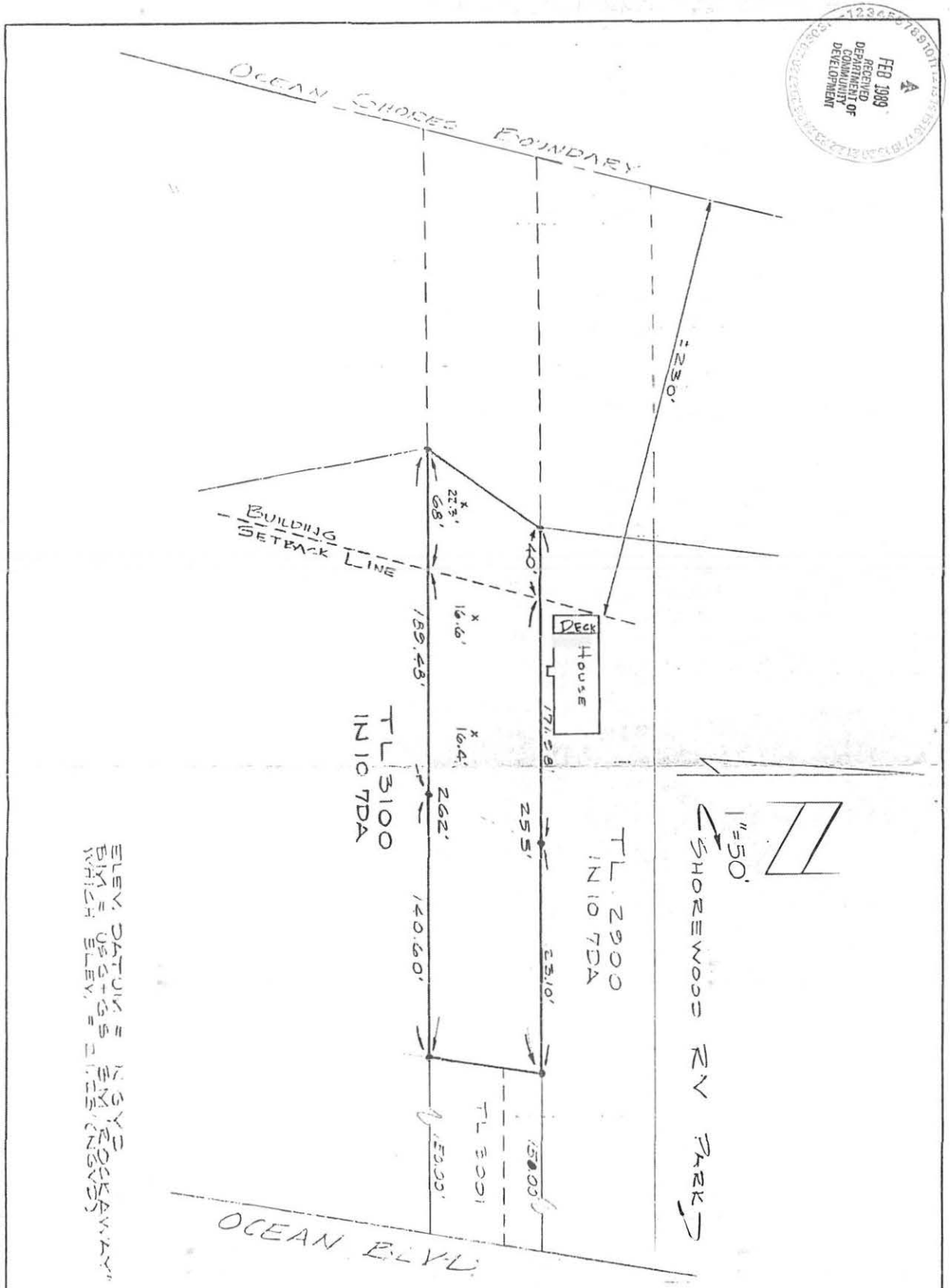
References cited:

[1]Cooper, William S. Coastal Sand Dunes of Oregon and Washington GSA memoir #72, 1958 (P. 84)

[2]Schlicker, H. G. et al Environmental Geology of the Coastal Portions of Tillamook and Clatsop Counties, Oregon Oreg. Dept. of Geol. and Mineral Indust. Bull #74, 1972.

[3]Nedonna Beach Foredune Management Study, pages 24, 25. Prepared for Oregon Land Conservation and Development Commission, 1986.

[4]Stembridge, James Edward, Jr. Shoreline Changes and Physiographic Hazards on the Oregon Coast. PhD Dissertation, University of Oregon, 1975. (P. 63).



RECEIVED
FEB 1989
DEPARTMENT OF COMMUNITY DEVELOPMENT

TOPOGRAPHIC STUDY MAP
FOR
RALPH WINCZEWSKI
SHOWING
OCEANFRONT SETBACK LINE

NE1/4SE 1/4 SECTION 7, T.1N R.10W., W.M.
TILLAMOOK COUNTY

SURVEY BY:
HANDFORTH & LARSON, INC.
P.O. BOX 219
MANZANITA, OR. 97130
(503) 368-5394

DATE	JOB NO.	EQUIPMENT	FIELD	DRAWN	CHECKED
12/7/88	21079	JENA 020A W/ TAPE	RGL/JPR	RGL	RGL

DUNE HAZARD REPORT - SHT 9 OF 9

NESCO SUPPLY

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:19:57 pm

Account #	62611	Tax Status	ASSESSABLE
Map #	1N1007DA03100	Acct Status	ACTIVE
Code - Tax #	5624-62611	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	DANNO, EVAN F TRUSTEE	Deed Reference #	2020-5674
Agent		Sales Date/Price	08-25-2020 / $626,000.00
In Care Of		Appraiser	ROBERT BUCKINGHAM
Mailing Address	144 HIGHLAND RIDGE RD KALISPELL, MT 59901		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	27142-1

Situs Address(s)	Situs City
ID# 1 17490 OCEAN BLVD	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	334,830			Land	0	
	Impr.	363,480			Impr.	0	
Code Area Total		698,310	579,650	579,650		0	
Grand Total		698,310	579,650	579,650		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.22		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.22		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	149	Basement First Floor	112	2,544			363,480
				Grand Total		2,544			363,480

Exemptions/Special Assessments/Potential Liability

Code Area	Type							
5624								
SPECIAL ASSESSMENT:								
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020		

Comments: 09/15/09 Phase one review - updated inventory.ef 02/07/13 Reappraised land. Tabled values. RBB

RECEIVED
JAN 28 1997
COMMUNITY DEVELOPMENT

TILLAMOOK COUNTY CONSTRUCTION/PLACEMENT PERMIT APPLICATION
For *Building, Planning and Sanitation*

APPLICANT

Application 97-045

Legally Recorded Owner MELVIN G. and BETTY A LEWIS (verified 1-28-97)

Mailing Address 3397 NW Hyw 47 Phone 503 357-2800

City FOREST GROVE State OR Zip Code 97116

CONTRACTOR/INSTALLER

Building Contractor TIM HALL BUILDERS Reg. No.

Sanitation Installer NA Reg. No.

Mobile Home Installer NA Reg No.

[ ] Mail permit to Contractor/Installer:

APPROVED PERMIT

LOCATION INFORMATION BARVIEW/WATSECO

Situs Address 17490 OCEAN BLVD, ROCKAWAY

Township 1N Range 10 Section 7DA Tax Lot 3100 (verified 1-28-97 jr)

Zone R-2 Lot Size 60' x 95' x x or Acres (verified 1-28-97 jr)

PROPOSED USE

- [X] Single Family Dwelling
- [ ] MD/RV Placement
- [ ] Addition
- [ ] Accessory Structure
- [ ] Demolition/Move
- [ ] Temporary RV Placement
- [ ] Replacement
- [ ] Alteration
- [ ] Public/Commercial/Industrial

WASTE DISPOSAL

- [X] Sewer District
- [ ] Septic Tank/Drainfield
- [ ] Construction Permit
- [ ] Minor/Major Repair Permit
- [ ] Alteration Permit

Letters on file

WATER SUPPLY

Private (Public) Creek/Spring/Well

SIZE OF STRUCTURE 624 NLA 544 LA

30'x56' Dimensions
24' Height
2 Stories
1 No. of Dwelling Units
5 Bedrooms

VARIANCE/CONDITIONAL USE File No. V-96-12(a)

SETBACKS

20' Front Yard
5' Rear Yard
5' Left Side
5' Right Side
River/Estuary/Creek

plans in Bot.

MOBILE HOME/RECREATION VEHICLE

License Number
Make
Year

ROAD ACCESS

- [ ] State Highway
- [X] County Road/Public Way
- [ ] Private Road

RAP to P.W. 1-28-97 jr

VALUATION (AS DETERMINED BY BUILDING OFFICIAL) Section 304 (b) $ 175,000—

All or a portion of this property may be located within an identified wetland. If the site is a jurisdictional wetland you must obtain any necessary State or Federal permits before beginning your project.

Separate State of Oregon permits are required for electrical, plumbing, and mechanical work. The Property owner is responsible for obtaining these additional permits prior to work being done.

This application, when approved, includes only the work described above and/or plans and specifications bearing the same permit number. The applicant agrees to comply with all applicable codes and ordinances governing planning, sanitation and construction and agrees to meet any and all or the conditions listed below.

The granting of this permit does not presume to give authority to violate or cancel the provisions of any State or Local law regulating construction of the performance of construction.

This application, if approved, becomes null and void if building construction is not commenced within 180 days, is discontinued for 180 days, or installation of sewage disposal system and/or placement of mobile home or recreation vehicle is not completed within one year from the date of approval.

Prior to construction or placement, it is advisable that you check your deed for other restrictions that may apply.

I certify that the information I have submitted is complete and accurate, and may be relied upon by the Department of Community Development in processing my application. I accept responsibility for any inaccuracies in the information I have provided, and for the consequences thereof.

FEES ARE NOT REFUNDABLE

APPLICANT SIGNATURE: [signature] Date 1/28/97

********** FOR OFFICE USE ONLY **********

SANITATION L Ryan 1-28-97
PUBLIC WORKS [signature] 2/10/97
HOUSE NO. [signature] 2-12-97
PLANNING [signature] 2-7-97
PLAN CHECK Nancy 2-11-97
BUILDING OFFICIAL Nancy 2-11-97

Sanitation Fee	$ 0
D.E.Q. Surcharge	0
Building Fee	620.50
Plan Check Fee	403.32
B.C.A. Surcharge	31.03
Planning Review Fee	120.00
A-level Plan Review	0
Fire & Life Safety	0
Address ($10.00)	10.00
M.D./RV Fee (Planning)	0
M.D./RV Fee (Building)	0
State M.D. Fee ($20)	0
B&D/GHZ/Flood Fee	140.00 — GHZ Flood
F-1 & F Review Fee	0
PW Review Fee	4.00
Road Approach ($125.00)	125.00
TOTAL DUE	$ 1453.85

RECEIVED BY: lr
DATE: 1-28-97
RECEIPT NO. 2321

The signature below indicates that the proposed development is in compliance with the current Land Use Ordinance, Comprehensive Plan and Statewide Planning goals. The types and levels of services provided in conjunction with the development authorized by this permit meet the Comprehensive Plan policies.

CITY APPROVAL INSIDE U.G.B.: _____
City Official Signature Title Date

CONDITIONS OF PERMIT APPROVAL:

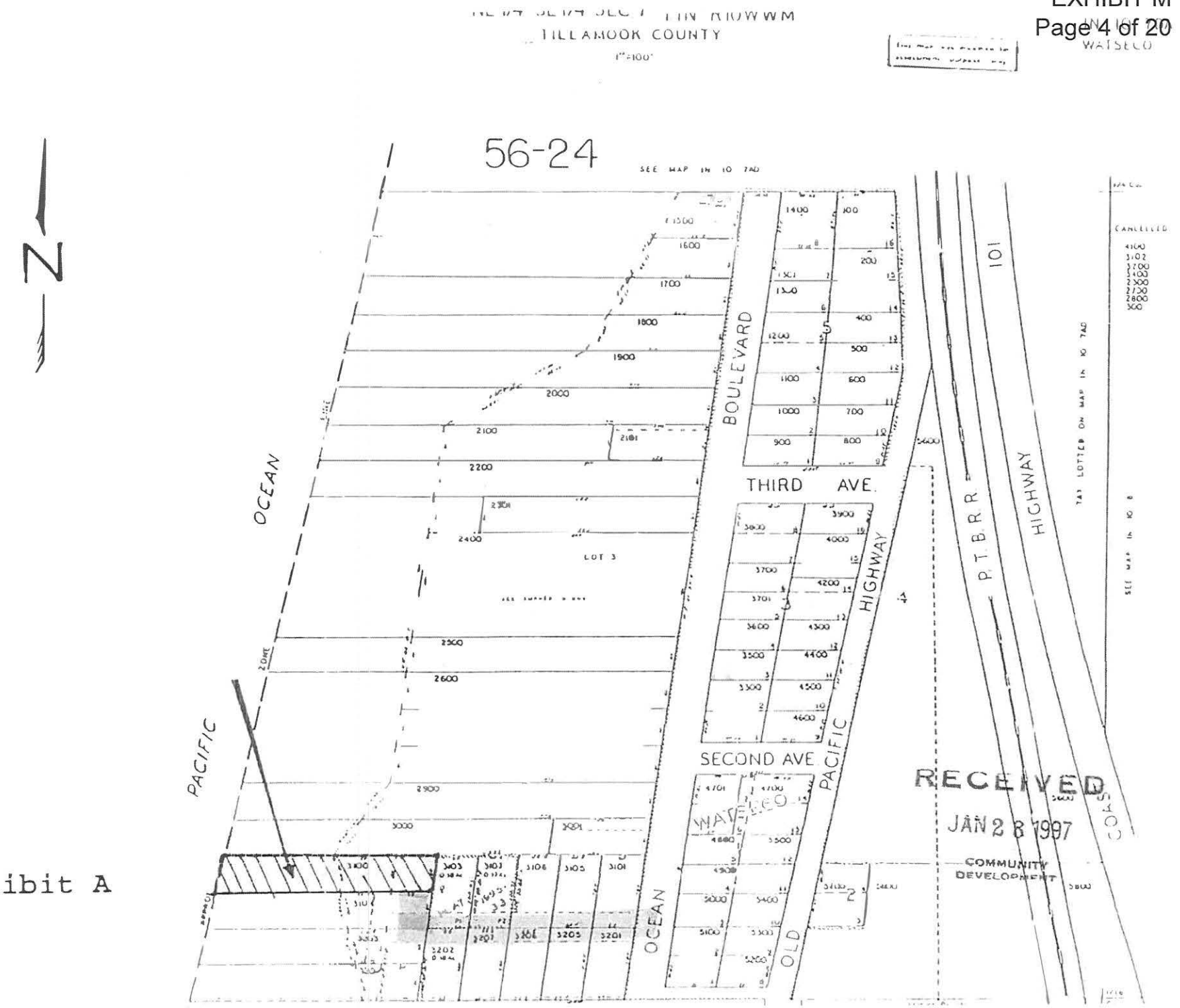
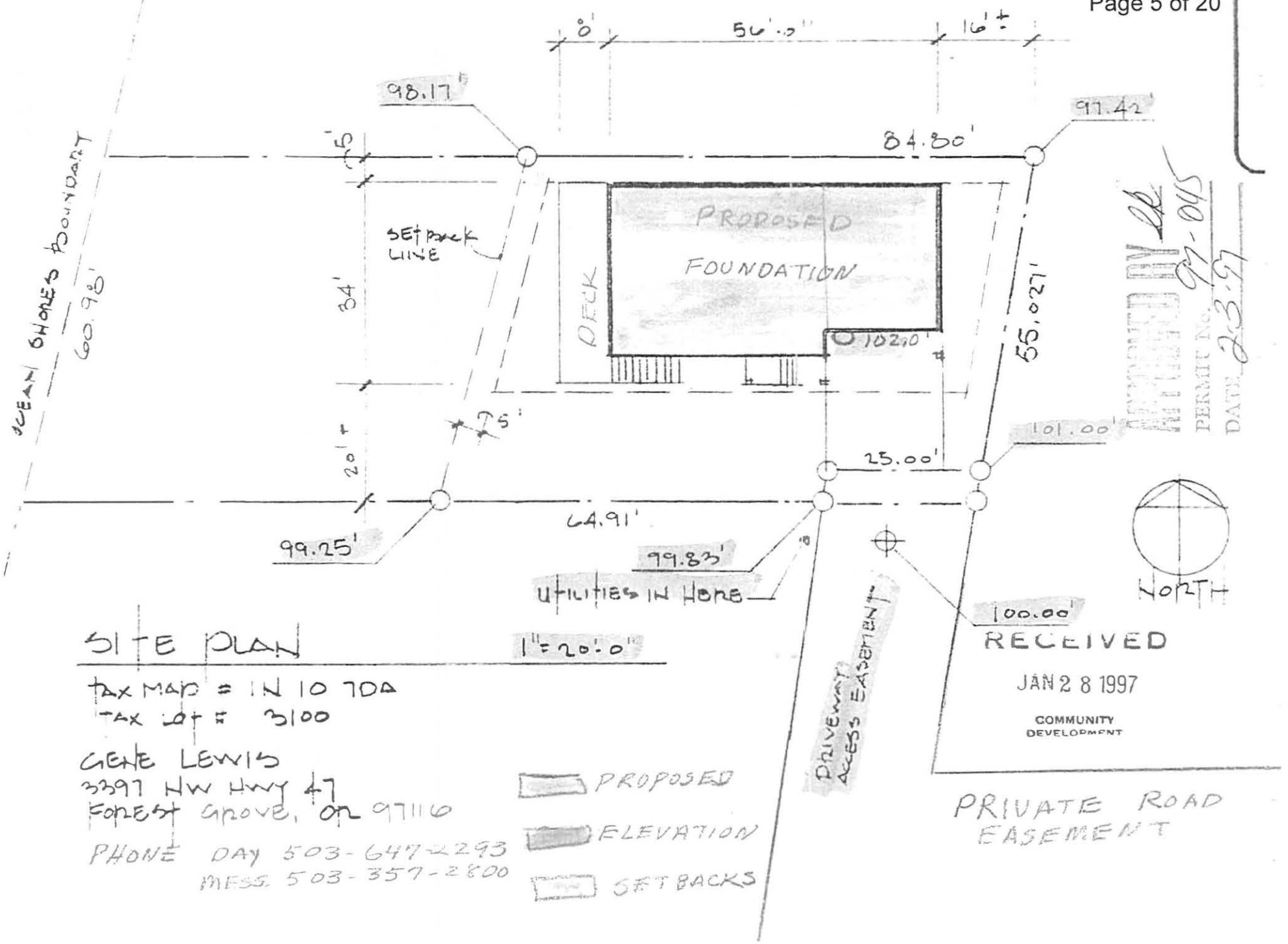

TILLAMOOK COUNTY
56-24
SEE MAP IN 10 7AD
OCEAN BOULEVARD
THIRD AVE.
SECOND AVE
PACIFIC HIGHWAY
OCEAN
OLD PACIFIC HIGHWAY
P.T.B.R.R.
101
WATSECO
CANCELLED
LOT 3
RECEIVED
JAN 28 1997
COMMUNITY DEVELOPMENT
COAST

Exhibit A



SITE PLAN

1" = 20'-0"

TAX MAP = 1N 10 7DA
TAX LOT = 3100

GENE LEWIS
3397 NW HWY 47
FOREST GROVE, OR 97116
PHONE DAY 503-647-2293
MESS. 503-357-2800

PROPOSED
ELEVATION
SET BACKS

Tom Asher

Linker/Lockwood
Iris Hamm
Decker Real Estate Inc.
842-8283

LB & Associates

N C O R P O R A T E D Surveying, C

Box 219 ▪ 160 Laneda Ave.
Manzanita, OR 97130

August 25, 1995

RECEIVED
AUG 29 1995
COMMUNITY DEVELOPMENT

Mr. and Mrs. Don Linker
15917 SE Arista Drive
Milwaukie, OR 97267

RE: Addendum #1 to Beach and Dune Hazard Report, Tax Lots 3100 and 3104, 1N 10 7DA, Watseco, Oregon.

Dear Mr. and Mrs. Linker:

At your request we have reviewed the original Beach and Dune Hazard Report prepared by our firm and dated September 14, 1990. The original report has been incorporated into this addendum. This addendum is prepared for your use in planning the development for single family residences on the properties. Discussion items set forth herein should be incorporated into the development plans for that project.

SITE CONDITIONS

The site is generally as described in the original report. The elevation at the crest of the foredune was re-measured in June of 1995 for this report. The new measurements indicate that the dune has experienced some accretion since the original report. The average elevation of the foredune is now 23.1 feet (NGVD) with the lowest point along the top of the foredune in front of the subject property being 22.7 feet.

A. Dune Land Forms:

The Westerly portion of the property is classified as an Active Foredune. The crest of this dune is approximately 240' West of the Easterly property line with an elevation of approximately 23.1'. The Easterly portion of the property is classified as an Older Stabilized Dune.

B. History of Dune Stabilization:

There is no history of any dune stabilization projects.

C. History of Erosion and Accretion:

The dunes on the subject property have shown a net accretion of sand over the past 70 years as evidenced shown by aerial photographs over that time frame. There has also been a corresponding increase in natural vegetation cover in that time. There were fresh logs deposited in the photographs from 1967 which indicate that there was an extreme wash-over just prior to that date. In the five years since the original report, there has been a net accretion of approximately 0.6 feet.

FINDINGS AND HAZARDS ANALYSIS

The primary relevant hazard on this site is the movement of sand, both accretion and erosion. In addition to this hazard there is the hazard of flooding and earthquake. Mitigation of these hazards is discussed herein.

Erosion and Accretion: The dune in this area has been accumulating sand at least since 1939 and shows no indication of changing that pattern soon. There have been isolated incidents of winter storm erosion. There is no guarantee that the accretion patterns will continue as is so it is important to the property owner to monitor the condition of the dunes to detect any changes. In order to monitor and document the movement of sand on the subject property, the owner, and all future owners, should photograph the property from the ocean side at least once every six months. These photographs can be compared to determine the extent of sand movement and to determine if any additional mitigation measures are necessary.

Flooding: The property is located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is adjacent to a V-13 zone with velocity flooding to a depth of 22 feet and an average return period of 100 years. This level is below the height of the foredune which would tend to protect any structure from velocity flooding. It is important that the elevation of the dune be maintained at least at this level and that there is no vegetation removal from the entire foredune area.

In 1993 a new flood study was completed for the property to the South known as PINE BEACH REPLAT. The information presented in that study was submitted to and reviewed by the Federal Emergency Management Agency (FEMA) and was incorporated as a flood zone change as a part of the National Flood Insurance Program (NFIP). The NFIP modified the Base Flood Elevation (BFE) downward for the PINE BEACH REPLAT area to be Velocity Flood Hazard Zone with a BFE of 19 feet (previously 22 feet). That study indicates that the existing BFE of 22 feet for the subject property is conservative. Additionally, that study determined that flooding hazards on the PINE BEACH REPLAT property extended about 190 feet East of the Ocean Shores Boundary when the foredune was subject to erosion under computer modeling.

Earthquake: Mr. See comments in the original report of the potential regional hazard of severe earthquakes. The most serious such earthquake, for which evidence goes back about 7700 years, is estimated to have been a magnitude of about 8 or greater on the Richter scale. Current projections estimate a 30 percent chance of a magnitude 8 or greater regional earthquake in the next 50 years. Building code requirements for the State of Oregon do not presently address earthquakes of this magnitude, but there are recognized construction methods that can be used by contractors for owners wishing a degree of added protection in less than maximum earthquakes. In addition, strong seismic acceleration can be expected to result in liquefaction of weak saturated sediments, allowing for abrupt settlement of foundations. A pile foundation would not necessarily protect against damage by liquefaction of saturated ground in severe quakes.

The State of Oregon Department of Geology and Mineral Industries projects the maximum tsunami run-up from various possible earthquake events. The worst cast scenario would involve a M8.8 Cascadia Earthquake and could result in a wave 18 feet high with a total run-up of 39 feet. No practical engineering measures could protect a frame residence against this type of event.

The site is in a 90 mph wind zone exposed to the ocean winds (Exposure D as per UBC Section 2311(c).), therefore, the building must be designed to withstand the minimum required lateral wind loads. In general, one-story wood frame construction designed to withstand 90 mph Exposure D wind loadings also will withstand earthquake loads. The hereinafter optional standards are recognized construction methods used for wind resistant wood frame construction that are also very effective in protecting against earthquake forces.

MANDATORY DEVELOPMENT STANDARDS

In addition to the required standards of Section 4.070 (2) of the Tillamook County Land Use Ordinance, the following site specific standards shall also be required:

A. Development Density - This property is located in an R-2 zone (medium density urban residential) and should be developed for uses consistent with that zoning. Development of a single family home is consistent with the current zoning.

B. Structure Foundation and Road Location - Any house built on these lots should be located as far to the East as possible and still be within the requirements of the R-2 zoning including any exceptions. These setbacks are a 20' front yard (measured from the Westerly right-of-way line of the private road) and a 5' side yard. The Westerly edge of the building foundation (excluding any exterior decks with railings less than 36" above grade) should be located in accordance with the oceanfront setback requirements of the Tillamook County Zoning Ordinance. Based upon current houses in the area, the oceanfront setback requirement is now at 233.3 feet East of the Ocean Shores Boundary Line. That oceanfront setback is subject to change as other houses are built in the area. The lowest level of the finished floor should be at least one foot above the 100 year base flood elevation which corresponds to two feet above the exlsting grade. Driveways should b placed to the East of the structure only.

C. Land Grading Practices - All excavations for driveway and house foundation construction should be done when the sand is damp but not saturated (while it is not actually raining). All cut slopes should be retained using temporary or permanent means of stabilization. No excavation or grading should take place on the fore dune area.

D. Vegetation Removal and Revegetation - Removal of vegetation should be kept to the absolute minimum to allow construction. Upon the completion of construction the disturbed area should be either replanted with beach grass or protected with a 4" thick layer of crushed rock. Florence Beach Grass Nursery is suggested as a source for beachgrass sets - either planted and fertilized, or for the owner to plant and fertilize. This nursery is also a good source of information on proper fertilizing and time of planting.

E. Foundations - The foundation should be a continuous reinforced concrete perimeter system. The hazard of buried logs under the foundation is discussed in the original report. The guidelines from that report should be strictly adhered to.

The bottom of all footings and pads should be excavated to below any organic material and previously placed fill material. Soil bearing pressures at the bottom of all footings should not exceed 1500 pounds per square foot. Any retaining walls should be designed according to the following criteria:

Allowable Soil Bearing Pressure (at a minimum 2' below native grade)	1500 lbs/sf
Lateral Soil Bearing Pressure (Active) (excluding surcharge effects)	40 lbs/cubic foot of depth
Lateral Soil Bearing Pressure (Passive)	300 lbs/cubic foot of depth
Friction Angle (ϕ)	28°
Maximum unit weight	120 lbs/cubic foot

F. Driveway Location and Design - Any driveway should be constructed such that the roadbed is entirely on cut material or overexcavated and recompacted fill material. Access will be from any convenient location on the private road easement. Driveway design standards should include the use of a geotextile support fabric, 8" of pit run base rock and 2" of 3/4"-0" crushed rock surfacing.

G. Stormwater Management, Runoff and Drainage - All roof drainage should be collected with eave gutters and downspouts and discharged to splash pads or dry wells. Any drywell should be located at least 10' away from the foundation.

OPTIONAL DEVELOPMENT STANDARDS FOR ADDED SEISMIC PROTECTION:

These are standards not strictly required under conditions set out in the Uniform Building Code lateral force resistance provisions for this area, but a concerned property owner might wish to include in home construction to provide additional safety in view of the available information on the greater potential for major earthquakes in about the 8 or greater Richter category.

While no practical measures could guarantee protection in a maximum event, some reasonable steps could provide a degree of assurance against damage in lesser events. The design of the structure for wind loadings of 110 or 120 mph winds will generally add only a small cost to the entire structure and will effectively increase protection for both additional wind and earthquake loads. Examples of the results of increased design loads are:

- ☐ Secure floor framing to mudsills with galvanized steel framing anchors.
- ☐ Secure roof framing to walls with galvanized steel hurricane clips.
- ☐ Use plywood shear wall construction, with plywood sheathing applied to greater than building code requirements for plywood shear walls.

SUMMARY FINDINGS AND CONCLUSIONS

1. The proposed use is currently single family residential. There are no development plans currently available for review at this time There are no immediate adverse effects on adjacent properties from future house construction. Future house construction may be subject to flooding and erosion from wave action. Future development proposals should be further evaluated in the context of the recommendations of a final Dune Hazard Report, at the time of issuance of a building permit.

2. The proposed use is protected from erosion and wave action by the existing foredune, the required setback from that foredune and the required building floor elevation.

3. All runoff during and after construction will be readily absorbed into the ground either through drywells or splash pads and will not pose any hazard to adjacent property.

4. Periodic monitoring of the foredune accretion or erosion is described in this report.

LIMITATION

This report is based on a site inspection of the subject property and vicinity and a review of the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to represent the site and are offered as professional opinions derived according to current standards of professional practice for a report of this nature, and no warranty is expressed or implied. This report has been prepared for the timely use of the above addressee and parties to the pending development of the subject property, and does not extend to the activities of unidentified future owners or occupants of the property for which the writer bears no responsibility.

Should you have any questions regarding our investigation and this report, please contact our office.

Sincerely,

HLB, INC.

Ronald G. Larson, PE, PLS
Principal-In-Charge

Carl Tappert, PE

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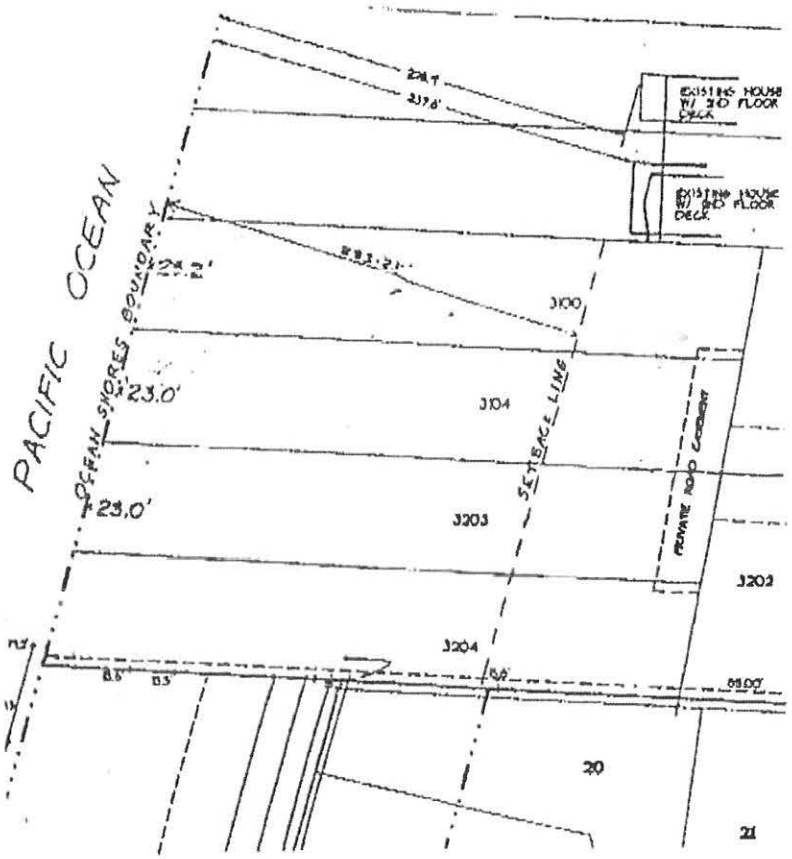
cc: GHR File

enc.



ENGINEERING GEOLOGIC HAZARD REPORT
VICINITY MAP
Scale: 1" = 100'

CLIENT: Mr. and Mrs. Don Linker
15917 SE Arista Drive
Milwaukie, OR 97267

PROPERTY: Tax Lots 3100 and 3400,
1N 10 7DA
Watseco, OR

HANDFORTH
LARSON &
BARRETT, INC.

Civil Engineering & Surveying

P.O. Box 219 Manzanita, Oregon 97130 503-368-5394

September 14, 1990

Mr. Eugene W. Larson
c/o Mr. & Mrs. Don Linker
15917 SE Arista Drive
Milwaukie OR 97267

RE: Beach and Dune Hazard Report, Tax Lots 3203 and 3204, 1N 10 7DA, Watseco, Oregon

Dear Mr. & Mrs. Larson:

At your request our firm has visited the site of your property in the Watseco area in order to address the engineering and geologic hazards of the specific site and to make recommendations for residential construction thereon. Our site visit was made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic hazards. Mr. See's report on the subject property is attached to this report, and together with this report is the required dune hazard report for the subject property. The site is shown on the enclosed vicinity map.

INVESTIGATION

The property lies West of Ocean Boulevard on a private street. The East line of the subject property is located approximately 384 feet West of the West line of Ocean Road. The enclosed spot elevation map of the property shows spot elevations on the property (on NGVD datum) as well as the high point of the dune formation. The highest point of the dune formation is virtually on the proposed building sites. West of the building sites lies a broad deflation zone and the primary foredune.

A review of OSHD aerial photos for this area dated 1967, 1973, 1978 and 1984 show a steady increase in vegetation over the entire property. The most Westerly line of vegetation has moved Westward since at least 1939 as noted in Mr. See's report. The Westerly portion of the dune is classified as an Active Foredune and the Easterly portion of the property is classified as an Older Stabilized Dune.

Wind erosion and migration of sand is a hazard to any beachfront property which consists of sand. As Mr. See points out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the walkways to the beach. Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation. For this reason, it is recommended that no vegetation be cut to the West of the proposed building site.

Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dune was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert your foundation contractor to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractor should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2-inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance. Any logs discovered to be near the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

Potential hazards due to ocean flooding have been identified by the National Flood Insurance Program. The Flood Insurance Rate Map (FIRM) for the Watseco area shows the subject property to be located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is immediately adjacent to a velocity zone (V13) with a predicted base flood elevation of 22 feet. The current elevation of the crest of the dune is now also approximately 22 feet (NGVD). Thus the crest and width of the dune field is providing all of the protection from flooding for this property. Every effort should be made to maintain the dune at or above the 100 year base flood elevation. This will be accomplished through the protection of the existing European beach grass and other vegetation on this property.

DEVELOPMENT STANDARDS

Development standards which are recommended for the subject property to adequately protect the proposed development from the above described potential hazards are as follows:

1. The foundation of the structure should be on continuous concrete footings. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. All footings should bear directly on undisturbed native sand. Do <u>not</u> place house footings on fill material. The bottom of all footings should be a minimum of 12 inches below grade for single story construction and 18 inches below grade for two story construction in native sand. We recommend that the building contractor be alerted to the need to protect the footings during construction from sand erosion and undermining.

2. Roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed. All collected runoff water should be disposed of either on splash pads or in drywells.

3. All proposed structures must be placed on the property in accordance with the setback requirements of Tillamook County. The Tillamook County Planning Department has indicated that special setback restrictions will be applicable to this property. More specifically, the Planning staff has indicated that a general exception is currently being processed to allow for a setback of 10 feet along the West right-of-way line of the private road. The Oceanfront Setback Line will be determined by the Planning Staff on a case by case basis for each individual lot. In general, the Oceanfront Setback must be at a maximum distance from the Ocean Shores Boundary Line in order to place the structure on the lot. This is the reason behind the exception to the Easterly setback.

4. With reference to the above setback requirements, it is recommended that the proposed structure be located as far East on the subject property as possible. It is a preliminary conclusion of this report that the most westerly location of a new residential construction on this property should be no further West than 60 feet Westerly of the Westerly right-of-way line of the private roadway adjacent to the East property line. The location of this line is as shown on the enclosed spot elevation map. No building construction should occur West of this line and no vegetation should be removed or disturbed West of this line. No beach grass or other vegetation should be cut West of this line.

5. The above recommendation of a building setback line of 60' applies to the Westerly foundation of the proposed structure, excluding any exterior deck on the West side of the structure. This recommendation should be taken as a general guideline or goal in the preparation of a site plan for development of the property. Any structure proposed to be located Westerly of this line may be possible, however, we recommend that a review of the specific site plan be accomplished by this engineer and consulting geologist.

6. Vegetation removal around the proposed structure should be kept to the minimum required for the placement of the structure. We recommend that your contractor revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock.

7. Undercutting by wave action along this portion of the ocean front has not historically been a problem. Although it is impossible to predict what future winter storms may do to the coastline, it would seem likely that no significant wave undercutting will probably occur. If such undercutting were to begin, remedial measures, such as riprap construction, would need to be implemented.

FINDINGS AND CONCLUSIONS

Based upon our site specific investigation of this property and the recommended development standards, the following are our conclusions:

a) The proposed residential use will have negligible adverse effects on adjacent uses and the surrounding area.

b) There are no hazards to life, property, and the natural environment which may be caused by the proposed use, subject to the conditions for development stated in the foregoing development standards.

c) The proposed residential use, subject to the foregoing development standards, will be adequately protected from the described hazards, notwithstanding the fact that riprap protection may be necessary in the future should erosion occur.

d) No periodic monitoring of site conditions is recommended other than monitoring of any erosion of the foredune, should it occur.

LIMITATION

This report is based on a site investigation of the subject property and vicinity and a review of existing aerial photography and the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied.

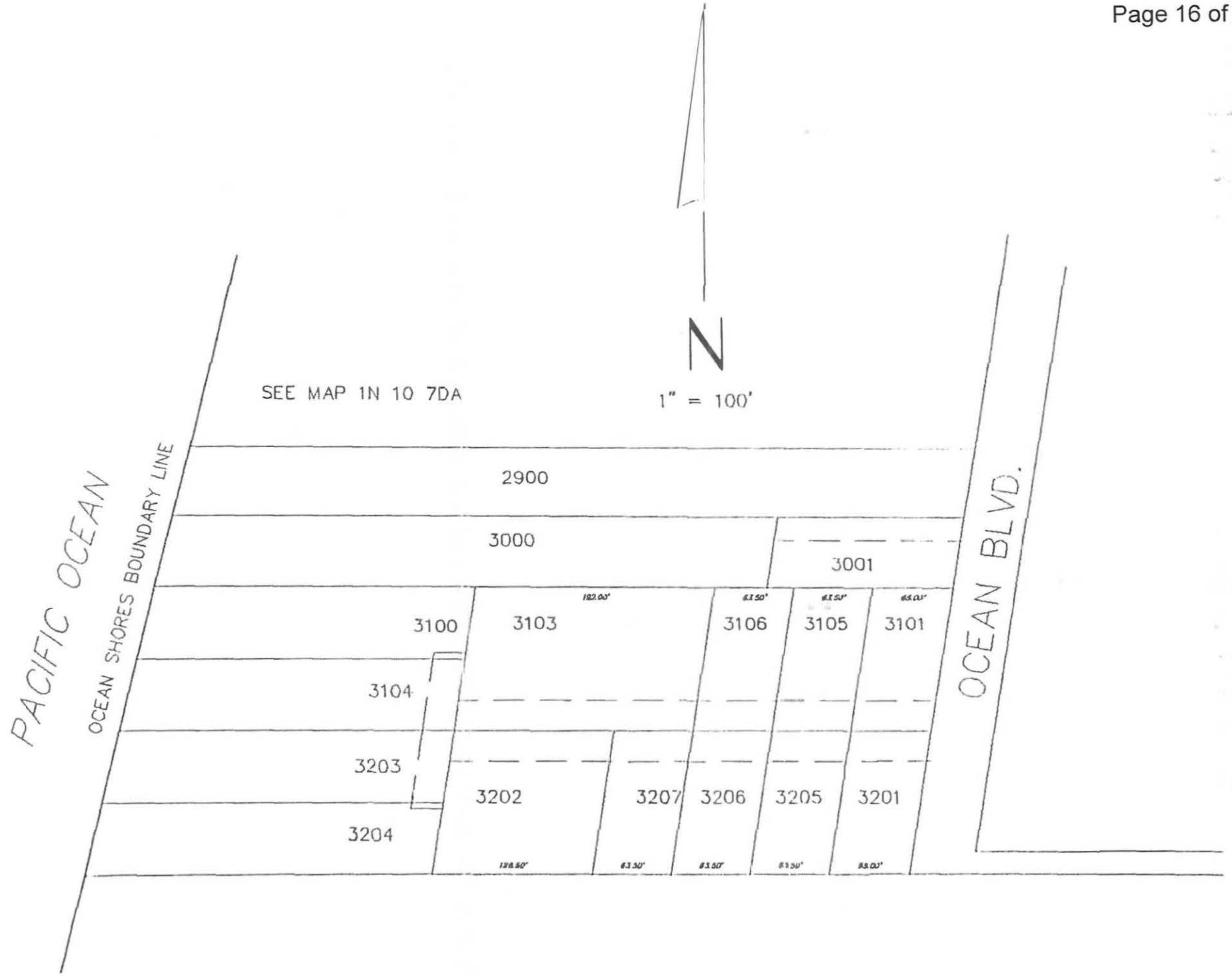
Should you have any questions regarding our investigation and this report, please contact our office.

Very truly yours,
HANDFORTH, LARSON & BARRETT, INC.

Ronald G. Larson, PE, PLS

rgl/ms <at:\rpt\larson.dhr>
cc: Paul D. See

REGISTERED PROFESSIONAL ENGINEER 9443 OREGON SEPTEMBER 23, 1974 RONALD G. LARSON



HLBI to - September 14, 1990 - I 5 of 10

PAUL D. SEE

300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

July 9, 1990 #3070

Ronald G. Larson
Handforth Larson and Barrett, Inc.
P. O. Box 219
Manzanita, OR 97130

RE: Tax Lots 3203, 3204, T1N, R10W, Sec 7DA, Watseco. (Larson)

Dear Ron:

The following letter report documents my inspection of the above described property with you on Monday, July 2, to assess applicable geologic hazards.

TOPOGRAPHY AND DEPOSITIONAL HISTORY

The property rests on a relatively flat but hummocky dunefield at an approximate elevation of 16+ feet NGVD. Sand has accumulated along this shoreline partly as a natural barrier across an otherwise irregular foothill frontage, and partly as a result of the interruption of coastal sand transport by construction of the Tillamook Bay north jetty in 1917.

Although this beach has experienced a net accretion in the past 70 years, severe storms have periodically eroded the dune front resulting in scattered property damage from Manhattan Beach to Tillamook Bay. Cooper (1) describes intense erosion in January, 1939, and Schlicker (2) describes with an accompanying photograph the abrupt erosion of the 12+/-foot high dunes at Watseco Creek in the winter of 1971-72, along an area that had been stable for 15 years. The 1986 Nedonna Beach Foredune Study (3), although not directly incorporating this area, utilizes examples of erosion and deposition in the Watseco Creek area to illustrate factors applicable to their area of study. Concentrating on the effect of drift logs, they declare that: "Driftwood deposits on the backshore can either be a benefit or a destructive force to the foredune. Massive driftwood deposits that interlock can provide excellent wave protection by breaking up wave energy before it reaches the foredune. They also collect wind-blown sand and can be the start of new foredunes. Backshore deposits known to the study team on other beaches are sometimes 50 to 100 feet wide and a mile long. They tend to create a false sense of security for oceanfront property owners".

Inspection of 1967, 1973, 1978, and 1984 Oregon State Highway Division aerial photos reveals a relatively fresh local field of scattered drift logs over a 200+/- foot wide strip in 1967. Vegetation had gradually obscured these logs from aerial view by 1984, but field inspection confirms their presence to this date. Periodic erosion, particularly during the 1982-83 El Nino event, has removed several tens of feet of the dune frontage, exposing a dense tangle of logs weathered from the dune front. The

See/HLBI
7/9/90
(Larson)

low wave-cut bank visible on the 1984 photo is still observable at this time.

The surface profile in this area is atypical of most local sandy beach fronts. No true foredune exists, although the western edge of the dunefield is slightly higher than the hummocky, log-strewm plain to the east. The area has obviously not experienced a net regression in the past 23 years, although the presence of fresh logs in 1967 is evidence of extreme wash-over just prior to that date.

Notwithstanding the record of frequent storm damage, Stembridge (4) notes in 1975 that "with the exception of Neahkahnie and Manzanita beaches in the extreme north, the entire Rockaway-Nehalem shoreline has been prograding since at least 1939", and "the least prograding between the Nehalem River and Tillamook Bay totals more than 30 feet since 1939". He further notes the confusion among other investigators over erosion/deposition trends along this beach, citing their use of newspaper accounts of storm damage as evidence for long-term erosion.

The incipient foredune lies about eight feet higher than the average remainder of the property, tending to inhibit damage from prolonged seasonal storm and surf erosion or wash-over. However, the low elevation of this dune and even lower elevation at the nearby Watseco Creek estuary permits a degree of velocity flooding in the general area, including the subject property. The FEMA map predicts "AO" flooding of the Watseco area to a depth of one foot, and "100 year" velocity flooding to an elevation of 22 feet, coincident with the dune elevation.

The drift log accumulation should be allowed to remain on the upper beach to inhibit erosion and aid in dune buildup, and European beach grass should be encouraged to spread on the foreslope. I assume you will address the need to probe for buried logs beneath any foundation, to avoid settlement from slow decay.

SUMMARY, LOCAL HAZARDS

The property is well vegetated with beach pines and willow and other upland shrubs and grasses. However, this has obviously developed in a few decades, and the area remains at some risk from severe episodic storm wave overtopping due to its elevation. The presence of the numerous old drift logs and living vegetation would diminish velocity flooding at the building site. The Tillamook Bay north jetty will continue to present a barrier to southerly offshore sand transport, causing a continued net accretion along this beach. Future storm surges and consequent erosion cannot be predicted, however, and damage from velocity flooding cannot be ruled out. Notwithstanding the possibility of flooding, the property appears to be relatively safe from long-term erosion and shoreline regression. No evidence exists to suggest reversal of a trend that has continued for more than 70 years.

See/HLBI
7/9/90
(Larson)

REGIONAL HAZARD

Oregon coastal property owners should be advised that contrary to long-held assumption, there is now significant reason to believe (5) that the Oregon coast is vulnerable to severe impact from an intense local earthquake and accompanying tsunami, or seismic sea wave.

Recent discoveries in the coastal embayments of Oregon and Washington seem to confirm a history of seven or more large earthquakes, probably originating in the local Cascadia subduction zone, during the past 3300+/-years. All seem to have been accompanied by abrupt subsidence of the coastline by several inches to several feet, followed by a series of massive waves that buried marshland peat and coastal cedar forests under wave-deposited sand.

No major local earthquakes have been experienced during historic time. However, if we are to accept the current estimates of the average time span between such events, (approximately 300 years minimum), it follows that a disastrous coastal earthquake and tsunami are indeed possible in the foreseeable future. Based on tree-ring dating, the most recent event seems to have occurred about the year 1690.

Tsunamis are capable of great heights under some circumstances, and the evidence of past events along this coastline has led to an estimated wave height of 15 meters above prevailing tide, well above the local dunefield elevation. Depending on the intensity of ground acceleration, liquefaction can occur in loosely consolidated and saturated sediments, allowing structures to settle unpredictably into the sand.

Events of this magnitude must be considered only as a possibility at this time. Our understanding of Cascadia seismicity remains limited, and the timing or magnitude of future events cannot yet be quantified. However, I am professionally obliged to apprise clients of this newly recognized potential for earthquake damage, remote as it may be.

RECOMMENDATION

Considering all potential hazards noted above, I would recommend locating a structure as far east as possible, but certainly no farther west than a north-south line 60 feet from the easterly property line.

LIMITATIONS

Observations and recommendations incorporated in this letter report are the result of personal site inspection, the works of other specialists, and generally accepted principles of geologic investigation for a report of this nature. No warranties are expressed or implied. This report has been prepared for the timely use of the above addressee and parties to any pending development of the subject property, and does not extend to the

See/HLBI
7/9/90
(LArson)

activities of unidentified future owners or occupants of the property for which the writer bears no responsibility.

Sincerely,

Paul D. See

References cited:

(1) Cooper, william S. "Coastal Sand Dunes of Oregon and Washington", GSA Memoir #72, 1958 (p. 84).

(2) Schlicker, H. G., et al, "Environmental Geology of the Coastal Portions of Tillamook and Clatsop Counties, Oregon", Oreg. Dept. of Geol. & Mineral Indust. Bull. #74, 1972.

(3) Nedonna Beach Foredune Management Study, pages 24, 25. Prepared for Land Conservation and Development Commission, 1986.

(4) Stembridge, James Edward, Jr. "Shoreline Changes and Physiographic Hazards on the Oregon Coast", PhD dissertation, University of Oregon, 1975 (p. 63).

(5) Atwater, B., "Evidence for Great Holocene Earthquakes Along the Outer Coast of Washington State", AAAS Science Magazine, Vol. 236, 22 May, 1987, (and) Woodward, J., "Paleoseismicity and the Archeological Record: Areas of Investigation on the Northern Oregon Coast", Oregon Geology, Vol. 52 #3, May 1990.

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:20:11 pm

Account #	355715	Tax Status	ASSESSABLE
Map #	1N1007DA03104	Acct Status	ACTIVE
Code - Tax #	5624-355715	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	LOCKWOOD, MARY ANN CO-TRUSTEE &	Deed Reference #	2019-6887
Agent		Sales Date/Price	07-03-2019 / $0.00
In Care Of	KEMBALL, T. MARK CO-TRUSTEE	Appraiser	ROBERT BUCKINGHAM
Mailing Address	2355 SW SCENIC DR PORTLAND, OR 97225		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	17770-1

Situs Address(s)	Situs City
ID# 1 17488 OCEAN BLVD	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	334,830			Land	0	
	Impr.	301,390			Impr.	0	
Code Area Total		636,220	562,670	562,670		0	
Grand Total		636,220	562,670	562,670		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.17		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.17		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	143	One and 1/2 story	112	1,940			301,390
				Grand Total		1,940			301,390

Exemptions/Special Assessments/Potential Liability

Code Area	Type							
5624								
	SPECIAL ASSESSMENT:							
	■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: 02/07/13 Reappraised land. Tabled values. RBB

RECEIVED
MAY 16 1997
COMMUNITY DEVELOPMENT

TILLAMOOK COUNTY CONSTRUCTION/PLACEMENT PERMIT APPLICATION
For *Building, Planning and Sanitation*

verified 5-16-97 er

Application 97-309

APPLICANT

Legally Recorded Owner Mary Ann A. Lockwood

Mailing Address 2770 S.W. Montgomery Drive Phone (503) 223-2455

City Portland State OR Zip Code 97201

CONTRACTOR/INSTALLER

Building Contractor Mark Widmer, Builder Reg. No. 37422

Sanitation Installer _____ Reg. No. _____

Mobile Home Installer _____ Reg No. _____

[✓] Mail permit to Contractor/Installer: 4213 Third St. Tillamook, OR 97141

LOCATION INFORMATION

Situs Address 17488 Ocean Blvd Rockaway B. Watseco

Township 1 N Range 10 W Section 7DA Tax Lot 3104 verified 5-16-97 er

Zone R-2 Lot Size _____ X _____ X _____ X _____ or _____ Acres

verified 5-16-97 er

PROPOSED USE

- [X] Single Family Dwelling & deck
- [ ] MD/RV Placement
- [ ] Addition _____
- [ ] Accessory Structure _____
- [ ] Demolition/Move
- [ ] Temporary RV Placement
- [ ] Replacement _____
- [ ] Alteration _____
- [ ] Public/Commercial/Industrial

WASTE DISPOSAL

- [✓] Sewer District _____
- [ ] Septic Tank/Drainfield
- [ ] Construction Permit
- [ ] Minor/Major Repair Permit
- [ ] Alteration Permit

APPROVED PERMIT

Letters are forthcoming

WATER SUPPLY

Private/Public/Creek/Spring/Well

SIZE OF STRUCTURE NLA ~~435~~ 295 LA 2344

45 X 49 Dimensions

24' Height

2 Stories

1 No. of Dwelling Units

2 Bedrooms

VARIANCE/CONDITIONAL USE File No. _____

SETBACKS

20' Front Yard

239' Rear Yard

5'2" Left Side

5'6" Right Side

_____ River/Estuary/Creek

Plot plan in file plans in bot

MOBILE HOME/RECREATION VEHICLE

_____ License Number

_____ Make

_____ Year

ROAD ACCESS

- [ ] State Highway
- [ ] County Road/Public Way
- [X] Private Road

No RAP per Pat Oakes 5-16-97 er

166,354 00

VALUATION (AS DETERMINED BY BUILDING OFFICIAL) Section 304 (b) $ ~~66,194~~

All or a portion of this property may be located within an identified wetland. If the site is a jurisdictional wetland you must obtain any necessary State or Federal permits before beginning your project.

Separate State of Oregon permits are required for electrical, plumbing, and mechanical work. The Property owner is responsible for obtaining these additional permits prior to work being done.

This application, when approved, includes only the work described above and/or plans and specifications bearing the same permit number. The applicant agrees to comply with all applicable codes and ordinances governing planning, sanitation and construction and agrees to meet any and all or the conditions listed below.

The granting of this permit does not presume to give authority to violate or cancel the provisions of any State or Local law regulating construction of the performance of construction.

This application, if approved, becomes null and void if building construction is not commenced within 180 days, is discontinued for 180 days, or installation of sewage disposal system and/or placement of mobile home or recreation vehicle is not completed within one year from the date of approval.

Prior to construction or placement, it is advisable that you check your deed for other restrictions that may apply.

I certify that the information I have submitted is complete and accurate, and may be relied upon by the Department of Community Development in processing my application. I accept responsibility for any inaccuracies in the information I have provided, and for the consequences thereof.

FEES ARE NOT REFUNDABLE

APPLICANT SIGNATURE: [illegible signature] Date 5/15/97

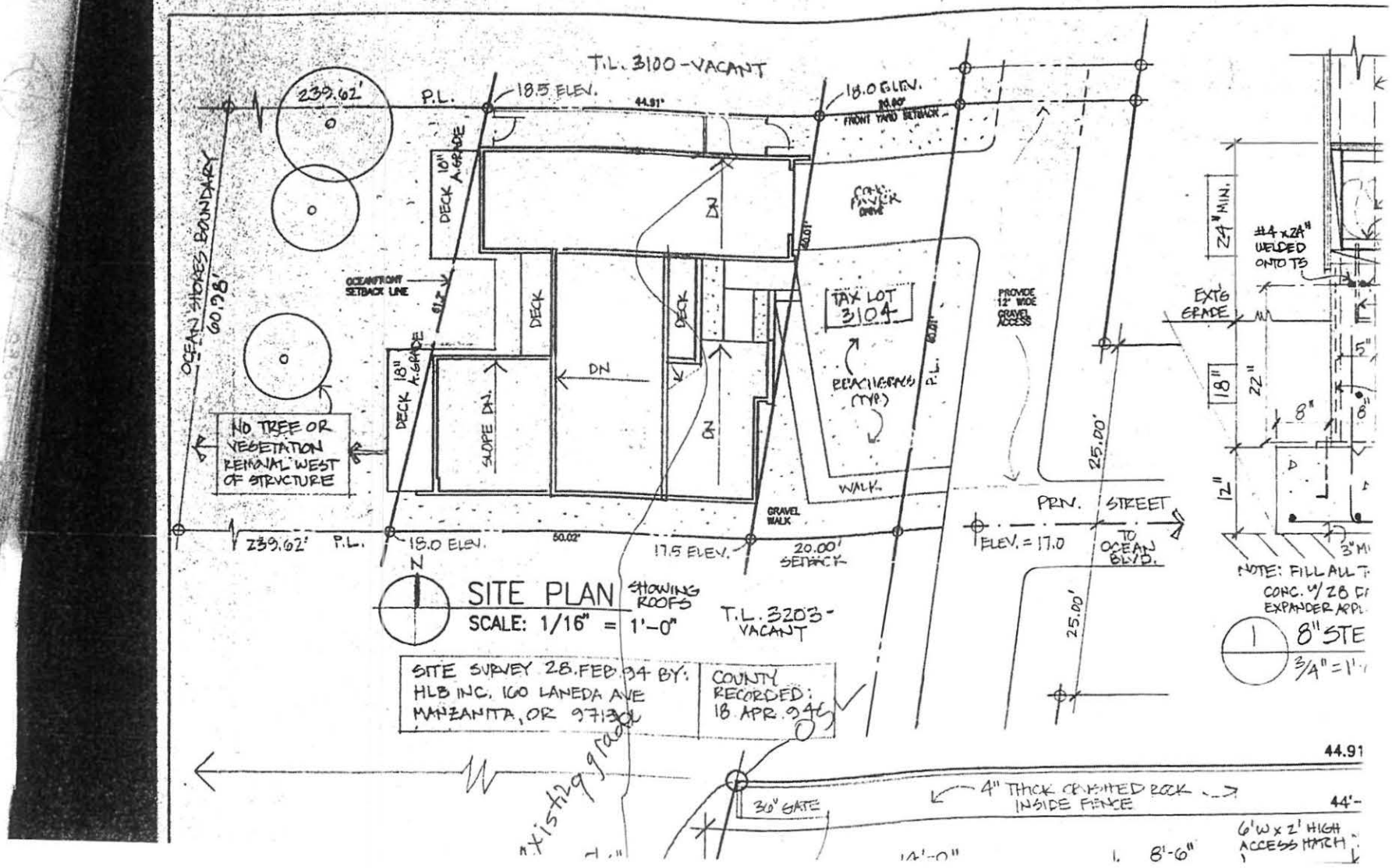
********************** FOR OFFICE USE ONLY **********************

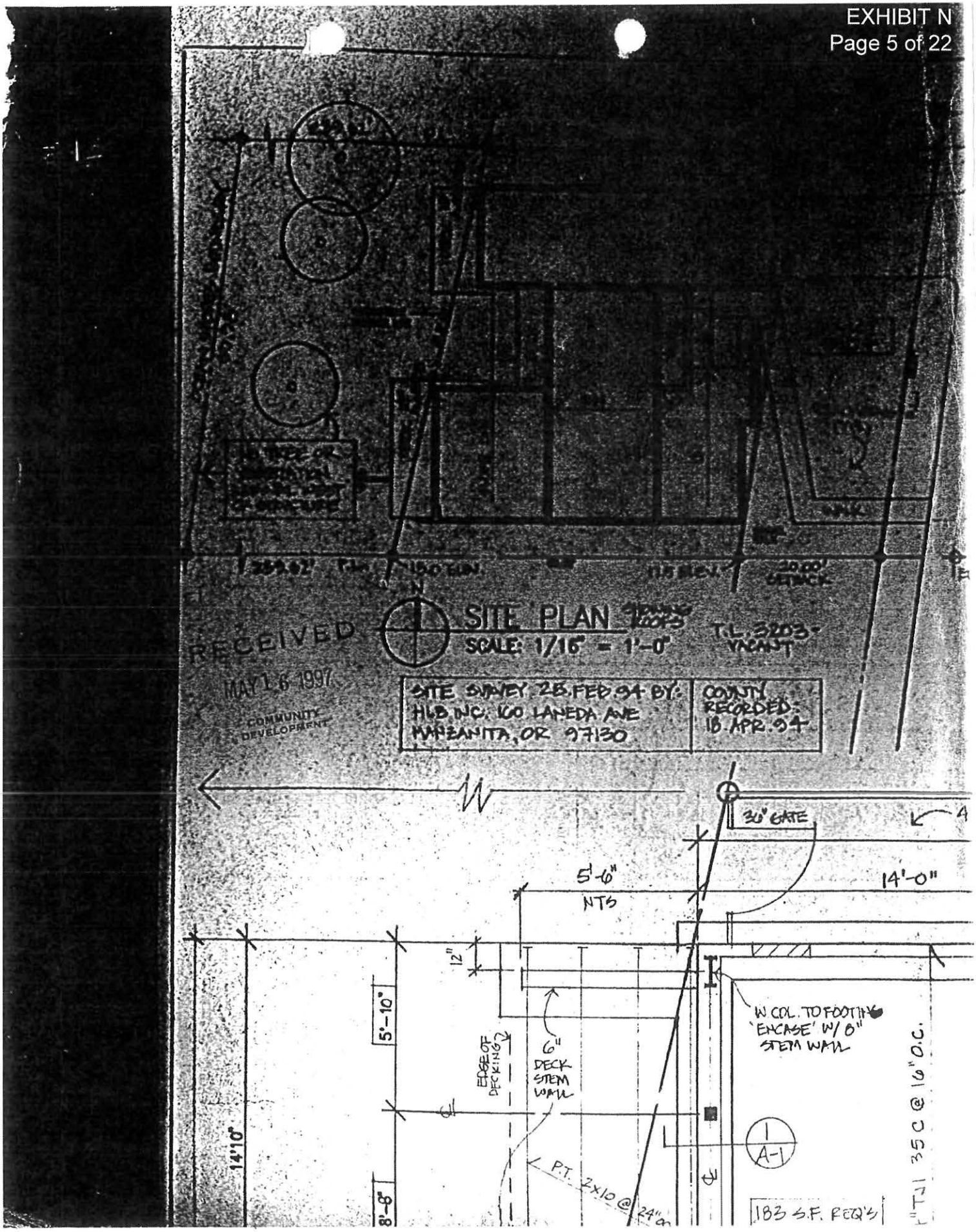
SANITATION	[illegible signature] 5/ /97	Sanitation Fee	$ 0
PUBLIC WORKS	JB [illegible] 5/20/97	D.E.Q. Surcharge	0
HOUSE NO	[illegible signature] 5-16-97	Building Fee	600.50
PLANNING (1)	[illegible signature] 6-9-97	Plan Check Fee	390.32
x PLAN CHECK	[illegible signature] 6/30/97	B.C.A. Surcharge	30.03
BUILDING OFFICIAL	[illegible signature] 7-2-97	Planning Review Fee	120.00
		A-level Plan Review	0
		Fire & Life Safety	0
		Address ($10.00)	10.00
		M.D./RV Fee (Planning)	0
		M.D./RV Fee (Building)	0
RECEIVED BY:	lr	State M.D. Fee ($20)	0
DATE:	5-16-97	B&D/GHZ/Flood Fee	70.00
		F-1 & F Review Fee	0
RECEIPT NO.	3342	PW Review Fee	4.00
		Road Approach ($125.00)	0
		TOTAL DUE	$ 1224.85

The signature below indicates that the proposed development is in compliance with the current Land Use Ordinance, Comprehensive Plan and Statewide Planning goals. The types and levels of services provided in conjunction with the development authorized by this permit meet the Comprehensive Plan policies.

CITY APPROVAL INSIDE U.G.B.: ______________________
City Official Signature Title Date

CONDITIONS OF PERMIT APPROVAL: (1) 1st finished floor shall be 2 feet above highest existing grade, Plot plan ok as per revised plans submitted May 22, 1997 and shall conform to the 24' ht max limit, OSL for any structure greater than 36" above existing grade, Beaches + Dunes Std (conditions included on plan) and Development Std in Beaches & Dunes Rpt.


T.L. 3100 - VACANT
239.62'
P.L.
18.5 ELEV.
44.91'
18.0 ELEV.
FRONT YARD SETBACK
OCEAN SHORES BOUNDARY
60.98'
DECK 10" A.GRADE
OCEANFRONT SETBACK LINE
DECK
DECK
DECK 18" A.GRADE
SLOPE DN.
DN
DN
NO TREE OR VEGETATION REMOVAL WEST OF STRUCTURE
TAX LOT 3104
REDWOODS (TYP.)
PROVIDE 12' WIDE GRAVEL ACCESS
WALK
GRAVEL WALK
PRIV. STREET
ELEV. = 17.0
TO OCEAN BLVD.
25.00'
25.00'
239.62'
P.L.
18.0 ELEV.
50.02'
17.5 ELEV.
20.00' SETBACK
N
SITE PLAN SHOWING ROOFS
SCALE: 1/16" = 1'-0"
T.L. 3203 - VACANT
SITE SURVEY 28 FEB 94 BY: HLB INC. 160 LANEDA AVE MANZANITA, OR 97130
COUNTY RECORDED: 18 APR. 94
24" MIN.
#4 x 24" WELDED ONTO T3
EXIST'G GRADE
18"
22"
12"
8"
5"
6"
3" MI
NOTE: FILL ALL T
CONC. W/ 28 D
EXPANDER APPL
1
8" STE
3/4" = 1'
44.91
4" THICK CRUSHED ROCK INSIDE FENCE
44'-
30" GATE
6'W x 2' HIGH ACCESS HATCH
14'-0"
8'-6"


SITE PLAN
SCALE: 1/16" = 1'-0"
T.L. 3203
VACANT
RECEIVED
MAY 16 1997
COMMUNITY DEVELOPMENT
SITE SURVEY 25 FEB 94 BY:
H&B INC. 100 LANEDA AVE
MANZANITA, OR 97130
COUNTY RECORDED:
18 APR 94
30" GATE
5'-6"
NTS
14'-0"
12"
5'-10"
14'10"
8'-8"
EDGE OF DECKING
6" DECK STEM WALL
W COL. TO FOOTING 'ENCASE' W/ 6" STEM WALL
P.T. 2x10 @ 24"
1
A-1
183 S.F. REQ'S
#TNI 35C @ 16" O.C.

Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

201 Laurel Avenue
Tillamook, Oregon 97141

Land of Cheese, Trees and Ocean Breeze

Building (503) 842-3407
Planning (503) 842-3408
On-Site Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1-(800) 488-8280

CONDITIONS OF APPROVAL
for BP 97-309

1. Must meet 24 foot average maximum building height limit measured from existing grade.

2. Shall conform to Tillamook County Land Use Ordinance (LUO) Section 3.060 Flood Hazards Standards (first floor and all utilities shall be at least 2 feet above the highest existing grade).

3. Shall conform to LUO Section 3.085 Beaches and Dunes Standards

4. No structure shall be built above 36 inches above the existing grade west of the Ocean Setback Line (OSL).

5 Plan shall be revised if necessary to assure compliance to any of these conditions.

APPROVED BY RP
PLANNING
PERMIT NO 97-309
DATE 6-9-97

Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

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February 23, 1996

Dear Property Owner:

The Tillamook County Department of Community Development APPROVED WITH CONDITIONS **Dune Hazard Report** GH-96-05, and found that the report meets the requirements of Tillamook County Land Use Ordinance. This report approved a Geologic Hazard Report prior to issuance of a building permit on the subject parcel, in conjunction with a residential dwelling.

The application plans and staff report containing findings of fact and conclusions upon which this decision was based are on file in the office of the Department of Community Development and available upon request. Site details are described below:

GENERAL INFORMATION:

Request:	Review of Geologic Hazards Report
Zone:	Section 3.014: Medium Density Urban Residential Zone (R-2)
Location:	In the Watseco area, on an easement north of Ocean Blvd.; Township 1 North, Range 10 West W.M., Section 7DA, Tax Lot 3104, Tillamook County, Oregon
Applicant:	Garry Papers, 537 SE Ash #42, Portland OR 97214
Property Owner:	Mary Ann Lockwood, 2770 SW Montgomery Drive, Portland OR 97201

If you wish to appeal this decision to the Tillamook County Planning Commission you may do so by submitting the required form, written justification explanation in detail the reasons for the appeal, and fee, to this office by no later than 21 days from the date of this letter at 5:00 p.m. This decision was reviewed against the standards of Tillamook County Land Use Ordinance Section 3.085.

(over)

Conditions of Approval:
This permit is valid for two years from the date of this approval. All activities shall conform to the following conditions:

1. All of the development standards of Section 3.085(5)(A) shall be incorporated into any further development activity on the parcel.

2. The Mandatory Development Standards contained within the geologic hazard report shall be incorporated into any further development activity on the parcel.

3. Site excavation shall not exceed that necessary to site the building itself. Post-construction stabilization of exposed areas is required and shall be completed as soon as is feasible. Efforts shall be made to reduce the impacts of blowing sand on adjacent property.

4. There shall be no further vegetation removal west of the proposed structure.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER: ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST PROMPTLY BE FORWARDED TO THE PURCHASER.

If you have any questions about this notice, please call this department any weekday at 842-3408.

Sincerely,
Tillamook County Department of Community Development

George A. Plummer,
Associate Planner

TILLAMOOK COUNTY
1"=100'

This map was prepared for assessment purposes only

IVATSECO

56-24

SEE MAP IN ID 7AD

HAZARD REPORT GH-05

SUBJECT PROPERTY

OCEAN BOULEVARD

THIRD AVE.

SECOND AVE.

PACIFIC OCEAN

PACIFIC COAST HIGHWAY 101

P.T.B.R.R.

OLD HIGHWAY 101

IVATSECO

LOT 3

SEE SURVEY A-444

CANCELLED
4100
3102
3200
5400
2300
2720
2800
300

TAX LOTTED ON MAP IN ID 7AD

SEE MAP IN ID 8

1/4 Cor

1/16 Cor

Initial Point

09-28-95 ID10 7DA

Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

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Tillamook, Oregon 97141

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Toll Free 1-(800) 488-8280

Geologic Hazard Report Review GH-96-05
ADMINISTRATIVE DECISION & STAFF REPORT

Decision: APPROVED with Conditions
Staff Report Date: February 23, 1996

Review Prepared By: George A. Plummer, Associate Planner

I. GENERAL INFORMATION

Request: Review of Geologic Hazards Report

Zone: Section 3.014: Medium Density Urban Residential Zone (R-2)

Location: In the Watseco area, on an easement north of Ocean Blvd.; Township 1 North, Range 10 West W.M., Section 7DA, Tax Lot 3104, Tillamook County, Oregon

Applicant: Garry Papers, 537 SE Ash #42, Portland OR 97214

Property Owner: Mary Ann Lockwood, 2770 SW Montgomery Drive, Portland OR 97201

Site Description Ocean front lot subject to wave overtopping and ocean undercutting.

II. ANALYSIS OF APPLICABLE ORDINANCE CRITERIA:

1. Land Use Ordinance Section 3.085 Beach and Dune Overlay Zone, Subsection (5)(B)(1) defines situations for which a Dune Hazard Report is required:

Findings: 3.085(5)(B)(1)(c) requires a Dune Hazard Report prior to the approval of a building permit in developed beachfront areas when there is evidence of active erosion at or near the proposed building site. The foredune area in this location is active.

2. **Section 3.085(5)(A) specifies standards for all development within beach and dune hazard areas, including land grading practices and drainage and erosion control.**

Findings: Compliance with these standards is required as a condition of this approval. The trees have already been cleared from the building site, no further vegetation removal should be necessary to site the residential dwelling.

3. **Section 3.085(5)(B)(3) describes the purpose of the site report as to identify and describe existing or potential hazards in areas proposed for development. The report shall be based on site inspections conducted by a qualifies person, such as a geologist, engineering geologist, or other person having professional experience analyzing the relevant geologic hazards.**

Findings: The submitted report, dated September 14, 1990 was prepared by Ron Larson, a Registered Professional Engineer. Paul See, a Registered Professional Geologist, provided a geologic analysis as part of the report dated July 8, 1990. The same authors prepared Addendum #1, dated August 25, 1995, which updates the earlier report.

5. **Section 3.085(5)(B)(3)(a)(3) lists required content standards for the dune hazard analysis.**

Findings: The submitted reports contains the required analysis.

6. **Section 3.085(5)(B)(3)(b)(2) lists required development standards that will protect development on the property and surrounding properties.**

Findings: The submitted reports contain all the required development standards.

7. **Section 3.085(5)(B)(3)(c) lists required summary findings and conclusions supported by the report.**

Findings: The submitted reports contain all the required summary findings and conclusions.

Conclusion: Based upon the findings and the contents of the hazard report, Tillamook County concludes that the reviewed report meets the requirements of Section 3.085.

III. Conditions of Approval:

This approval is valid for two years from the date of review. All development on the parcel shall meet the following conditions:

1. All of the development standards of Section 3.085(5)(A) (attached) shall be incorporated into any further development activity on the parcel.

2. The Mandatory Development Standards contained within the geologic hazard report shall be incorporated into any further development activity on the parcel.

3. Site excavation shall not exceed that necessary to site the building itself. Post-construction stabilization of exposed areas is required and shall be completed as soon as is feasible. Efforts shall be made to reduce the impacts of blowing sand on adjacent property.

4. There shall be no further vegetation removal west of the proposed structure.

Tillamook County Department of Community Development

George A. Plummer,
Associate Planner

G:\PLANNING\GHR\96-05BDR.RPT

HANDFORTH
LARSON &
BARRETT, INC.

Civil Engineering & Surveying

P.O. Box 219 (160 Laneda Avenue)
Manzanita, OR 97130

TEL: 503-368-5394
FAX: 503-368-5847

RECEIVED
APR
DEPARTMENT OF
COMMUNITY
DEVELOPMENT

September 14, 1990

Mr. & Mrs. Don Linker
15917 SE Arista Drive
Milwaukie OR 97267

RE: Beach and Dune Hazard Report, Tax Lots 3100 and 3104, 1N 10 7DA, Watseco, Oregon

Dear Mr. & Mrs. Linker:

At your request our firm has visited the site of your property in the Watseco area in order to address the engineering and geologic hazards of the specific site and to make recommendations for residential construction thereon. Our site visit was made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic hazards. Mr. See's report on the subject property is attached to this report, and together with this report is the required dune hazard report for the subject property. The site is shown on the enclosed vicinity map.

INVESTIGATION

The property lies West of Ocean Boulevard on a private street. The East line of the subject property is located approximately 384 feet West of the West line of Ocean Road. The enclosed spot elevation map of the property shows spot elevations on the property (on NGVD datum) as well as the high point of the dune formation. The highest point of the dune formation is virtually on the proposed building sites. West of the building sites lies a broad deflation zone and the primary foredune.

A review of OSHD aerial photos for this area dated 1967, 1973, 1978 and 1984 show a steady increase in vegetation over the entire property. The most Westerly line of vegetation has moved Westward since at least 1939 as noted in Mr. See's report. The Westerly portion of the dune is classified as an Active Foredune and the Easterly portion of the property is classified as an Older Stabilized Dune.

Wind erosion and migration of sand is a hazard to any beachfront property which consists of sand. As Mr. See points out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the walkways to the beach. Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation. For this reason, it is recommended that no vegetation be cut to the West of the proposed building site.

Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dune was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert your foundation contractor to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractor should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2-inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance. Any logs discovered to be near the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

Potential hazards due to ocean flooding have been identified by the National Flood Insurance Program. The Flood Insurance Rate Map (FIRM) for the Watseco area shows the subject property to be located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is immediately adjacent to a velocity zone (V13) with a predicted base flood elevation of 22 feet. The current elevation of the crest of the dune is now also approximately 22 feet (NGVD). Thus the crest and width of the dune field is providing all of the protection from flooding for this property. Every effort should be made to maintain the dune at or above the 100 year base flood elevation. This will be accomplished through the protection of the existing European beach grass and other vegetation on this property.

DEVELOPMENT STANDARDS

Development standards which are recommended for the subject property to adequately protect the proposed development from the above described potential hazards are as follows:

1. The foundation of the structure should be on continuous concrete footings. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. All footings should bear directly on undisturbed native sand. Do <u>not</u> place house footings on fill material. The bottom of all footings should be a minimum of 12 inches below grade for single story construction and 18 inches below grade for two story construction in native sand. We recommend that the building contractor be alerted to the need to protect the footings during construction from sand erosion and undermining.

2. Roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed. All collected runoff water should be disposed of either on splash pads or in drywells.

3. All proposed structures must be placed on the property in accordance with the setback requirements of Tillamook County. The Tillamook County Planning Department has indicated that special setback restrictions will be applicable to this property. More specifically, the Planning staff has indicated that a general exception is currently being processed to allow for a setback of 10 feet along the West right-of-way line of the private road. The Oceanfront Setback Line will be determined by the Planning Staff on a case by case basis for each individual lot. In general, the Oceanfront Setback must be at a maximum distance from the Ocean Shores Boundary Line in order to place the structure on the lot. This is the reason behind the exception to the Easterly setback.

4. With reference to the above setback requirements, it is recommended that the proposed structure be located as far East on the subject property as possible. It is a preliminary conclusion of this report that the most westerly location of a new residential construction on this property should be no further West than 60 feet Westerly of the Westerly right-of-way line of the private roadway adjacent to the East property line. The location of this line is as shown on the enclosed spot elevation map. No building construction should occur West of this line and no vegetation should be removed or disturbed West of this line. No beach grass or other vegetation should be cut West of this line.

5. The above recommendation of a building setback line of 60' applies to the Westerly foundation of the proposed structure, excluding any exterior deck on the West side of the structure. This recommendation should be taken as a general guideline or goal in the preparation of a site plan for development of the property. Any structure proposed to be located Westerly of this line may be possible, however, we recommend that a review of the specific site plan be accomplished by this engineer and consulting geologist.

6. Vegetation removal around the proposed structure should be kept to the minimum required for the placement of the structure. We recommend that your contractor revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock.

7. Undercutting by wave action along this portion of the ocean front has not historically been a problem. Although it is impossible to predict what future winter storms may do to the coastline, it would seem likely that no significant wave undercutting will probably occur. If such undercutting were to begin, remedial measures, such as riprap construction, would need to be implemented.

FINDINGS AND CONCLUSIONS
Based upon our site specific investigation of this property and the recommended development standards, the following are our conclusions:

a) The proposed residential use will have negligible adverse effects on adjacent uses and the surrounding area.

b) There are no hazards to life, property, and the natural environment which may be caused by the proposed use, subject to the conditions for development stated in the foregoing development standards.

c) The proposed residential use, subject to the foregoing development standards, will be adequately protected from the described hazards, notwithstanding the fact that riprap protection may be necessary in the future should erosion occur.

d) No periodic monitoring of site conditions is recommended other than monitoring of any erosion of the foredune, should it occur.

LIMITATION
This report is based on a site investigation of the subject property and vicinity and a review of existing aerial photography and the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied.

Should you have any questions regarding our investigation and this report, please contact our office.

Very truly yours,
HANDFORTH, LARSON & BARRETT, INC.

Ronald G. Larson

Ronald G. Larson, PE, PLS

REGISTERED PROFESSIONAL ENGINEER 9443 RONALD G. LARSON SEPTEMBER 23, 1977

rgl/ms <at:\rpt\Linker.dhr>
cc: Paul D. See

Tom Fisher

LB & Associates

N C O R P O R A T E D

Surveying, C

Linker/Lockwood
Iris Hamm
Decker Real Estate Inc.
842-8283

Box 219 ▪ 160 Laneda Ave.
Manzanita, OR 97130

August 25, 1995

RECEIV

AUG 29 1995

COMMUNITY DEVELOPMENT

Mr. and Mrs. Don Linker
15917 SE Arista Drive
Milwaukie, OR 97267

RE: Addendum #1 to Beach and Dune Hazard Report, Tax Lots 3100 and 3104, 1N 10 7DA, Watseco, Oregon.

Dear Mr. and Mrs. Linker:

At your request we have reviewed the original Beach and Dune Hazard Report prepared by our firm and dated September 14, 1990. The original report has been incorporated into this addendum. This addendum is prepared for your use in planning the development for single family residences on the properties. Discussion items set forth herein should be incorporated into the development plans for that project.

SITE CONDITIONS

The site is generally as described in the original report. The elevation at the crest of the foredune was re-measured in June of 1995 for this report. The new measurements indicate that the dune has experienced some accretion since the original report. The average elevation of the foredune is now 23.1 feet (NGVD) with the lowest point along the top of the foredune in front of the subject property being 22.7 feet.

A. Dune Land Forms:

The Westerly portion of the property is classified as an Active Foredune. The crest of this dune is approximately 240' West of the Easterly property line with an elevation of approximately 23.1'. The Easterly portion of the property is classified as an Older Stabilized Dune.

B. History of Dune Stabilization:

There is no history of any dune stabilization projects.

C. History of Erosion and Accretion:

The dunes on the subject property have shown a net accretion of sand over the past 70 years as evidenced shown by aerial photographs over that time frame. There has also been a corresponding increase in natural vegetation cover in that time. There were fresh logs deposited in the photographs from 1967 which indicate that there was an extreme wash-over just prior to that date. In the five years since the original report, there has been a net accretion of approximately 0.6 feet.

FINDINGS AND HAZARDS ANALYSIS

The primary relevant hazard on this site is the movement of sand, both accretion and erosion. In addition to this hazard there is the hazard of flooding and earthquake. Mitigation of these hazards is discussed herein.

Erosion and Accretion: The dune in this area has been accumulating sand at least since 1939 and shows no indication of changing that pattern soon. There have been isolated incidents of winter storm erosion. There is no guarantee that the accretion patterns will continue as is so it is important to the property owner to monitor the condition of the dunes to detect any changes. In order to monitor and document the movement of sand on the subject property, the owner, and all future owners, should photograph the property from the ocean side at least once every six months. These photographs can be compared to determine the extent of sand movement and to determine if any additional mitigation measures are necessary.

Flooding: The property is located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is adjacent to a V-13 zone with velocity flooding to a depth of 22 feet and an average return period of 100 years. This level is below the height of the foredune which would tend to protect any structure from velocity flooding. It is important that the elevation of the dune be maintained at least at this level and that there is no vegetation removal from the entire foredune area.

In 1993 a new flood study was completed for the property to the South known as PINE BEACH REPLAT. The information presented in that study was submitted to and reviewed by the Federal Emergency Management Agency (FEMA) and was incorporated as a flood zone change as a part of the National Flood Insurance Program (NFIP). The NFIP modified the Base Flood Elevation (BFE) downward for the PINE BEACH REPLAT area to be Velocity Flood Hazard Zone with a BFE of 19 feet (previously 22 feet). That study indicates that the existing BFE of 22 feet for the subject property is conservative. Additionally, that study determined that flooding hazards on the PINE BEACH REPLAT property extended about 190 feet East of the Ocean Shores Boundary when the foredune was subject to erosion under computer modeling.

Earthquake: Mr. See comments in the original report of the potential regional hazard of severe earthquakes. The most serious such earthquake, for which evidence goes back about 7700 years, is estimated to have been a magnitude of about 8 or greater on the Richter scale. Current projections estimate a 30 percent chance of a magnitude 8 or greater regional earthquake in the next 50 years. Building code requirements for the State of Oregon do not presently address earthquakes of this magnitude, but there are recognized construction methods that can be used by contractors for owners wishing a degree of added protection in less than maximum earthquakes. In addition, strong seismic acceleration can be expected to result in liquefaction of weak saturated sediments, allowing for abrupt settlement of foundations. A pile foundation would not necessarily protect against damage by liquefaction of saturated ground in severe quakes.

The State of Oregon Department of Geology and Mineral Industries projects the maximum tsunami run-up from various possible earthquake events. The worst cast scenario would involve a M8.8 Cascadia Earthquake and could result in a wave 18 feet high with a total run-up of 39 feet. No practical engineering measures could protect a frame residence against this type of event.

The site is in a 90 mph wind zone exposed to the ocean winds (Exposure D as per UBC Section 2311(c).), therefore, the building must be designed to withstand the minimum required lateral wind loads. In general, one-story wood frame construction designed to withstand 90 mph Exposure D wind loadings also will withstand earthquake loads. The hereinafter optional standards are recognized construction methods used for wind resistant wood frame construction that are also very effective in protecting against earthquake forces.

MANDATORY DEVELOPMENT STANDARDS

In addition to the required standards of Section 4.070 (2) of the Tillamook County Land Use Ordinance, the following site specific standards shall also be required:

A. Development Density - This property is located in an R-2 zone (medium density urban residential) and should be developed for uses consistent with that zoning. Development of a single family home is consistent with the current zoning.

B. Structure Foundation and Road Location - Any house built on these lots should be located as far to the East as possible and still be within the requirements of the R-2 zoning including any exceptions. These setbacks are a 20' front yard (measured from the Westerly right-of-way line of the private road) and a 5' side yard. The Westerly edge of the building foundation (excluding any exterior decks with railings less than 36" above grade) should be located in accordance with the oceanfront setback requirements of the Tillamook County Zoning Ordinance. Based upon current houses in the area, the oceanfront setback requirement is now at 233.3 feet East of the Ocean Shores Boundary Line. That oceanfront setback is subject to change as other houses are built in the area. The lowest level of the finished floor should be at least one foot above the 100 year base flood elevation which corresponds to two feet above the existing grade. Driveways should b placed to the East of the structure only.

C. Land Grading Practices - All excavations for driveway and house foundation construction should be done when the sand is damp but not saturated (while it is not actually raining). All cut slopes should be retained using temporary or permanent means of stabilization. No excavation or grading should take place on the fore dune area.

D. Vegetation Removal and Revegetation - Removal of vegetation should be kept to the absolute minimum to allow construction. Upon the completion of construction the disturbed area should be either replanted with beach grass or protected with a 4" thick layer of crushed rock. Florence Beach Grass Nursery is suggested as a source for beachgrass sets - either planted and fertilized, or for the owner to plant and fertilize. This nursery is also a good source of information on proper fertilizing and time of planting.

E. Foundations - The foundation should be a continuous reinforced concrete perimeter system. The hazard of buried logs under the foundation is discussed in the original report. The guidelines from that report should be strictly adhered to.

The bottom of all footings and pads should be excavated to below any organic material and previously placed fill material. Soil bearing pressures at the bottom of all footings should not exceed 1500 pounds per square foot. Any retaining walls should be designed according to the following criteria:

Allowable Soil Bearing Pressure (at a minimum 2' below native grade)	1500 lbs/sf
Lateral Soil Bearing Pressure (Active) (excluding surcharge effects)	40 lbs/cubic foot of depth
Lateral Soil Bearing Pressure (Passive)	300 lbs/cubic foot of depth
Friction Angle (ϕ)	28°
Maximum unit weight	120 lbs/cubic foot

F. Driveway Location and Design - Any driveway should be constructed such that the roadbed is entirely on cut material or overexcavated and recompacted fill material. Access will be from any convenient location on the private road easement. Driveway design standards should include the use of a geotextile support fabric, 8" of pit run base rock and 2" of 3/4"-0" crushed rock surfacing.

G. Stormwater Management, Runoff and Drainage - All roof drainage should be collected with eave gutters and downspouts and discharged to splash pads or dry wells. Any drywell should be located at least 10' away from the foundation.

OPTIONAL DEVELOPMENT STANDARDS FOR ADDED SEISMIC PROTECTION:

These are standards not strictly required under conditions set out in the Uniform Building Code lateral force resistance provisions for this area, but a concerned property owner might wish to include in home construction to provide additional safety in view of the available information on the greater potential for major earthquakes in about the 8 or greater Richter category.

While no practical measures could guarantee protection in a maximum event, some reasonable steps could provide a degree of assurance against damage in lesser events. The design of the structure for wind loadings of 110 or 120 mph winds will generally add only a small cost to the entire structure and will effectively increase protection for both additional wind and earthquake loads. Examples of the results of increased design loads are:

- ☐ Secure floor framing to mudsills with galvanized steel framing anchors.
- ☐ Secure roof framing to walls with galvanized steel hurricane clips.
- ☐ Use plywood shear wall construction, with plywood sheathing applied to greater than building code requirements for plywood shear walls.

SUMMARY FINDINGS AND CONCLUSIONS

1. The proposed use is currently single family residential. There are no development plans currently available for review at this time There are no immediate adverse effects on adjacent properties from future house construction. Future house construction may be subject to flooding and erosion from wave action. Future development proposals should be further evaluated in the context of the recommendations of a final Dune Hazard Report, at the time of issuance of a building permit.

2. The proposed use is protected from erosion and wave action by the existing foredune, the required setback from that foredune and the required building floor elevation.

3. All runoff during and after construction will be readily absorbed into the ground either through drywells or splash pads and will not pose any hazard to adjacent property.

4. Periodic monitoring of the foredune accretion or erosion is described in this report.

LIMITATION

This report is based on a site inspection of the subject property and vicinity and a review of the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to represent the site and are offered as professional opinions derived according to current standards of professional practice for a report of this nature, and no warranty is expressed or implied. This report has been prepared for the timely use of the above addressee and parties to the pending development of the subject property, and does not extend to the activities of unidentified future owners or occupants of the property for which the writer bears no responsibility.

Should you have any questions regarding our investigation and this report, please contact our office.

Sincerely,

HLB, INC.

Ronald G. Larson, PE, PLS
Principal-In-Charge

Carl Tappert, PE

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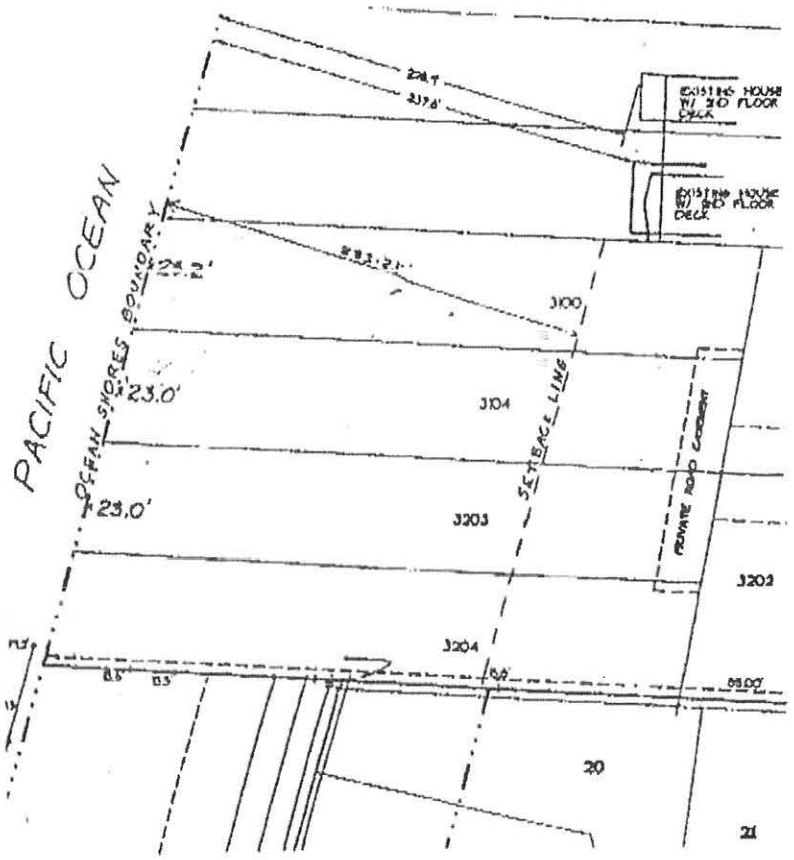
cc: GHR File

enc.



ENGINEERING GEOLOGIC HAZARD REPORT
VICINITY MAP
Scale: 1" = 100'

CLIENT: Mr. and Mrs. Don Linker
15917 SE Arista Drive
Milwaukie, OR 97267

PROPERTY: Tax Lots 3100 and 3400,
1N 10 7DA
Watseco, OR

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:21:00 pm

Account #	62719	Tax Status	ASSESSABLE
Map #	1N1007DA03203	Acct Status	ACTIVE
Code - Tax #	5624-62719	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	BERG, MEGAN	Deed Reference #	2020-29
Agent		Sales Date/Price	01-02-2020 / $180,000.00
In Care Of		Appraiser	ROBERT BUCKINGHAM
Mailing Address	1734 W YAMPA ST COLORADO SPRINGS, CO 80904		

Prop Class	100	MA	SA	NH	Unit
RMV Class	100	05	OF	536	13540-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	312,720			Land	0	
	Impr.	0			Impr.	0	
Code Area Total		312,720	283,800	283,800		0	
Grand Total		312,720	283,800	283,800		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.15		312,720
					Grand Total			0.15		312,720

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Comments: 02/07/13 Reappraised land. Tabled values. RBB

HANDFORTH
LARSON &
BARRETT, INC.

Civil Engineering & Surveying

P.O. Box 219 Manzanita, Oregon 97130 503-368-5394

September 14, 1990

Mr. Eugene W. Larson
c/o Mr. & Mrs. Don Linker
15917 SE Arista Drive
Milwaukie OR 97267

RE: Beach and Dune Hazard Report, Tax Lots 3203 and 3204, 1N 10 7DA, Watseco, Oregon

Dear Mr. & Mrs. Larson:

At your request our firm has visited the site of your property in the Watseco area in order to address the engineering and geologic hazards of the specific site and to make recommendations for residential construction thereon. Our site visit was made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic hazards. Mr. See's report on the subject property is attached to this report, and together with this report is the required dune hazard report for the subject property. The site is shown on the enclosed vicinity map.

INVESTIGATION

The property lies West of Ocean Boulevard on a private street. The East line of the subject property is located approximately 384 feet West of the West line of Ocean Road. The enclosed spot elevation map of the property shows spot elevations on the property (on NGVD datum) as well as the high point of the dune formation. The highest point of the dune formation is virtually on the proposed building sites. West of the building sites lies a broad deflation zone and the primary foredune.

A review of OSHD aerial photos for this area dated 1967, 1973, 1978 and 1984 show a steady increase in vegetation over the entire property. The most Westerly line of vegetation has moved Westward since at least 1939 as noted in Mr. See's report. The Westerly portion of the dune is classified as an Active Foredune and the Easterly portion of the property is classified as an Older Stabilized Dune.

Wind erosion and migration of sand is a hazard to any beachfront property which consists of sand. As Mr. See points out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the walkways to the beach. Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation. For this reason, it is recommended that no vegetation be cut to the West of the proposed building site.

Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dune was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert your foundation contractor to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractor should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2-inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance. Any logs discovered to be near the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

Potential hazards due to ocean flooding have been identified by the National Flood Insurance Program. The Flood Insurance Rate Map (FIRM) for the Watseco area shows the subject property to be located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is immediately adjacent to a velocity zone (V13) with a predicted base flood elevation of 22 feet. The current elevation of the crest of the dune is now also approximately 22 feet (NGVD). Thus the crest and width of the dune field is providing all of the protection from flooding for this property. Every effort should be made to maintain the dune at or above the 100 year base flood elevation. This will be accomplished through the protection of the existing European beach grass and other vegetation on this property.

DEVELOPMENT STANDARDS

Development standards which are recommended for the subject property to adequately protect the proposed development from the above described potential hazards are as follows:

1. The foundation of the structure should be on continuous concrete footings. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. All footings should bear directly on undisturbed native sand. Do <u>not</u> place house footings on fill material. The bottom of all footings should be a minimum of 12 inches below grade for single story construction and 18 inches below grade for two story construction in native sand. We recommend that the building contractor be alerted to the need to protect the footings during construction from sand erosion and undermining.

2. Roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed. All collected runoff water should be disposed of either on splash pads or in drywells.

3. All proposed structures must be placed on the property in accordance with the setback requirements of Tillamook County. The Tillamook County Planning Department has indicated that special setback restrictions will be applicable to this property. More specifically, the Planning staff has indicated that a general exception is currently being processed to allow for a setback of 10 feet along the West right-of-way line of the private road. The Oceanfront Setback Line will be determined by the Planning Staff on a case by case basis for each individual lot. In general, the Oceanfront Setback must be at a maximum distance from the Ocean Shores Boundary Line in order to place the structure on the lot. This is the reason behind the exception to the Easterly setback.

4. With reference to the above setback requirements, it is recommended that the proposed structure be located as far East on the subject property as possible. It is a preliminary conclusion of this report that the most westerly location of a new residential construction on this property should be no further West than 60 feet Westerly of the Westerly right-of-way line of the private roadway adjacent to the East property line. The location of this line is as shown on the enclosed spot elevation map. No building construction should occur West of this line and no vegetation should be removed or disturbed West of this line. No beach grass or other vegetation should be cut West of this line.

5. The above recommendation of a building setback line of 60' applies to the Westerly foundation of the proposed structure, excluding any exterior deck on the West side of the structure. This recommendation should be taken as a general guideline or goal in the preparation of a site plan for development of the property. Any structure proposed to be located Westerly of this line may be possible, however, we recommend that a review of the specific site plan be accomplished by this engineer and consulting geologist.

6. Vegetation removal around the proposed structure should be kept to the minimum required for the placement of the structure. We recommend that your contractor revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock.

7. Undercutting by wave action along this portion of the ocean front has not historically been a problem. Although it is impossible to predict what future winter storms may do to the coastline, it would seem likely that no significant wave undercutting will probably occur. If such undercutting were to begin, remedial measures, such as riprap construction, would need to be implemented.

FINDINGS AND CONCLUSIONS
Based upon our site specific investigation of this property and the recommended development standards, the following are our conclusions:

a) The proposed residential use will have negligible adverse effects on adjacent uses and the surrounding area.

b) There are no hazards to life, property, and the natural environment which may be caused by the proposed use, subject to the conditions for development stated in the foregoing development standards.

c) The proposed residential use, subject to the foregoing development standards, will be adequately protected from the described hazards, notwithstanding the fact that riprap protection may be necessary in the future should erosion occur.

d) No periodic monitoring of site conditions is recommended other than monitoring of any erosion of the foredune, should it occur.

LIMITATION
This report is based on a site investigation of the subject property and vicinity and a review of existing aerial photography and the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied.

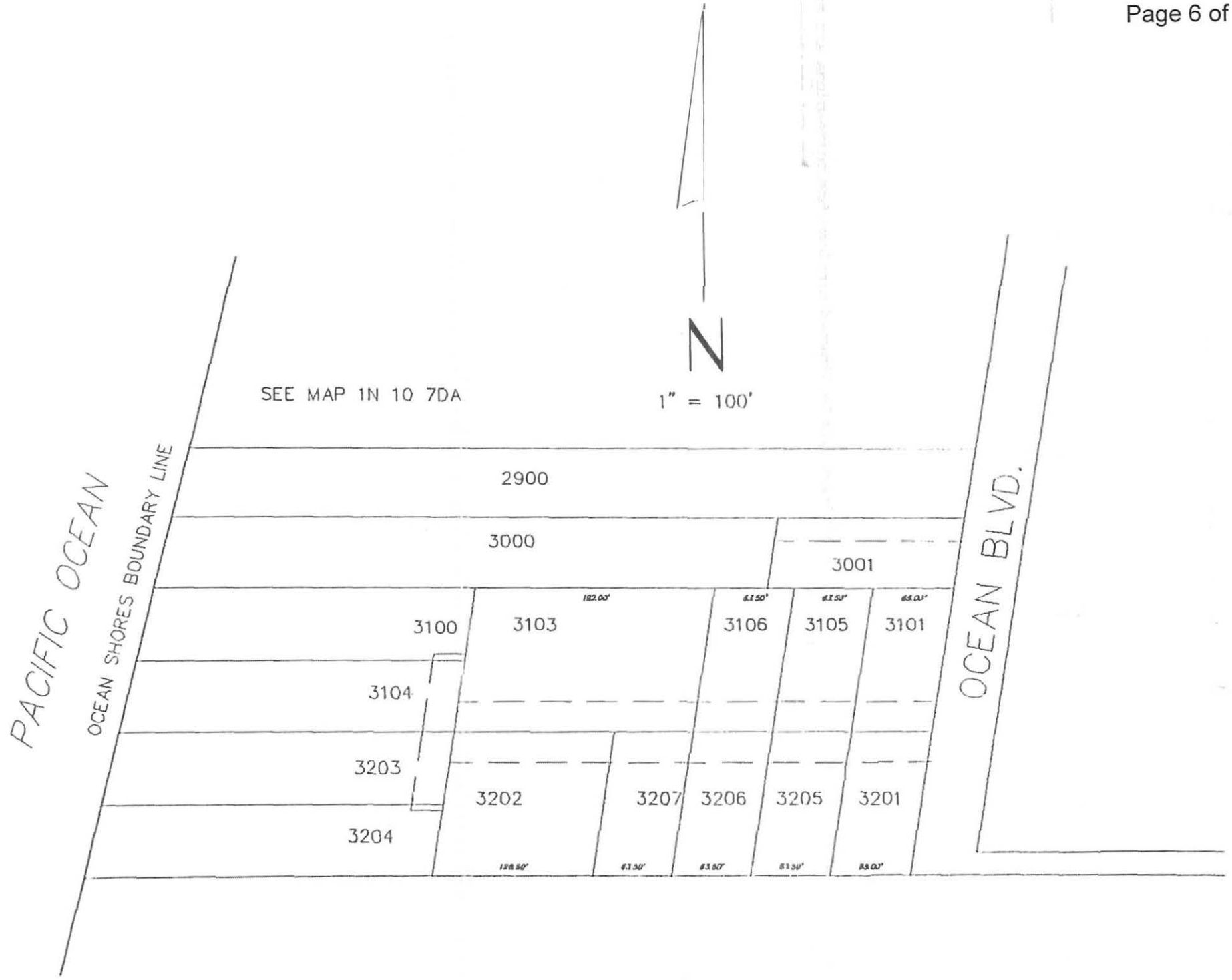
Should you have any questions regarding our investigation and this report, please contact our office.

Very truly yours,
HANDFORTH, LARSON & BARRETT, INC.

Ronald G. Larson, PE, PLS

rgl/ms <at:\rpt\larson.dhr>
cc: Paul D. See

REGISTERED PROFESSIONAL ENGINEER 9443 OREGON SEPTEMBER 23, 1974 RONALD G. LARSON


N
1" = 100'
SEE MAP 1N 10 7DA
PACIFIC OCEAN
OCEAN SHORES BOUNDARY LINE
OCEAN BLVD.
2900
3000
3001
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3103
3106
3105
3101
3104
3203
3202
3207
3206
3205
3201
3204

PAUL D. SEE

300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

July 9, 1990 #3070

Ronald G. Larson
Handforth Larson and Barrett, Inc.
P. O. Box 219
Manzanita, OR 97130

RE: Tax Lots 3203, 3204, T1N, R10W, Sec 7DA, Watseco. (Larson)

Dear Ron:

The following letter report documents my inspection of the above described property with you on Monday, July 2, to assess applicable geologic hazards.

TOPOGRAPHY AND DEPOSITIONAL HISTORY

The property rests on a relatively flat but hummocky dunefield at an approximate elevation of 16+ feet NGVD. Sand has accumulated along this shoreline partly as a natural barrier across an otherwise irregular foothill frontage, and partly as a result of the interruption of coastal sand transport by construction of the Tillamook Bay north jetty in 1917.

Although this beach has experienced a net accretion in the past 70 years, severe storms have periodically eroded the dune front resulting in scattered property damage from Manhattan Beach to Tillamook Bay. Cooper (1) describes intense erosion in January, 1939, and Schlicker (2) describes with an accompanying photograph the abrupt erosion of the 12+/-foot high dunes at Watseco Creek in the winter of 1971-72, along an area that had been stable for 15 years. The 1986 Nedonna Beach Foredune Study (3), although not directly incorporating this area, utilizes examples of erosion and deposition in the Watseco Creek area to illustrate factors applicable to their area of study. Concentrating on the effect of drift logs, they declare that: "Driftwood deposits on the backshore can either be a benefit or a destructive force to the foredune. Massive driftwood deposits that interlock can provide excellent wave protection by breaking up wave energy before it reaches the foredune. They also collect wind-blown sand and can be the start of new foredunes. Backshore deposits known to the study team on other beaches are sometimes 50 to 100 feet wide and a mile long. They tend to create a false sense of security for oceanfront property owners".

Inspection of 1967, 1973, 1978, and 1984 Oregon State Highway Division aerial photos reveals a relatively fresh local field of scattered drift logs over a 200+/- foot wide strip in 1967. Vegetation had gradually obscured these logs from aerial view by 1984, but field inspection confirms their presence to this date. Periodic erosion, particularly during the 1982-83 El Nino event, has removed several tens of feet of the dune frontage, exposing a dense tangle of logs weathered from the dune front. The

See/HLBI
7/9/90
(Larson)

low wave-cut bank visible on the 1984 photo is still observable at this time.

The surface profile in this area is atypical of most local sandy beach fronts. No true foredune exists, although the western edge of the dunefield is slightly higher than the hummocky, log-strewm plain to the east. The area has obviously not experienced a net regression in the past 23 years, although the presence of fresh logs in 1967 is evidence of extreme wash-over just prior to that date.

Notwithstanding the record of frequent storm damage, Stembridge (4) notes in 1975 that "with the exception of Neahkahnie and Manzanita beaches in the extreme north, the entire Rockaway-Nehalem shoreline has been prograding since at least 1939", and "the least prograding between the Nehalem River and Tillamook Bay totals more than 30 feet since 1939". He further notes the confusion among other investigators over erosion/deposition trends along this beach, citing their use of newspaper accounts of storm damage as evidence for long-term erosion.

The incipient foredune lies about eight feet higher than the average remainder of the property, tending to inhibit damage from prolonged seasonal storm and surf erosion or wash-over. However, the low elevation of this dune and even lower elevation at the nearby Watseco Creek estuary permits a degree of velocity flooding in the general area, including the subject property. The FEMA map predicts "AO" flooding of the Watseco area to a depth of one foot, and "100 year" velocity flooding to an elevation of 22 feet, coincident with the dune elevation.

The drift log accumulation should be allowed to remain on the upper beach to inhibit erosion and aid in dune buildup, and European beach grass should be encouraged to spread on the foreslope. I assume you will address the need to probe for buried logs beneath any foundation, to avoid settlement from slow decay.

SUMMARY, LOCAL HAZARDS

The property is well vegetated with beach pines and willow and other upland shrubs and grasses. However, this has obviously developed in a few decades, and the area remains at some risk from severe episodic storm wave overtopping due to its elevation. The presence of the numerous old drift logs and living vegetation would diminish velocity flooding at the building site. The Tillamook Bay north jetty will continue to present a barrier to southerly offshore sand transport, causing a continued net accretion along this beach. Future storm surges and consequent erosion cannot be predicted, however, and damage from velocity flooding cannot be ruled out. Notwithstanding the possibility of flooding, the property appears to be relatively safe from long-term erosion and shoreline regression. No evidence exists to suggest reversal of a trend that has continued for more than 70 years.

See/HLBI
7/9/90
(Larson)

REGIONAL HAZARD

Oregon coastal property owners should be advised that contrary to long-held assumption, there is now significant reason to believe (5) that the Oregon coast is vulnerable to severe impact from an intense local earthquake and accompanying tsunami, or seismic sea wave.

Recent discoveries in the coastal embayments of Oregon and Washington seem to confirm a history of seven or more large earthquakes, probably originating in the local Cascadia subduction zone, during the past 3300+/-years. All seem to have been accompanied by abrupt subsidence of the coastline by several inches to several feet, followed by a series of massive waves that buried marshland peat and coastal cedar forests under wave-deposited sand.

No major local earthquakes have been experienced during historic time. However, if we are to accept the current estimates of the average time span between such events, (approximately 300 years minimum), it follows that a disastrous coastal earthquake and tsunami are indeed possible in the foreseeable future. Based on tree-ring dating, the most recent event seems to have occurred about the year 1690.

Tsunamis are capable of great heights under some circumstances, and the evidence of past events along this coastline has led to an estimated wave height of 15 meters above prevailing tide, well above the local dunefield elevation. Depending on the intensity of ground acceleration, liquefaction can occur in loosely consolidated and saturated sediments, allowing structures to settle unpredictably into the sand.

Events of this magnitude must be considered only as a possibility at this time. Our understanding of Cascadia seismicity remains limited, and the timing or magnitude of future events cannot yet be quantified. However, I am professionally obliged to apprise clients of this newly recognized potential for earthquake damage, remote as it may be.

RECOMMENDATION

Considering all potential hazards noted above, I would recommend locating a structure as far east as possible, but certainly no farther west than a north-south line 60 feet from the easterly property line.

LIMITATIONS

Observations and recommendations incorporated in this letter report are the result of personal site inspection, the works of other specialists, and generally accepted principles of geologic investigation for a report of this nature. No warranties are expressed or implied. This report has been prepared for the timely use of the above addressee and parties to any pending development of the subject property, and does not extend to the

See/HLBI
7/9/90
(LArson)

activities of unidentified future owners or occupants of the property for which the writer bears no responsibility.

Sincerely,

Paul D. See

References cited:

(1) Cooper, william S. "Coastal Sand Dunes of Oregon and Washington", GSA Memoir #72, 1958 (p. 84).

(2) Schlicker, H. G., et al, "Environmental Geology of the Coastal Portions of Tillamook and Clatsop Counties, Oregon", Oreg. Dept. of Geol. & Mineral Indust. Bull. #74, 1972.

(3) Nedonna Beach Foredune Management Study, pages 24, 25. Prepared for Land Conservation and Development Commission, 1986.

(4) Stembridge, James Edward, Jr. "Shoreline Changes and Physiographic Hazards on the Oregon Coast", PhD dissertation, University of Oregon, 1975 (p. 63).

(5) Atwater, B., "Evidence for Great Holocene Earthquakes Along the Outer Coast of Washington State", AAAS Science Magazine, Vol. 236, 22 May, 1987, (and) Woodward, J., "Paleoseismicity and the Archeological Record: Areas of Investigation on the Northern Oregon Coast", Oregon Geology, Vol. 52 #3, May 1990.

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:20:42 pm

Account #	322822	Tax Status	ASSESSABLE
Map #	1N1007DA03204	Acct Status	ACTIVE
Code - Tax #	5624-322822	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	VON SEGGERN, HEATHER STECK	Deed Reference #	2020-39
Agent		Sales Date/Price	01-02-2020 / $175,000.00
In Care Of		Appraiser	ROBERT BUCKINGHAM
Mailing Address	337 SOMERSET AVE SARASOTA, FL 34243		

Prop Class	100	MA	SA	NH	Unit
RMV Class	100	05	OF	536	4366-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	312,720			Land 0	
	Impr.	0			Impr. 0	
Code Area Total		312,720	283,800	283,800	0	
Grand Total		312,720	283,800	283,800	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.12		312,720
					Grand Total			0.12		312,720

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Comments: 02/07/13 Reappraised land. Tabled values. RBB

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BARRETT, INC.

Civil Engineering & Surveying

P.O. Box 219 Manzanita, Oregon 97130 503-368-5394

September 14, 1990

Mr. Eugene W. Larson
c/o Mr. & Mrs. Don Linker
15917 SE Arista Drive
Milwaukie OR 97267

RE: Beach and Dune Hazard Report, Tax Lots 3203 and 3204, 1N 10 7DA, Watseco, Oregon

Dear Mr. & Mrs. Larson:

At your request our firm has visited the site of your property in the Watseco area in order to address the engineering and geologic hazards of the specific site and to make recommendations for residential construction thereon. Our site visit was made in conjunction with Mr. Paul See, Geologist, who examined the site for geologic hazards. Mr. See's report on the subject property is attached to this report, and together with this report is the required dune hazard report for the subject property. The site is shown on the enclosed vicinity map.

INVESTIGATION

The property lies West of Ocean Boulevard on a private street. The East line of the subject property is located approximately 384 feet West of the West line of Ocean Road. The enclosed spot elevation map of the property shows spot elevations on the property (on NGVD datum) as well as the high point of the dune formation. The highest point of the dune formation is virtually on the proposed building sites. West of the building sites lies a broad deflation zone and the primary foredune.

A review of OSHD aerial photos for this area dated 1967, 1973, 1978 and 1984 show a steady increase in vegetation over the entire property. The most Westerly line of vegetation has moved Westward since at least 1939 as noted in Mr. See's report. The Westerly portion of the dune is classified as an Active Foredune and the Easterly portion of the property is classified as an Older Stabilized Dune.

Wind erosion and migration of sand is a hazard to any beachfront property which consists of sand. As Mr. See points out, the sand has become stabilized due to the presence of logs, beach grass and other vegetation over the entire property. Open sand exists in very localized areas where the beach grass has been trampled by foot traffic such as the walkways to the beach. Because the stabilization of the sand is heavily dependent upon vegetation, every effort should be made to encourage the growth of natural beach vegetation. For this reason, it is recommended that no vegetation be cut to the West of the proposed building site.

Wind erosion and migration of sand may also be a hazard to residential construction if not properly controlled. Bare sand may erode around the building foundation and undermine the foundation. This erosion may be caused by wind, rain, or foot traffic, or a combination of all three. The hazard is greatest during and immediately after construction when both the vegetation and the sand have recently been disturbed.

Another potential hazard, which can occur in sand dune areas formed by accretion, is that of buried logs and other organic matter on the property. Logs and other flotsam may have become buried in the sand as the dune was formed by a build-up of sand. Over a period of time, the buried wood rots and forms a highly compressible soil. Soil of this type is very poor on which to build a structure. The greatest hazard occurs from logs near the ground surface which rot, since deeply buried logs will not decompose when located below the permanent water table. Our recommendations for dealing with this potential hazard are as follows:

1. Alert your foundation contractor to the potential problem of buried logs near the ground surface.
2. During excavation for concrete footings, the contractor should probe the sand under the proposed footings with a 6 foot long smooth steel rod, 3/8-inch to 1/2-inch in diameter. The rod should be able to be driven with a hammer into the sand with relative ease. Logs will produce a dull thumping sound on contact and greatly increase the driving resistance. Any logs discovered to be near the surface under the proposed footings should be removed and the excavation replaced with well compacted sand.

Potential hazards due to ocean flooding have been identified by the National Flood Insurance Program. The Flood Insurance Rate Map (FIRM) for the Watseco area shows the subject property to be located in an 'AO' flood zone with a specified depth of flooding of one foot of water. The property is immediately adjacent to a velocity zone (V13) with a predicted base flood elevation of 22 feet. The current elevation of the crest of the dune is now also approximately 22 feet (NGVD). Thus the crest and width of the dune field is providing all of the protection from flooding for this property. Every effort should be made to maintain the dune at or above the 100 year base flood elevation. This will be accomplished through the protection of the existing European beach grass and other vegetation on this property.

DEVELOPMENT STANDARDS

Development standards which are recommended for the subject property to adequately protect the proposed development from the above described potential hazards are as follows:

1. The foundation of the structure should be on continuous concrete footings. We recommend that the maximum allowable soil bearing pressure at the bottom of the footing not exceed 1500 pounds per square foot. This value may be increased for additional width and depth of footings in accordance with Table 29-B of the Oregon State Structural Specialty Code. All footings should bear directly on undisturbed native sand. Do <u>not</u> place house footings on fill material. The bottom of all footings should be a minimum of 12 inches below grade for single story construction and 18 inches below grade for two story construction in native sand. We recommend that the building contractor be alerted to the need to protect the footings during construction from sand erosion and undermining.

2. Roof gutters and downspouts should be installed as soon as possible after the roof sheathing has been installed. All collected runoff water should be disposed of either on splash pads or in drywells.

3. All proposed structures must be placed on the property in accordance with the setback requirements of Tillamook County. The Tillamook County Planning Department has indicated that special setback restrictions will be applicable to this property. More specifically, the Planning staff has indicated that a general exception is currently being processed to allow for a setback of 10 feet along the West right-of-way line of the private road. The Oceanfront Setback Line will be determined by the Planning Staff on a case by case basis for each individual lot. In general, the Oceanfront Setback must be at a maximum distance from the Ocean Shores Boundary Line in order to place the structure on the lot. This is the reason behind the exception to the Easterly setback.

4. With reference to the above setback requirements, it is recommended that the proposed structure be located as far East on the subject property as possible. It is a preliminary conclusion of this report that the most westerly location of a new residential construction on this property should be no further West than 60 feet Westerly of the Westerly right-of-way line of the private roadway adjacent to the East property line. The location of this line is as shown on the enclosed spot elevation map. No building construction should occur West of this line and no vegetation should be removed or disturbed West of this line. No beach grass or other vegetation should be cut West of this line.

5. The above recommendation of a building setback line of 60' applies to the Westerly foundation of the proposed structure, excluding any exterior deck on the West side of the structure. This recommendation should be taken as a general guideline or goal in the preparation of a site plan for development of the property. Any structure proposed to be located Westerly of this line may be possible, however, we recommend that a review of the specific site plan be accomplished by this engineer and consulting geologist.

6. Vegetation removal around the proposed structure should be kept to the minimum required for the placement of the structure. We recommend that your contractor revegetate or otherwise protect from erosion all disturbed sand adjoining the foundation. In all areas where vegetation will not grow or is not desired, it is recommended that the sand be protected with a 4 inch thick layer of crushed rock.

7. Undercutting by wave action along this portion of the ocean front has not historically been a problem. Although it is impossible to predict what future winter storms may do to the coastline, it would seem likely that no significant wave undercutting will probably occur. If such undercutting were to begin, remedial measures, such as riprap construction, would need to be implemented.

FINDINGS AND CONCLUSIONS
Based upon our site specific investigation of this property and the recommended development standards, the following are our conclusions:

a) The proposed residential use will have negligible adverse effects on adjacent uses and the surrounding area.

b) There are no hazards to life, property, and the natural environment which may be caused by the proposed use, subject to the conditions for development stated in the foregoing development standards.

c) The proposed residential use, subject to the foregoing development standards, will be adequately protected from the described hazards, notwithstanding the fact that riprap protection may be necessary in the future should erosion occur.

d) No periodic monitoring of site conditions is recommended other than monitoring of any erosion of the foredune, should it occur.

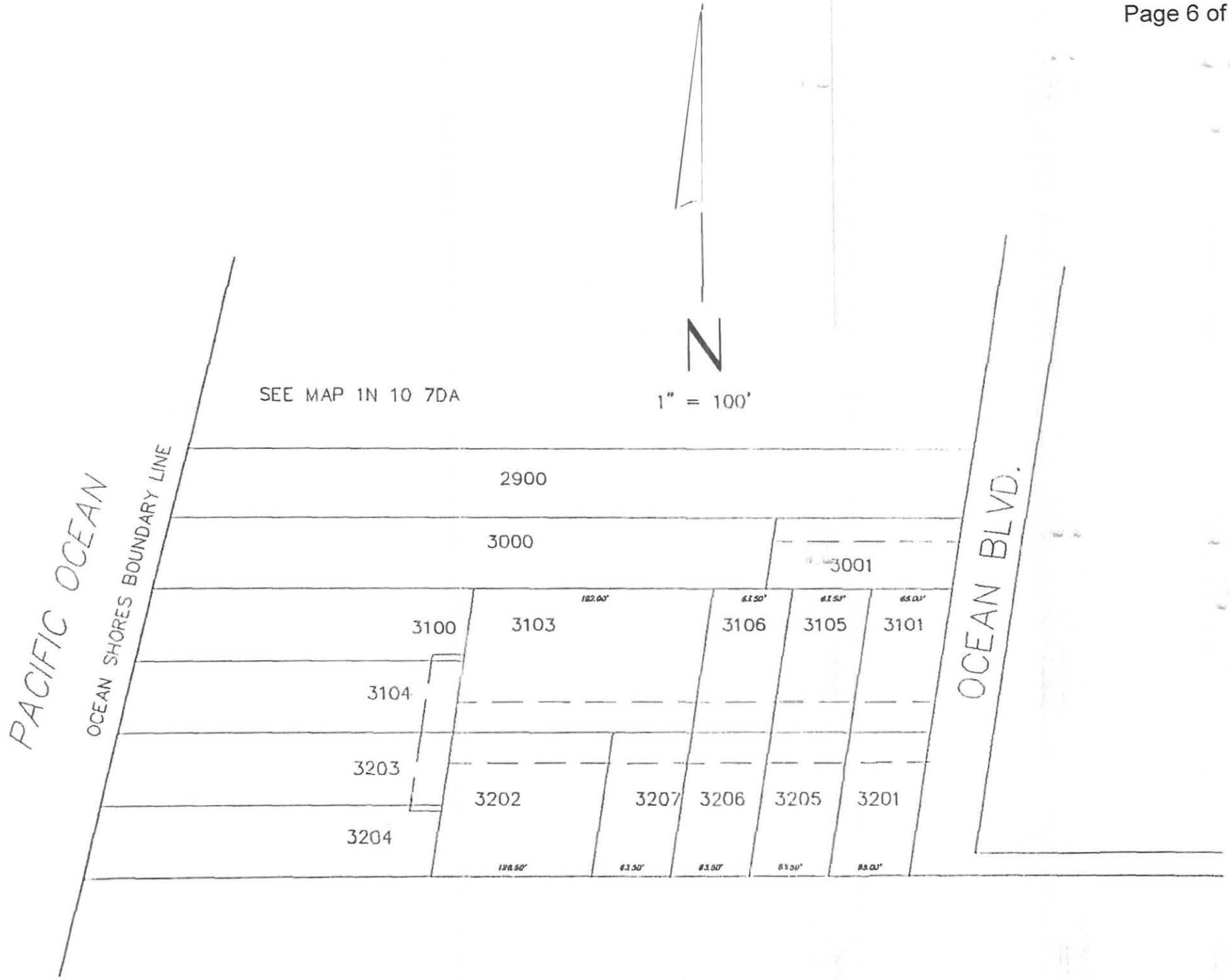
LIMITATION
This report is based on a site investigation of the subject property and vicinity and a review of existing aerial photography and the site topography and subsurface conditions as explored by shallow hand digging. The conclusions and recommendations presented are believed to be representative of the site and are professional opinions derived in accordance with current standards of professional practice for a report of this nature, and no warranty is expressed or implied.

Should you have any questions regarding our investigation and this report, please contact our office.

Very truly yours,
HANDFORTH, LARSON & BARRETT, INC.

Ronald G. Larson, PE, PLS

rgl/ms <at:\rpt\larson.dhr>
cc: Paul D. See



HLBI to - September 14, 1990 - I 5 of 10

PAUL D. SEE

300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

July 9, 1990 #3070

Ronald G. Larson
Handforth Larson and Barrett, Inc.
P. O. Box 219
Manzanita, OR 97130

RE: Tax Lots 3203, 3204, T1N, R10W, Sec 7DA, Watseco. (Larson)

Dear Ron:

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TOPOGRAPHY AND DEPOSITIONAL HISTORY

The property rests on a relatively flat but hummocky dunefield at an approximate elevation of 16+ feet NGVD. Sand has accumulated along this shoreline partly as a natural barrier across an otherwise irregular foothill frontage, and partly as a result of the interruption of coastal sand transport by construction of the Tillamook Bay north jetty in 1917.

Although this beach has experienced a net accretion in the past 70 years, severe storms have periodically eroded the dune front resulting in scattered property damage from Manhattan Beach to Tillamook Bay. Cooper (1) describes intense erosion in January, 1939, and Schlicker (2) describes with an accompanying photograph the abrupt erosion of the 12+/-foot high dunes at Watseco Creek in the winter of 1971-72, along an area that had been stable for 15 years. The 1986 Nedonna Beach Foredune Study (3), although not directly incorporating this area, utilizes examples of erosion and deposition in the Watseco Creek area to illustrate factors applicable to their area of study. Concentrating on the effect of drift logs, they declare that: "Driftwood deposits on the backshore can either be a benefit or a destructive force to the foredune. Massive driftwood deposits that interlock can provide excellent wave protection by breaking up wave energy before it reaches the foredune. They also collect wind-blown sand and can be the start of new foredunes. Backshore deposits known to the study team on other beaches are sometimes 50 to 100 feet wide and a mile long. They tend to create a false sense of security for oceanfront property owners".

Inspection of 1967, 1973, 1978, and 1984 Oregon State Highway Division aerial photos reveals a relatively fresh local field of scattered drift logs over a 200+/- foot wide strip in 1967. Vegetation had gradually obscured these logs from aerial view by 1984, but field inspection confirms their presence to this date. Periodic erosion, particularly during the 1982-83 El Nino event, has removed several tens of feet of the dune frontage, exposing a dense tangle of logs weathered from the dune front. The

See/HLBI
7/9/90
(Larson)

low wave-cut bank visible on the 1984 photo is still observable at this time.

The surface profile in this area is atypical of most local sandy beach fronts. No true foredune exists, although the western edge of the dunefield is slightly higher than the hummocky, log-strewn plain to the east. The area has obviously not experienced a net regression in the past 23 years, although the presence of fresh logs in 1967 is evidence of extreme wash-over just prior to that date.

Notwithstanding the record of frequent storm damage, Stembridge (4) notes in 1975 that "with the exception of Neahkahnie and Manzanita beaches in the extreme north, the entire Rockaway-Nehalem shoreline has been prograding since at least 1939", and "the least prograding between the Nehalem River and Tillamook Bay totals more than 30 feet since 1939". He further notes the confusion among other investigators over erosion/deposition trends along this beach, citing their use of newspaper accounts of storm damage as evidence for long-term erosion.

The incipient foredune lies about eight feet higher than the average remainder of the property, tending to inhibit damage from prolonged seasonal storm and surf erosion or wash-over. However, the low elevation of this dune and even lower elevation at the nearby Watseco Creek estuary permits a degree of velocity flooding in the general area, including the subject property. The FEMA map predicts "AO" flooding of the Watseco area to a depth of one foot, and "100 year" velocity flooding to an elevation of 22 feet, coincident with the dune elevation.

The drift log accumulation should be allowed to remain on the upper beach to inhibit erosion and aid in dune buildup, and European beach grass should be encouraged to spread on the foreslope. I assume you will address the need to probe for buried logs beneath any foundation, to avoid settlement from slow decay.

SUMMARY, LOCAL HAZARDS

The property is well vegetated with beach pines and willow and other upland shrubs and grasses. However, this has obviously developed in a few decades, and the area remains at some risk from severe episodic storm wave overtopping due to its elevation. The presence of the numerous old drift logs and living vegetation would diminish velocity flooding at the building site. The Tillamook Bay north jetty will continue to present a barrier to southerly offshore sand transport, causing a continued net accretion along this beach. Future storm surges and consequent erosion cannot be predicted, however, and damage from velocity flooding cannot be ruled out. Notwithstanding the possibility of flooding, the property appears to be relatively safe from long-term erosion and shoreline regression. No evidence exists to suggest reversal of a trend that has continued for more than 70 years.

See/HLBI
7/9/90
(Larson)

REGIONAL HAZARD

Oregon coastal property owners should be advised that contrary to long-held assumption, there is now significant reason to believe (5) that the Oregon coast is vulnerable to severe impact from an intense local earthquake and accompanying tsunami, or seismic sea wave.

Recent discoveries in the coastal embayments of Oregon and Washington seem to confirm a history of seven or more large earthquakes, probably originating in the local Cascadia subduction zone, during the past 3300+/-years. All seem to have been accompanied by abrupt subsidence of the coastline by several inches to several feet, followed by a series of massive waves that buried marshland peat and coastal cedar forests under wave-deposited sand.

No major local earthquakes have been experienced during historic time. However, if we are to accept the current estimates of the average time span between such events, (approximately 300 years minimum), it follows that a disastrous coastal earthquake and tsunami are indeed possible in the foreseeable future. Based on tree-ring dating, the most recent event seems to have occurred about the year 1690.

Tsunamis are capable of great heights under some circumstances, and the evidence of past events along this coastline has led to an estimated wave height of 15 meters above prevailing tide, well above the local dunefield elevation. Depending on the intensity of ground acceleration, liquefaction can occur in loosely consolidated and saturated sediments, allowing structures to settle unpredictably into the sand.

Events of this magnitude must be considered only as a possibility at this time. Our understanding of Cascadia seismicity remains limited, and the timing or magnitude of future events cannot yet be quantified. However, I am professionally obliged to apprise clients of this newly recognized potential for earthquake damage, remote as it may be.

RECOMMENDATION

Considering all potential hazards noted above, I would recommend locating a structure as far east as possible, but certainly no farther west than a north-south line 60 feet from the easterly property line.

LIMITATIONS

Observations and recommendations incorporated in this letter report are the result of personal site inspection, the works of other specialists, and generally accepted principles of geologic investigation for a report of this nature. No warranties are expressed or implied. This report has been prepared for the timely use of the above addressee and parties to any pending development of the subject property, and does not extend to the

See/HLBI
7/9/90
(LArson)

activities of unidentified future owners or occupants of the property for which the writer bears no responsibility.

Sincerely,

Paul D. See

References cited:

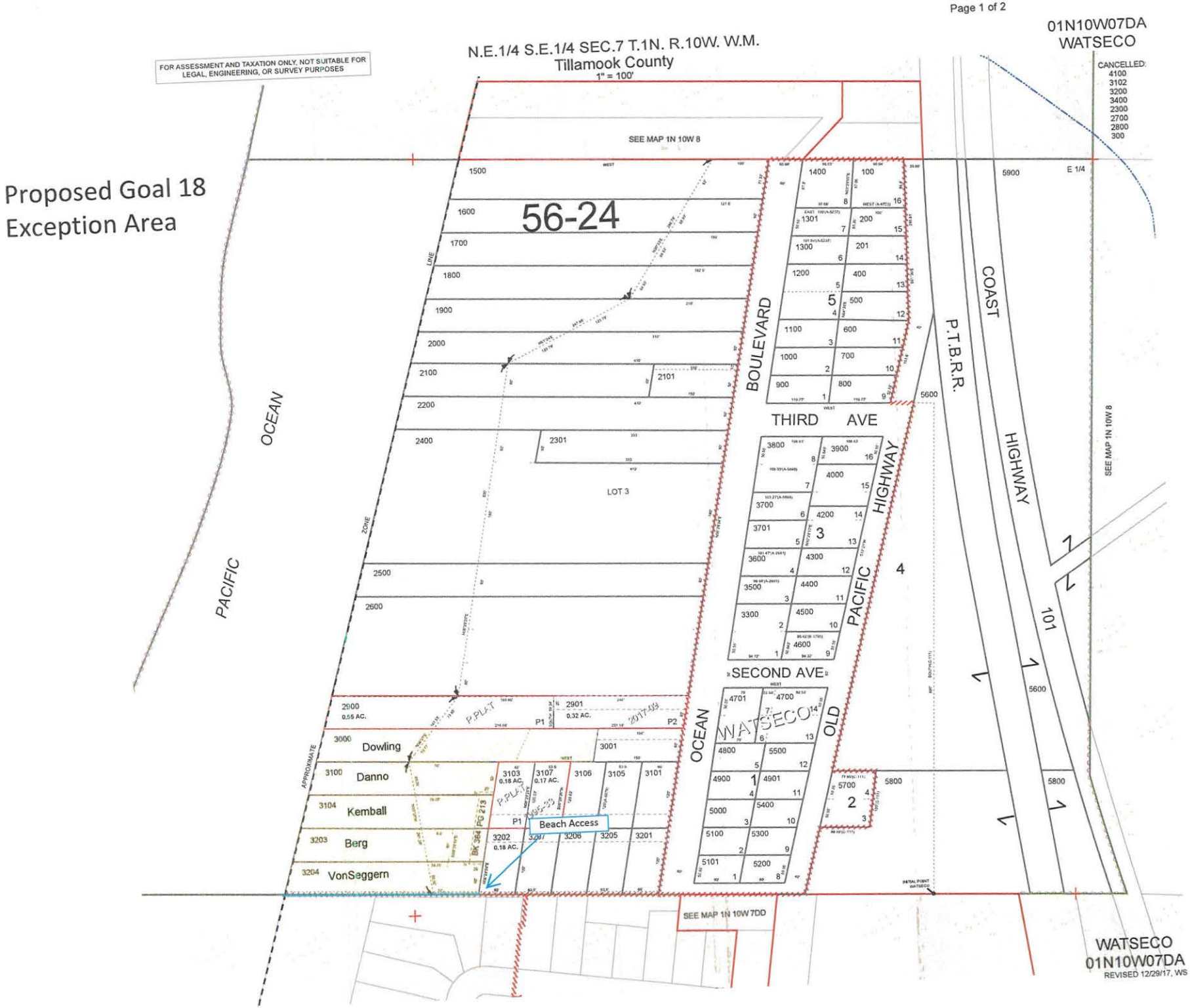
(1) Cooper, william S. "Coastal Sand Dunes of Oregon and Washington", GSA Memoir #72, 1958 (p. 84).

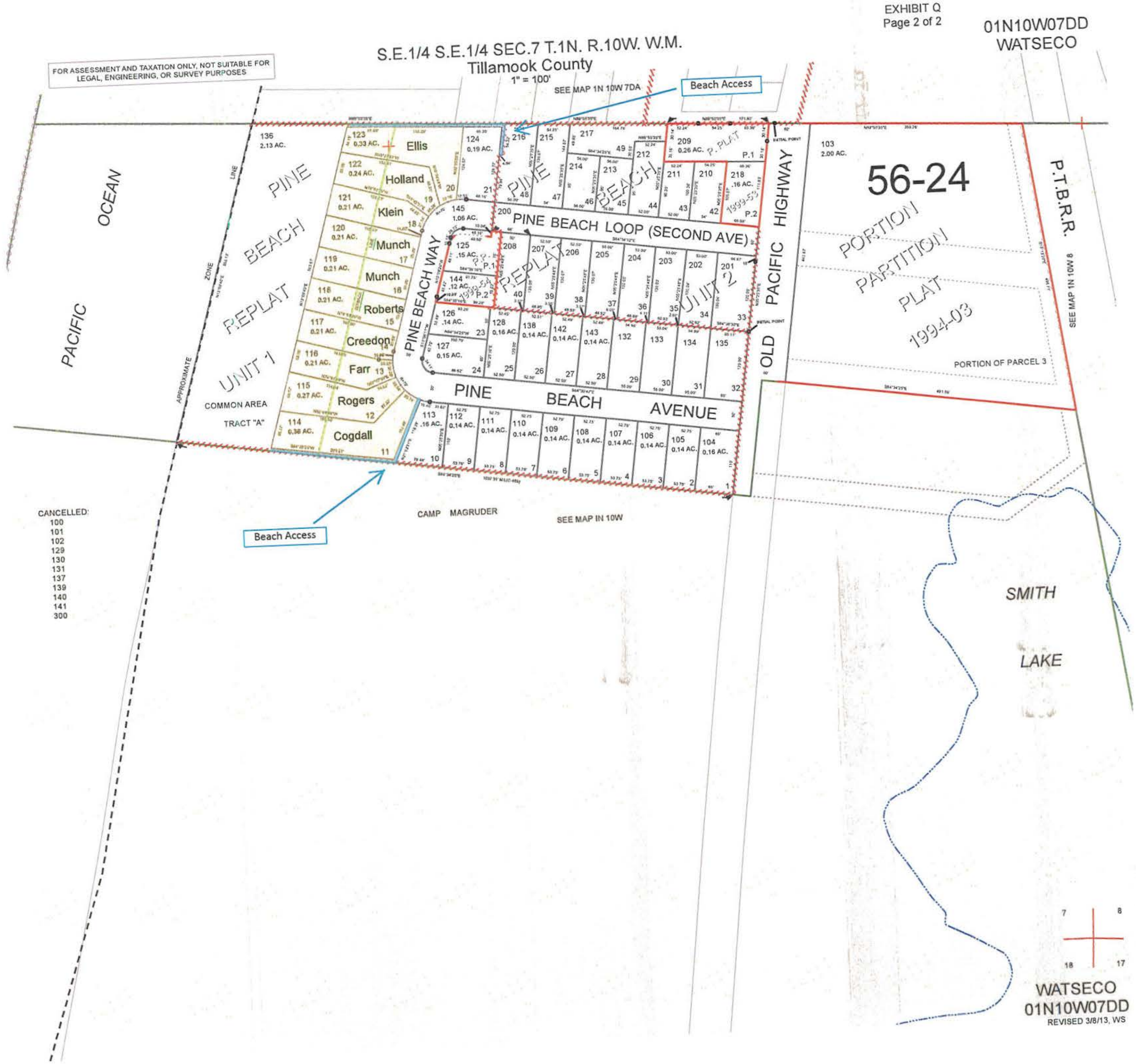
(2) Schlicker, H. G., et al, "Environmental Geology of the Coastal Portions of Tillamook and Clatsop Counties, Oregon", Oreg. Dept. of Geol. & Mineral Indust. Bull. #74, 1972.

(3) Nedonna Beach Foredune Management Study, pages 24, 25. Prepared for Land Conservation and Development Commission, 1986.

(4) Stembridge, James Edward, Jr. "Shoreline Changes and Physiographic Hazards on the Oregon Coast", PhD dissertation, University of Oregon, 1975 (p. 63).

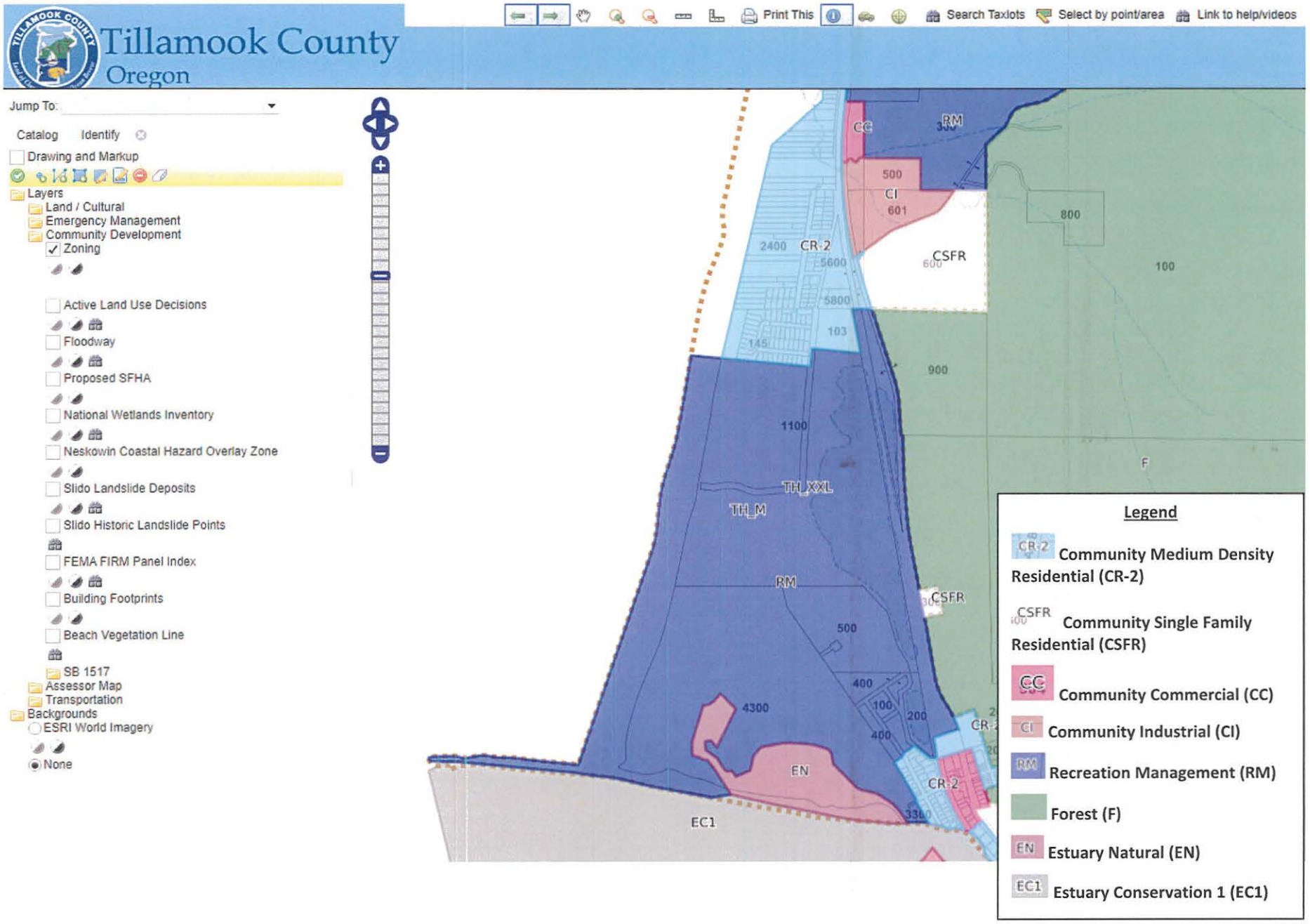
(5) Atwater, B., "Evidence for Great Holocene Earthquakes Along the Outer Coast of Washington State", AAAS Science Magazine, Vol. 236, 22 May, 1987, (and) Woodward, J., "Paleoseismicity and the Archeological Record: Areas of Investigation on the Northern Oregon Coast", Oregon Geology, Vol. 52 #3, May 1990.


01N10W07DA
WATSECO
N.E.1/4 S.E.1/4 SEC.7 T.1N. R.10W. W.M.
Tillamook County
1" = 100'
FOR ASSESSMENT AND TAXATION ONLY. NOT SUITABLE FOR LEGAL, ENGINEERING, OR SURVEY PURPOSES
CANCELLED:
4100
3102
3200
3400
2300
2700
2800
300
Proposed Goal 18
Exception Area
SEE MAP 1N 10W 8
56-24
OCEAN
PACIFIC
BOULEVARD
THIRD AVE
HIGHWAY
101
COAST
P.T.B.R.R.
E 1/4
LOT 3
ZONE
LINE
APPROXIMATE
P.PLAT
2017-XX
SECOND AVE
OLD
WATSECO
Dowling
Danno
Kemball
Berg
VonSeggern
Beach Access
BK 364 PG 213
SEE MAP 1N 10W 7DD
SEE MAP 1N 10W 8
WATSECO
01N10W07DA
REVISED 12/29/17, WS


01N10W07DD
WATSECO
S.E.1/4 S.E.1/4 SEC.7 T.1N. R.10W. W.M.
Tillamook County
1" = 100'
FOR ASSESSMENT AND TAXATION ONLY, NOT SUITABLE FOR LEGAL, ENGINEERING, OR SURVEY PURPOSES
SEE MAP 1N 10W 7DA
Beach Access
PACIFIC OCEAN
APPROXIMATE ZONE LINE
PINE BEACH REPLAT UNIT 1
COMMON AREA
TRACT "A"
136
2.13 AC.
123
0.33 AC.
Ellis
122
0.24 AC.
Holland
121
0.21 AC.
Klein
120
0.21 AC.
Munch
119
0.21 AC.
Munch
118
0.21 AC.
Roberts
117
0.21 AC.
Creedon
116
0.21 AC.
Farr
115
0.27 AC.
Rogers
114
0.38 AC.
Cogdall
124
0.19 AC.
145
1.06 AC.
125
.15 AC.
144
.12 AC.
126
.14 AC.
127
0.15 AC.
128
0.16 AC.
138
0.14 AC.
142
0.14 AC.
143
0.14 AC.
132
133
134
135
113
.16 AC.
112
0.14 AC.
111
0.14 AC.
110
0.14 AC.
109
0.14 AC.
108
0.14 AC.
107
0.14 AC.
106
0.14 AC.
105
0.14 AC.
104
0.16 AC.
209
0.26 AC.
218
.16 AC.
P. PLAT
P.1
P.2
1999-53
1999-54
PINE BEACH WAY
PINE BEACH LOOP (SECOND AVE)
PINE BEACH AVENUE
PINE BEACH REPLAT UNIT 2
OLD PACIFIC HIGHWAY
103
2.00 AC.
56-24
PORTION PARTITION PLAT 1994-03
PORTION OF PARCEL 3
P.T.B.R.R.
SEE MAP 1N 10W 8
CAMP MAGRUDER
SEE MAP IN 10W
CANCELLED:
100
101
102
129
130
131
137
139
140
141
300
SMITH LAKE
7
8
18
17
WATSECO
01N10W07DD
REVISED 3/8/13, WS

Proposed Exception Area and Adjacent Lands Map

County Vicinity Zoning Map



Barview/Watseco/Twin Rocks Community Plan
Tillamook County, Oregon

December 4, 2002

Tillamook County Board of Commissioners

Charles Hurliman
Paul Hanneman
Tim Josi

Tillamook County Planning Commission

Kurt Heckeroth
Scott Hill
Joan Marti
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Anne Price
Charles Swan

Tillamook County Department of Community Development

Bill Campbell, Director
Lynne Krueger, Senior Planner

Table of Contents

Executive Summary

Planning Overview

Planning for unincorporated communities in Tillamook County began with changes in the state land use rules in the early 1990's. The Rural Communities Rule (OAR 660-22) requires planning for Unincorporated Communities. Barview/Watseco/Twin Rocks is classified as a Rural Urban Community, one of twelve Unincorporated Communities in Tillamook County that meet the state's criteria. As part of its Periodic Review, The Tillamook County Department of Community Development has undertaken planning for each of these communities. Planning for the county's five Urban Unincorporated Communities occurred first, in the late 1990's.

Planning for Barview/Watseco/Twin Rocks and the county's five Rural Communities and one Rural Service Center began in 2000, with the adoption of Unincorporated Community Boundaries. In March and April of 2002, Community Development staff conducted a Community Survey by mail and held a Community Meeting in Barview/Watseco/Twin Rocks. The complete results of these community involvement measures are in Appendices B and C.

Community Profile

Barview-Watseco-Twin Rocks is an unincorporated community formed by three neighboring coastal settlements. It lies ten miles northwest of the City of Tillamook, just north of Tillamook Bay. The community is bounded on the north by the City of Rockaway Beach and on the west by the Pacific Ocean. Highway 101 passes through it.

The area is served by the Tillamook County Sheriff's office and is part of the 911 system. The Port of Tillamook Bay Railroad travels through the community although no passenger stops are established.

There are identified areas of flooding and this information can be found on the following Flood Insurance Rating Maps (FIRM): 410196 0090A, date August 1, 1978. These areas of flooding are primarily along the coast.

Community Zoning

With a total of 269 acres, Barview-Watseco-Twin Rocks has about 150 dwelling a few small businesses. It also has a small industrial district and two large church camps zoned for Recreation Management. The community has a wide variety of residential lots (many of them quite small) and an equally wide variety of residential zoning as described below. The community has 230 acres of undeveloped land zoned for residential use. An additional four acres of undeveloped commercially zoned land could be developed for residential use.

Community Goals and Policies

With the input of residents and other stakeholders through the community survey and community meeting, and with an understanding of the current state of the community, staff has identified four community goals for Barview/Watseco/Twin Rocks:

Goal 1: Barview/Watseco/Twin Rocks will be an attractive, safe and clean community
Goal 2: Barview/Watseco/Twin Rocks will support the park and beach.
Goal 3: Barview/Watseco/Twin Rocks will be surrounded protect natural resources.
Goal 4: Barview/Watseco/Twin Rocks will have a thriving business district supported by local residents and travelers.

Each goal is supported by several County policies.

Chapter 1: Planning Overview

1.1 The Planning Process

Planning for unincorporated communities in Tillamook County began with changes in the state land use rules in the early 1990' s. A court decision ruled that Oregon counties had to plan for their unincorporated communities. The Oregon Land Conservation and Development Commission adopted the Rural Communities Rule (OAR 660-22) in 1994 in order to comply with the ruling of the court.

Tillamook County has identified twelve Unincorporated Communities that meet the state' s criteria. Barview/Watseco/Twin Rocks has been classified as a Urban Unincorporated Community. The other communities identified in the county are:

Urban Unincorporated Communities:
Neahkahnie
Neskowin
Netarts
Oceanside
Pacific City
Barview/Watseco/Twin Rocks

Rural Communities:
Hebo
Beaver
Cloverdale
Idaville
Siskeyville

Rural Service Center:
Mohler

The Tillamook County Department of Community Development has undertaken planning for each of these communities. The department has included these efforts as part of its periodic review tasks. Planning for the county' s five of the Urban Unincorporated Communities occurred first, in the late 1990' s. Each of the Urban Unincorporated Communities went through a separate planning process guided by a committee in each community. Planning for the county' s five Rural Communities, one Rural Service Center, and the remaining Urban Unincorporated Community of Barview/Watseco/Twin Rocks began in 2000. The planning processes involved in creating and adopting the Unincorporated Community Boundaries and Community Plans are detailed in the rest of this chapter.

1.2 The Unincorporated Community Boundary

The Unincorporated Community Boundaries for Barview/Watseco/Twin Rocks and the other Rural Communities were determined through a public process in 2000 and 2001. The County adopted the boundaries in 2001. Barview/Watseco/Twin Rocks' s adopted Unincorporated Community Boundary contains 241 acres of land. Appendix A contains maps of the community growth boundary.

1.3 The Community Survey

In May of 2002, Community Development staff conducted a community survey. All registered property owners within the community boundary received a survey in the mail. The survey asked four questions of residents:

1. What do you feel is the most important issue facing Barview/Watseco/Twin Rocks?
2. What one thing would you like to change about Barview/Watseco/Twin Rocks in the next 20 years?
3. What is your favorite thing about Barview/Watseco/Twin Rocks?
4. What is your least favorite thing about Barview/Watseco/Twin Rocks?

246 surveys were mailed out to property owners and staff and community members distributed additional surveys. Twenty surveys were returned to Community Development. Appendix B contains the responses in detail. The most popular themes to come out of the surveys are summarized below:

What do you feel is the most important issue facing Barview/Watseco/Twin Rocks?
The majority of responses were directed toward water quality issues. Second was the "overly tight control of construction." Respondents identified trees in conjunction with shore erosion; increasing traffic; and the repair of the North Jetty.

What one thing would you like to change about Barview/Watseco/Twin Rocks in the next 20 years?
Respondents identified encouraging growth; residents to clean up properties; improve night lighting; lengthen North Jetty; Unified Water district for Barview/Watseco/Twin Rocks and Rockaway Beach; and reroute Highway 101 east.

What is your favorite thing about Barview/Watseco/Twin Rocks?
Many of the responses focused on the natural character of the surrounding area, followed by Barview/Watseco/Twin Rocks' s location as a part of Highway 101; and the beach and its impact.

What is your least favorite thing about Barview/Watseco/Twin Rocks?
Responses focused on the worry about erosion on the beach; feeling disenfranchised by County government; potholes; and Port of Tillamook Bay leftover railroad ties. Some responses decried a lack of pride and community in the town and in individual properties. Other responses dealt with noise and lack of businesses and services.

1.4 Community Open House

On May 13, 2002, Community Development staff held an open house for the Barview/Watseco/Twin Rocks community to discuss the community plan. Staff held the open house at the Twin Rocks Friends Camp in Twin Rocks. Staff notified citizens of the open house through a mailing to all property owners within the community growth boundary along with a community survey (see section 1.2). Notice of the meeting was also placed in the Headlight-Herald newspaper. Approximately 12 people attended the meeting.

At the meeting, staff briefly introduced those present to the process, and solicited suggestions. A question and answer technique was used to gather suggestions for changes in Barview/Watseco/Twin Rocks. Respondents were asked to "brainstorm" and a staff member wrote down what they most would like to change about Barview/Watseco/Twin Rocks in the next 20 years. Appendix C contains the responses in detail. A summary of the most popular themes to come out of the ensuing discussion are below:

Shore erosion/North Jetty
Traffic/ Highway 101, particularly the Barview/Watseco/Twin Rocks Inn
Encouraging business development
Water Quality
The beach experience

Chapter 2: Community Profile

2.1 Historic Information

The community boundary includes the three smaller beach communities of Barview, Watseco, and Twin Rocks. According to the book, *Oregon Geographic Names*, Barview received its name from L.C. Smith in 1884. It is just north of the bar at the entrance to Tillamook Bay and affords a fine view of the bay, bar and ocean. The style, "Barview" has been adopted by the United States Board of Geographic Names and not Bar View although Bar View was the original spelling. Barview supports a commercial and residential mix. Tourism has become a significant contributor to the community. Highway 101 is the primary access north to south and brings travelers year around.

Twin Rocks, according to *Oregon Geographic Names*, was named for the two large rocks more than a hundred feet high in the Pacific Ocean just below low tide line. The community at time was a resort community and a petition was circulated to establish the post office. The post office was established in summer of 1914, and the first Postmaster was William E. Dunsmoor. The post office was a part of the community until the Eisenhower administration. Much of Twin Rocks is now part of the City of Rockaway Beach Urban Growth Boundary. Twin Rocks remains a primarily residential community with beautiful vistas, beaches and accommodations.

The name Watseco is the shortened version of "Watt's Sea Coast." The Watts family originally developed Watseco Addition. The family initiated the stopping of the train by constructing a sign of black letters on a white background. Watseco remains a residential community.

Much of the history of this area is similar in nature to the majority of Tillamook County. Initially the draw was and still remains the natural resources of fishing and timber and the ever-present tourist. As identified above, these communities began and continue to be supported by these industries.

2.2 Community Form

The communities of Barview/Watseco/Twin Rocks is located on Tillamook Bay and the Pacific Ocean. The Oregon Coast Highway, U.S. Route 101, crosses Barview/Watseco/Twin Rocks. The community is made up of three beach communities and is predominately residential, with a commercial area along Highway 101. Route 101 runs from the north and to the south through the town, with a major curve in the center of the business district.

There are 241acres within the Barview/Watseco/Twin Rocks Unincorporated Community Boundary. Of these, 237 acres are in residential areas with the remaining 4 acres in the commercial zone. Commercial uses in Barview/Watseco/Twin Rocks include several stores, the US Coast Guard, and Barview/Watseco/Twin Rocks is also home to two private camps, Magruder and Friends Camp. The residential areas are urban in character. Small lots are common. The housing stock is mostly 20 years old or older.

2.3 Economics

Barview/Watseco/Twin Rocks' s economy, like that of much of the county, rests on tourism as a significant element. The Barview/Watseco/Twin Rocks area in general supports tourist based businesses catering to travelers passing through on the highway or stopping to enjoy nearby outdoor recreational opportunities including the two private camps.

2.4 Buildable Land

Tillamook County completed a Buildable Lands Inventory in 2001. The information gathered during the inventory process provides the County with an estimate of how much more residential development can occur within the Community Growth Boundary.

Within the community's 240 acres of residential land, there are is a total of 1,065 (gross) potential parcels, 340 of which are developed. Since much of the commercially zoned land was already developed, it was not included in the Buildable Lands Inventory analysis. Multiplying the by standard .75 coefficient, the Buildable Lands Inventory determined that 798 potential residential lots could be developed in Barview/Watseco/Twin Rocks.

Chapter 3: Community Goals and Policies

With the input of residents and other stakeholders through the community survey and community meeting, and with an understanding of the current state of the community, staff has identified four community goals for Barview/Watseco/Twin Rocks. Each of these goals is supported through specific policies that the county should work toward implementing in all its activities.

Goal 1: Barview/Watseco/Twin Rocks will be an attractive, safe and clean community
Goal 2: Barview/Watseco/Twin Rocks will have safe drinking water and sanitation
Goal 3: Barview/Watseco/Twin Rocks will be surrounded by outstanding protected natural resources.
Goal 4: Barview/Watseco/Twin Rocks will have a thriving business district supported by local residents and travelers.

Goal 1: Barview/Watseco/Twin Rocks will be an attractive, safe and clean community

Policy 1.1: The County recognizes the importance of local community groups and organizations and will support community groups and organizations in Barview/Watseco/Twin Rocks in their community-building activities.

Policy 1.2: The County will work with community groups and organizations, business and property owners and agencies to improve the general appearance of Barview/Watseco/Twin Rocks.

Policy 1.3: The County will work with the Oregon Department of Transportation to improve the function of Highway101 within Barview/Watseco/Twin Rocks in order to make auto traffic travel at appropriate speeds and improve safety for pedestrians and bicyclists.

Policy 1.4 The County recognizes the character of Barview/Watseco/Twin Rocks and will work with community groups and organizations, business and property owners and agencies to maintain and enhance Barview/Watseco/Twin Rocks' s character.

Goal 2: Barview/Watseco/Twin Rocks will have safe drinking water and sanitation

Policy 2.1: The County will work with property owners, community groups and organizations and agencies to secure safe drinking water and sanitation in Barview/Watseco/Twin Rocks.

Policy 2.2: The County will work with property owners, community groups and organizations and agencies to provide assistance for community infrastructure needs in Barview/Watseco/Twin Rocks.

Goal 3: outstanding, protected natural resource lands will surround Barview/Watseco/Twin Rocks.

Policy 3.1: The County will continue to protect beaches along Barview/Watseco/Twin Rocks from inappropriate development.

Policy 3.2: The County will work with the Corps of Engineers, Oregon Department of State Parks, Tillamook County Department of Park sand the Division of State Lands and other agencies, groups and organizations to conserve and improve outdoor recreational activities near Barview/Watseco/Twin Rocks.

Goal 4: Barview/Watseco/Twin Rocks will have a thriving business district supported by local residents and travelers.

Policy 4.1: The County will work with business and property owners to improve the appearance of properties in the business district.

Policy 4.2: The County will work with community groups and organizations, business and property owners and agencies to create a supportive environment for new and existing local businesses in Barview/Watseco/Twin Rocks.

Policy 4.3: The County will work with the Oregon Department of Transportation to improve the appearance and function of Highway 101 within Barview/Watseco/Twin Rocks in order to support healthy businesses along the highways.

Chapter 4: Community Zoning

Community Single Family Residential (CSFR)
Community Low Density Urban Residential (CR-1)
Community Medium Density Urban Residential- (CR-2)
Community High Density Urban Residential (CR-3)
Community Commercial (CC)

	Zoning	CSFR	CR-1	CR-2	CR-3	CC	Totals
1	Min Lot Size In Square Feet	20,000 sq. ft	7,500	5,000	5,000	*	*
2	Acre in Zone	122	40	73	2	4	241
3	Existing Lots	40	31	235	11	23	340
4	Developed Lots	2	16	133	11	12	174
5	Vacant Lots	38	15	102	0	*	155
6	Max Additional Lots	264	207	436	3	*	910
7	Gross Total Rows 5+6	302	222	538	3	*	1,065
8	Net Total lots Row 7 X0.75	226	166	404	2	*	798

* Not Applicable

Constraints on Development

Steep slopes and unstable sandy soils present a significant constraint to residential development on much of the remaining undeveloped land in Barview-Watseco-Twin Rocks. Access for most areas in the community is generally good but is a problem for some properties that lack frontage on Highway 101.

Public Services and Facilities

A community water system and a community sewer system serve this area.

Development Patterns and Potential

The predominant land use in Barview-Watseco-Twin Rocks is and will continue to be residential. The community has a large number of vacant residential lots (many of which are quite small) and the potential to create hundreds more through partitions and subdivisions. Most of the potential for new lots and subsequent residential development is found in areas zoned R-1 and R-2, which allow urban densities of development. The higher densities are made possible by community water and sewer systems.

Appendix A: Maps

Sections 5, 7, 8, 13, 14, 17 and 30 of Township 1 North, Range 10 West

Appendix B: Community Survey Results

BARVIEW/WATSECO/TWIN ROCKS
14 Responses to Survey, May 14, 2002

Most important issue?

- Overly tight control of construction.
- 6 X Water quality, charge more and go on new water service.
- 2 X Repair North Jetty before breaches.
- Appreciate effort to clean up water.
- Do not allow trees to be cut close to shore, erosion problem.
- Deal with increasing traffic.
- Over-development of mountain.
- One outlet at Old Pacific Highway, in emergency could be a hazard.

What would you change?

- 2 X Encourage growth, businesses, tax breaks.
- Require property owners to clean up property.
- Buying water from Rockaway Beach.
- Do not change anything.
- Trees in county park need to be topped.
- Improve night lighting. Fines for cutting trees by shore.
- 2 X Lengthen North jetty.
- Re-route 101 further east.
- Achieve living wage.
- Signs to attract tourists to parks.
- Unified water district for Barview/Watseco/Twin Rocks/Rockaway Beach/Garibaldi

Favorite thing?

- 2 X Quiet, views, close to fishing, ocean.
- X beach, livability, people.
- Walk beaches and look up to beauty of woods.
- Like area, enjoyed it for 35 years.
- X Community run, responsive to member needs.
- Natural beauty.

Least favorite?

- No new growth. People think of beach as Chinook Winds, & Outlet stores.
- Hardness and smell of water.
- County ignores us, requested street repair three times.
- Pot holes.
- Worrying about beach erosion.
- 2 X None.
- Narrow highway, major thoroughfare.
- Port of Tillamook Bays leftover railroad ties.
- Commercial and recreational facilities.

Appendix C: Community Meeting Results

What one thing would you change about Barview/Watseco/Twin Rocks?

- Could we have signage on beach re: fires.
- Port of Tillamook Bay needs to pick up ties, safety issue, falling into bay.
- In past overall Comp Plan, what were the most important issues for the planning department? What were they focusing on, accomplished?
- Are you trying to keep as commercial, smaller, recreational or develop with commercial?
- Widen highway? Possibly an extra lane.
- 45% left for building, 1200 projected.
- Traffic studies done re: increased growth? Bypass seems preferable.
- Speed limits vary so much, need more consistency.
- Could US Coast Guard go out farther in ocean for training? Confusion on highway, panic. (Love it, very entertaining.)
- When are you going to get rid of railroad? We could have third lane.
- Should have taken advantage of company putting in cable, made turnouts as 3 Graces.
- Jetty eroding, are more rocks going to be put in? Commissioner Hurliman said it is being studied and needs to be lengthened and work should start next year. It is high on screen. There are applications for wave generators on the Internet.
- Water system a big problem, after a shower you stink, stench in water. Some have good luck with a filter system, but filters need to be changed in one to three weeks. There seems to be no answer to the problem. Rockaway Beach wants $900,000 to hook up to their system, Garibaldi wants 1.3 million. We would be the first ones cut off. Dig new well but hill has lots of iron in it so any water will have stench.
- Proposal for a bike lane?
- Speeder cars are great.
- How often do you have Committee meetings? Barview was 18 years ago.
- Community Association? Get together and have input for Planning Department.
- Excursion in use? Summers
- Excursion train at night, 21 blasts. Why?

- Any plans for mass transit? Trains from Portland to Coast?
- Only one access to Watseco, can we develop a second?
- Twin Rocks Sewer District Board had planned to be under construction rebuilding plant when the rates were raised. Engineering phase has been approved. Should be in works by next summer, a year from now. Will dig 20' down and pump effluent a mile out under the ocean, or pump down to Rockaway Beach. Cost is 3.25 million. Now it is being dumped into creek.
- Ken Beebe gave a presentation on the pedestrian bridge being planned for crossing Highway 101. It will not be handicap assessable, so will drive handicapped across the highway.

Appendix D: Community Zoning

SECTION 3.011: COMMUNITY SINGLE FAMILY RESIDENTIAL ZONE (CSFR)

(1) PURPOSE: The purpose of the CSFR zone is to provide for the creation and use of small-acreage residential homesites. Land that is suitable for Community Single Family Residential use is located within an unincorporated community boundary and is physically capable of having homesites.

(2) USES PERMITTED OUTRIGHT: In the CSFR zone, the following uses and their accessory uses are permitted outright, subject to all applicable supplementary regulations contained in this Ordinance.

(a) Single-family dwelling.

(b) Mobile or Manufactured Home.

(c) Recreational vehicle used during the construction or placement of a use for which a building or placement permit has been issued.

(d) Home occupations according to the provisions of Section 4.140 of this Ordinance.

(e) Farm uses, including aquaculture.

(f) Forest uses.

(g) Roadside stands for produce grown on the premises.

(h) Signs, subject to Section 4.020.

(i) Electrical distribution lines.

(3) USES PERMITTED CONDITIONALLY: In the CSFR zone, the following uses and their accessory uses are permitted subject to the provisions of Article 6 and the requirements of all other applicable supplementary regulations contained in this Ordinance.

(a) Planned Developments subject to Section 3.080, or Mixed Use Developments subject to Section 4.130. The number of attached single family dwelling units in a cluster shall be established in the Planned Development approval process and may exceed four units per cluster if it is demonstrated that benefits in protection of natural conditions, better views, or access will be achieved by such clustering.

This shall apply only to CSFR/PD zoned property located within a community growth boundary.

(b) Mobile or manufactured home, in those areas identified in Section 5.160 as being subject to special mobile/manufactured home standards, which do not comply with those standards.

(c) Cottage industries.

(d) Recreational vehicle where not allowed outright by Section 5.130.

(e) A temporary real estate sales office.

(f) Churches and schools.

(g) Accessory structures or accessory uses without an on-site primary structure.

(h) Nonprofit community meeting buildings.

(i) Cemeteries.

(j) Fire or ambulance stations.

(k) Towers for communications, wind energy conversion systems, or structures having similar impacts.

(l) Public utility facilities, including substations and transmission lines.

(m) Mining, quarrying, and the processing and storage of rock, sand, gravel, peat, or other earth products; on a contiguous ownership of 10 or more acres.

(n) Small-scale primary wood processing facilities, such as a shake mill, chipper, or stud mill, on a contiguous ownership of 10 or more acres.

(o) Rural industries on a contiguous ownership of 10 or more acres.

(p) Mobile or Manufactured Home park on a contiguous ownership of 10 or more acres.

(q) Foster family homes accommodating six or more children or adults.

(r) Bed and breakfast enterprise.

(s) Temporary placement of a mobile home or recreational vehicle to be used because of health hardship, subject to Section 6.050.

(t) Parks, recreational campgrounds, primitive campgrounds hunting and fishing preserves, and other recreational uses and associated facilities, on a contiguous ownership of 10 or more acres.

(u) Residential care, training, or treatment facility as defined by ORS 443.400; any facility which provides care, training, or treatment for six or more physically, mentally, emotionally, or behaviorally disabled individuals. Facilities that provide for five or less are addressed as ADULT FOSTER HOMES or FOSTER FAMILY HOMES.

(v) Home occupations according to the provisions of Section 4.140 of this Ordinance.

(4) STANDARDS: Land divisions and development in the CSFR zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

(a) The minimum lot size is 20,000 for permitted uses.

(b) The minimum lot width and depth shall both be 100 feet.

(c) The minimum front yard shall be 20 feet.

(d) The minimum side yard shall be 5 feet; on the street side of a corner lot, it shall be no less than 15 feet.

(e) The minimum rear yard shall be 20 feet; on a corner lot, it shall be no less than 5 feet.

(f) The maximum building height shall be 35 feet, except on ocean or bay frontage lots, where it shall be 24 feet. Higher structures may be permitted only according to the provisions of Article 8.

(g) Livestock can be located closer than 100 feet to a non-farm residential building on an adjacent lot only if one of the following conditions are met:

1. The location of the livestock is a nonconforming use according to the provisions of Article VII of this Ordinance.

2. The property has been taxed at the farm use rate during three of the past five year.

3. The location of the livestock has been reviewed and approved as a conditional use according to the provisions of Article VI of this Ordinance.

(h) No residential structure shall be located within 50 feet of an F-1, F, or SFW-20 zone boundary, unless it can be demonstrated that natural or man-made features will act as an equally effective barrier to conflicts between resource and residential used; or that a residential structure could not otherwise be placed on the property without requiring a variance to the 100 foot requirement. In either case, all yard requirements in this zone shall still apply.

SECTION 3.022: COMMUNITY COMMERCIAL ZONE (CC)

(1) PURPOSE: The purpose of the CC zone is to designate areas for high intensity commercial and some light industrial activities within unincorporated community boundaries. The zone is intended to accommodate all commercial needs of the community, surrounding rural areas, and visitors. Land that is suitable for the RC zone is suitable for the CC~~-2~~ zone, except that a higher level of use, and therefore a higher level of off-site impacts, must be anticipated.

(2) USES PERMITTED OUTRIGHT: In the CC zone, the following uses and their accessory uses are permitted outright, subject to all applicable supplementary regulations contained in this ordinance.

(a) General and specialty retail trade establishments.

(b) Personal and business services such as barbers, tailors, printers, funeral homes, shoe repair shops, upholsterers, and cleaners.

(c) Business, government, professional, and medical offices; financial institutions; and libraries.

(d) Animal hospitals, kennels and similar animal boarding facilities.

(e) Retail establishments requiring drive-in facilities such as gas stations, bank drive-up windows, and fast food restaurants.

(f) Sales and service activities requiring large outdoor storage space, including the sale and repair of cars, trucks, farm equipment, heavy machinery, and marine craft; the storage of construction, plumbing, heating, paving, electrical, and painting materials; and parking for trucks as part of a construction or shipping operation.

(g) Shopping centers.

(h) Warehousing, including mini-storage.

(i) Eating and drinking establishments.

(j) Lodges, clubs, or meeting facilities for private organizations.

(k) Motels, hotels, and cabin camps.

(l) A single-family dwelling, manufactured or mobile home for the owner of an active business located on the same lot or parcel.

(m) Mobile or manufactured homes or recreational vehicles used during the construction or placement of a use for which a building or placement permit has been issued.

(n) Community meeting buildings and associated facilities.

(o) Schools.

(p) Water supply and treatment facilities.

(r) Off-site advertising signs.

(s) Dwelling units accessory to an active commercial use, when located above the first story.

(t) Bed and breakfast enterprises.

(u) Swimming.

(v) Public park and recreation uses.

(w) Temporary produce stand- Not to exceed 45 days.

(3) USES PERMITTED CONDITIONALLY: In the CC zone, the following uses and their accessory uses are permitted subject to the provisions of Article 6 and the requirements of all applicable supplementary regulations contained in this ordinance:

(a) One or two-family dwelling not associated with an active business.

(b) Light industries.

(c) Multifamily dwellings, including townhouses, and condominiums.

(d) Mobile home or recreational vehicle.

(e) Hospitals, sanitariums, rest homes, and nursing homes.

(f) Fire and ambulance stations.

(g) Utility substations and power transmission lines.

(h) Towers for communications, wind energy conversion systems, or structures having similar impacts.

(i) Commercial amusement or entertainment establishments.

(j) Sewage treatment plants.

(k) Recreational campground.

(l) Foster family home accommodating six or more children or adults.

(m) Temporary mobile kitchen units.

(n) Mixed Use Developments subject to Section 4.130.

(o) Mobile/Manufactured Home Park.

(p) Residential care, training, or treatment facility as defined by ORS 443.400; any facility which provides card, training, or treatment for six or more physically, mentally, emotionally, or behaviorally disabled individuals. Facilities that provide for five or less are addressed as ADULT FOSTER HOMES or FOSTER FAMILY HOMES.

(q) Car wash.

(r) Outdoor Retail

(4) STANDARDS: Land divisions and development in the CC zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

(a) The minimum lot dimensions and yard setbacks, and the maximum building heights for structures containing only residential uses, shall be the same as in the R-3 zone.

(b) In the CC zone, motels, hotels, and cabin camps shall be considered a commercial use.

(c) Minimum yards for any structure on a lot or parcel adjacent to a residential zone shall be 5 feet on the side adjacent to the residential zone, and 10 feet in the front yard. No rear yard is required.

(d) For commercial or combined commercial-residential structures, structures shall be either constructed on the property line or setback at least 3 feet or as required in Section 3.020 (4) (b)

(e) All structures shall meet the requirements for clear-vision areas specified in Section 4.010.

(f) All uses shall meet off-street parking requirements as provided in Section 4.030.

(g) Buildings shall not exceed 45 feet in height.

(h) Outdoor storage abutting or facing a lot in a residential zone shall be screened with a sight-obscuring fence.

(i) Maximum Floor Area Per Use: Individual uses shall not exceed 4,000 square feet of gross floor area.

SECTION 3.012: COMMUNITY LOW DENSITY URBAN RESIDENTIAL ZONE (CR-1)

(1) PURPOSE: The purpose of the CR-1 zone is to designate areas for low-density single-family residential development and other, compatible, uses. Suitability of land for low-density uses is determined by the availability of public sewer service and such limitations to density such as geologic and flood hazards, shoreline erosion, and the aesthetic or resource values of nearby natural features.

(2) USES PERMITTED OUTRIGHT: In the CR-1 zone, the following uses and their accessory uses are permitted outright, subject to all applicable supplementary regulations contained in this ordinance.

(a) Single-family dwelling.

(b) Farm and forest uses.

(c) Home occupations according to the provisions of Section 4.140 of this ordinance.

(d) Public park and recreation areas.

(e) Public utility lines.

(f) Mobile home, manufactured home or recreational vehicle used during the construction of a use for which a building permit has been issued.

(g) Signs, subject to Section 4.020.

(3) USES PERMITTED CONDITIONALLY: In the CR-1 zone, the following uses and their accessory uses are permitted subject to the provisions of Article 6 and the requirements of all applicable supplementary regulations contained in this ordinance.

(a) Two-family dwelling.

(b) Planned developments subject to Section 3.080, or Mixed Use Developments subject to Section 4.130. The number of attached single family dwelling units in a cluster shall be established in the Planned Development approval process and may exceed four units per cluster if it is demonstrated that benefits in protection of natural conditions, better views, or access will be achieved by such clustering.

(c) Churches and schools.

(d) Nonprofit community meeting buildings and associated facilities.

(e) Utility substations and power transmission lines.

(f) Swimming, tennis, racquetball and similar facilities.

(g) Golf courses and associated facilities.

(h) A temporary real estate sales office.

(i) Fire and ambulance stations.

(j) Towers for communications, wind energy conversion systems or structures having similar impacts.

(k) Water supply or treatment facilities or sewage treatment plants.

(l) Aquaculture facilities.

(m) Cottage industries.

(n) Accessory structures or uses without an on-site primary structure.

(o) Cemeteries.

(p) Foster family homes accommodating six or more children or adults.

(q) Bed and breakfast enterprise.

(r) Temporary placement of a mobile home or recreational vehicle to be used because of Health Hardship subject to Section 6.050.

(s) Residential care, training, or treatment facility as defined by ORS 443.400; any facility which provides care, training, or treatment for six or more physically, mentally, emotionally, or behaviorally disabled individuals. Facilities that provide for five or less are addressed as ADULT FOSTER HOMES or FOSTER FAMILY HOMES.

(t) Home occupations according to the provisions of Section 4.140 of this ordinance.

(4) STANDARDS: Land divisions and development in the CR-1 zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

(a) The minimum lot size for permitted uses shall be 7,500 square feet, except that the minimum lot size for a two-family dwelling shall be 10,000 square feet Where public sewers are not available, the County Sanitarian may require lot sizes greater than the minimum if necessary for the installation of adequate on-site subsurface sewage disposal systems.

(b) The minimum lot width shall be 60 feet.

(c) The minimum lot depth shall be 75 feet.

(d) The minimum front yard shall be 20 feet.

(e) The minimum side yard shall be 5 feet; on the street side of a corner lot, it shall be 15 feet.

(f) The minimum rear yard shall be 20 feet; on a corner lot, it shall be 5 feet.

(g) The maximum building height shall be 35 feet, except on ocean or bay frontage lots, where it shall be 24 feet. Higher structures may be permitted only according to the provisions of Article VIII.

(h) Livestock shall be located no closer than 100 feet to a residential building on an adjacent lot.

SECTION 3.014: COMMUNITY MEDIUM DENSITY URBAN RESIDENTIAL ZONE (CR-2)

(1) PURPOSE: The purpose of the CR-2 zone is to designate areas for medium-density single-family and duplex residential development, and other, compatible, uses. Land that is suitable for the CR-2 zone has public sewer service available, and has relatively few limitations to development.

(2) USES PERMITTED OUTRIGHT: In the CR-2 zone, the following uses and their accessory uses are permitted outright, subject to all applicable supplementary regulations contained in this Ordinance.

(a) One or two-family dwelling.

(b) Farm and forest uses.

(c) Public park and recreation uses.

(d) Home occupations according to the provisions of Section 4.140 of this Ordinance.

(e) Public utility lines.

(f) Mobile homes or recreational vehicles used during the construction of a use for which a building permit has been issued.

(g) Signs, subject to Section 4.020.

(3) USES PERMITTED CONDITIONALLY: In the CR-2 zone, the following uses and their accessory uses are permitted subject to the provisions of Article 6 and the requirements of all applicable supplementary regulations contained in this Ordinance.

(a) Three or four-family dwelling.

(b) Planned Development subject to Section 3.080, or Mixed Use Developments subject to Section 4.130. The number of attached single-family dwelling units in a cluster shall be established in the Planned Development approval process and may exceed four units per cluster if it is demonstrated that benefits in protection of natural conditions, better views, or access will be achieved by such clustering.

(c) Mobile or manufactured homes subject to the exception contained in Section 5.160.

(d) Churches, schools, and colleges.

(e) Nonprofit community meeting buildings and associated facilities.

(f) Utility substation and power transmission lines.

(g) A temporary real estate sales office.

(h) Cemeteries.

(i) Hospitals, sanitariums, rest homes, and nursing homes.

(j) Swimming, tennis, racquetball and similar facilities.

(k) Accessory structures and accessory uses without an on-site primary use.

(l) Fire and ambulance stations.

(m) Towers for communications, wind energy conversion systems or structures having similar impacts.

(n) Water supply and treatment facilities and sewage treatment plants.

(o) Temporary mobile kitchen units.

(p) Cottage industries.

(q) Foster family homes accommodating six or more children or adults.

(r) Bed and Breakfast enterprise.

(s) Temporary placement of a mobile home or recreational vehicle to be used because of a health hardship, subject to Section 6.050.

(t) Golf course.

(u) Mobile/Manufactured Home Park.

(v) Residential care, training, or treatment facility as defined by ORS 443.400; any facility which provides care, training, or treatment for six or more physically, mentally, emotionally, or behaviorally disabled individuals. Facilities that provide for five or less are addressed as ADULT FOSTER HOMES or FOSTER FAMILY HOMES.

(w) Home occupations according to the provisions of section 4.140 of this s Ordinance.

(4) STANDARDS: Land divisions and development in the CR-2 zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

(a) For a single-family dwelling, the minimum size for lots with an average slope of 20 percent or less shall be 5000 square feet. For lots averaging over 20 percent, the minimum lot size shall be 6000 square feet for a single-family dwelling. A two-family dwelling shall require 2500 square feet additional area, and each of the third and fourth dwelling units shall require an additional 3750 square feet. Where public sewers are unavailable, the County Sanitarian may require lot sizes

greater than the minimum, if necessary for the installation of adequate on-site sewage disposal systems.

(b) The minimum lot width shall be 50 feet; on a corner lot, the minimum width shall be 65 feet.

(c) The minimum lot depth shall be 75 feet.

(d) The minimum front yard shall be 20 feet.

(e) The minimum side yard shall be 5 feet; on the street side of a corner lot, it shall be 15 feet.

(f) The minimum rear yard shall be 20 feet; on a corner lot it shall be 5 feet.

(g) The maximum building height shall be 35 feet, except on ocean or bay frontage lots, where it shall be 24 feet. Higher structures may be permitted only according to the provisions of Article VIII.

(h) Livestock shall not be located closer than 100 feet to a residential building on an adjacent lot.

SECTION 3.016: COMMUNITY HIGH DENSITY URBAN RESIDENTIAL ZONE (CR-3)

(1) PURPOSE: The purpose of the CR-3 zone is to designate areas for a medium- to high-density mix of dwelling types and other, compatible, uses. The CR-3 zone is intended for densely-developed areas or areas that are suitable for high-density urban development because of level topography and the absence of hazards, and because public facilities and services can accommodate a high level of use.

(2) USES PERMITTED OUTRIGHT: In the CR-3 zone, the following uses and their accessory uses are permitted outright, and are subject to all applicable supplementary regulations contained in this ordinance.

(a) One, two, three, or four-family dwelling.

(b) Mobile or manufactured home subject to the exception contained in Section 5.160.

(c) Farm and forest uses.

(d) Home occupations according to the provisions of Section 4.140 of this Ordinance.

(e) Public park and recreation areas.

(f) Utility lines necessary for public service.

(g) A mobile home, manufactured home or recreational vehicle used during the construction or placement of a use for which a building or placement permit has been issued.

(h) Bed and Breakfast enterprise.

(i) Signs subject to Section 4.020.

(3) USES PERMITTED CONDITIONALLY: In the CR-3 zone, the following uses and their accessory uses are permitted subject to the provisions of Article 6 and the requirements of all applicable supplementary regulations contained in this ordinance.

(a) Mobile or manufactured home not subject to Section 5.160, and mobile or manufactured home park.

(b) Multifamily dwellings, including townhouses and condominiums.

(c) Planned Developments subject to Section 3.080, or Mixed Use Developments subject to Section 4.130. The number of attached single family dwelling units in a cluster shall be established in the Planned Development approval process and may exceed four units per cluster if it is demonstrated that benefits in protection of natural conditions, better views, or access will be achieved by such clustering.

(d) Motel and hotel, which may include eating and drinking establishments.

(e) Churches and schools.

(f) Nonprofit community meeting buildings and associated facilities.

(g) Accessory structures or uses without an on-site primary use.

(h) Swimming, tennis, racquetball or other similar facilities.

(i) Utility substation and power transmission lines.

(j) Cemeteries.

(k) Hospitals, sanitariums, rest homes, or nursing homes.

(l) Fire or ambulance stations.

(m) Towers for communications, wind energy conversion systems or structures having similar impacts.

(n) Water supply and treatment facilities and sewage treatment plants.

(o) Temporary mobile kitchen units.

(p) Cottage industries.

(q) A temporary real estate sales office.

(r) Mobile/Manufactured Home Park and recreational campground.

(s) Foster family home accommodating six or more children or adults.

(u) Temporary placement of a mobile or manufactured home or recreational vehicle to be used because of a health hardship, subject to Section 6.050.

(v) Residential care, training, or treatment facility as defined by ORS 443.400; any facility which provides care, training, or treatment for six or more physically, mentally, emotionally, or behaviorally disabled individuals. Facilities that provide for five or less are addressed as ADULT FOSTER HOMES or FOSTER FAMILY HOMES.

(w) Home occupations according to the provisions of Section 4.140 of this Ordinance.

(4) STANDARDS: Land divisions and development in the CR-3 zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

(a) For a single family dwelling, the minimum size for lots with an average slope of 20 percent or less shall be 5000 square feet. For lots averaging over 20 percent, the minimum lot size shall be 6000 square feet for a single-family dwelling. Each additional dwelling unit shall require 2500 square feet additional area on slopes of 20 percent or less, and 3000 square feet additional area otherwise. Where public sewers are unavailable, the County Sanitarian may require lot sizes greater than the minimum, if necessary for the installation of adequate on-site sewage disposal systems.

(b) The minimum lot width shall be 50 feet, except on a corner lot it shall be 65 feet.

(c) The minimum lot depth shall be 75 feet.

(d) The minimum front yard shall be 20 feet.

(e) The minimum side yard shall be 5 feet; on the street side of a corner lot it shall be no less than 15 feet.

(f) The minimum rear yard shall be 20 feet; on a corner lot it shall be no less than 5 feet.

(g) The maximum building height shall be 35 feet, except that on ocean or bay front lots, it shall be 24 feet. Higher structures may be permitted only according to the provisions of Article 8.

(h) Livestock shall be located no closer than 100 feet to a residential building on an adjacent lot.

(i) Lot size and yard setback standards shall apply to motels or hotels in the CR-3 zone.

(j) For multifamily structures with separately owned dwelling units with common walls, yard setbacks shall apply to the entire structures only.

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:16:11 pm

Account #	399441	**Tax Status**	ASSESSABLE
Map #	1N1007DD00114	**Acct Status**	ACTIVE
Code - Tax #	5624-399441	**Subtype**	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 11		
Mailing Name	COGDALL, JOHN WILLIAM IV & LYNDA	**Deed Reference #**	(SOURCE ID: 443-236)
Agent		**Sales Date/Price**	01-13-2003 / $0
In Care Of		**Appraiser**	RANDY WILSON
Mailing Address	39455 NW MURTAUGH RD NORTH PLAINS, OR 97133		

Prop Class	101	**MA**	**SA**	**NH**	**Unit**
RMV Class	101	05	OF	536	1461-1

Situs Address(s)	Situs City
ID# 1 17300 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	336,830			Land 0	
	Impr.	1,238,690			Impr. 0	
Code Area Total		1,575,520	960,090	960,090	0	
Grand Total		1,575,520	960,090	960,090	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.36		320,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.36		336,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	2004	162	One story with basement	112	4,614			1,238,690
				Grand Total		4,614			1,238,690

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	**Amount**	12.00	**Acres**	0	**Year**	2020	

Comments: 3/4/05 house is complete. added osd. gb 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:16:49 pm

Account #	399444	Tax Status	ASSESSABLE
Map #	1N1007DD00115	Acct Status	ACTIVE
Code - Tax #	5624-399444	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 12		
Mailing Name	ROGERS, MICHAEL TRUSTEE &	Deed Reference #	2020-8962
Agent		Sales Date/Price	12-07-2020 / $0.00
In Care Of	ROGERS, CHRISTINE TRUSTEE	Appraiser	RANDY WILSON
Mailing Address	17231 NW DAIRY CREED RD NORTH PLAINS, OR 97133		

Prop Class	RMV Class	MA	SA	NH	Unit
101	101	05	OF	536	16663-1

Situs Address(s)	Situs City
ID# 1 17320 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	336,830			Land	0	
	Impr.	321,130			Impr.	0	
Code Area Total		657,960	542,760	542,760		0	
Grand Total		657,960	542,760	542,760		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.27		320,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.27		336,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	145	Two story or more	112	2,198			321,130
				Grand Total		2,198			321,130

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: Inventory update 8/16/04 vy 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:17:27 pm

Account #	399447	Tax Status	ASSESSABLE
Map #	1N1007DD00116	Acct Status	ACTIVE
Code - Tax #	5624-399447	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 13		
Mailing Name	FARR, DAVID L & FRIEDA F	Deed Reference #	(SOURCE ID: 394-82)
Agent		Sales Date/Price	02-24-1998 / $0.00
In Care Of		Appraiser	GARY BARGER
Mailing Address	17340 PINE BEACH WAY ROCKAWAY BEACH, OR 97136		

Prop Class	MA	SA	NH	Unit
101				

RMV Class	MA	SA	NH	Unit
101	05	OF	536	16664-1

Situs Address(s)	Situs City
ID# 1 17340 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	334,830			Land 0	
	Impr.	499,240			Impr. 0	
Code Area Total		834,070	610,790	610,790	0	
Grand Total		834,070	610,790	610,790	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.21		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.21		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1998	155	Two story or more	112	2,584			499,240
				Grand Total		2,584			499,240

Exemptions/Special Assessments/Potential Liability

Code Area	Type							
5624								
EXEMPTION:								
■ VETERANS AND SPOUSES 307.250 SERVICE RELATED	Amount	27,228	Letter Year	2014	Year Qualified	1946		
SPECIAL ASSESSMENT:								
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020		

Comments: Inventory update 8/16/04 vy 2/13 Reappraised and tabled land. RCW 7/11/14 Reappraisal. Updated inventory. GB

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:17:50 pm

Account #	399450	Tax Status	ASSESSABLE
Map #	1N1007DD00117	Acct Status	ACTIVE
Code - Tax #	5624-399450	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 14		
Mailing Name	CREEDON, JONATHAN C	Deed Reference #	(SOURCE ID: 381-544)
Agent		Sales Date/Price	09-26-1996 / $160,000.00
In Care Of		Appraiser	RANDY WILSON
Mailing Address	7501 SE 17TH ST VANCOUVER, WA 98664		

Prop Class	MA	SA	NH	Unit
100				
RMV Class	100	05	OF	536	1462-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	316,730			Land 0	
	Impr.	0			Impr. 0	
Code Area Total		316,730	249,690	249,690	0	
Grand Total		316,730	249,690	249,690	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.21		316,730
						Grand Total		0.21		316,730

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Comments: 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:18:16 pm

Account #	399453	Tax Status	ASSESSABLE
Map #	1N1007DD00118	Acct Status	ACTIVE
Code - Tax #	5624-399453	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 15		
Mailing Name	ROBERTS, DONALD W 1/2 TRUSTEE &	Deed Reference #	2006-3512
Agent		Sales Date/Price	04-25-2006 / $0
In Care Of	ROBERTS, BARBARA A TRUSTEE &	Appraiser	RANDY WILSON
Mailing Address	503 RHODODENDRON DR VANCOUVER, WA 98661		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	16665-1

Situs Address(s)	Situs City
ID# 1 17380 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	334,830			Land 0	
	Impr.	375,470			Impr. 0	
Code Area Total		710,300	595,390	595,390	0	
Grand Total		710,300	595,390	595,390	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.21		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.21		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	145	Two story or more	112	2,474			375,470
				Grand Total		2,474			375,470

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624	SPECIAL ASSESSMENT:						
	■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020

Comments: Inventory update 8/17/04 vy 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:18:35 pm

Account #	399456	Tax Status	ASSESSABLE
Map #	1N1007DD00119	Acct Status	ACTIVE
Code - Tax #	5624-399456	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 16		
Mailing Name	MUNCH, MICHAEL T TRUSTEE	Deed Reference #	2011-6168
Agent		Sales Date/Price	11-15-2011 / $190,000.00
In Care Of		Appraiser	RANDY WILSON
Mailing Address	5012 DOGWOOD DR LAKE OSWEGO, OR 97035		

Prop Class	MA	SA	NH	Unit
100				

RMV Class	MA	SA	NH	Unit
100	05	OF	536	1463-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	316,730			Land 0	
	Impr.	0			Impr. 0	
Code Area Total		316,730	249,690	249,690	0	
Grand Total		316,730	249,690	249,690	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.21		316,730
						Grand Total		0.21		316,730

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Comments: 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 4:02:59 pm

Account #	399459	Tax Status	ASSESSABLE
Map #	1N1007DD00120	Acct Status	ACTIVE
Code - Tax #	5624-399459	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 17		
Mailing Name	17420 PINE BEACH WAY LLC	Deed Reference #	2005-403
Agent		Sales Date/Price	12-21-2004 / $0
In Care Of	%MICHAEL T MUNCH	Appraiser	RANDY WILSON
Mailing Address	5012 DOGWOOD DR LAKE OSWEGO, OR 97035		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	16666-1

Situs Address(s)	Situs City
ID# 1 17420 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	334,830			Land	0	
	Impr.	370,290			Impr.	0	
Code Area Total		705,120	561,360	561,360		0	
Grand Total		705,120	561,360	561,360		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.21		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.21		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	149	Basement First Floor	112	2,421			370,290
				Grand Total		2,421			370,290

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624	SPECIAL ASSESSMENT:						
	■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020

Comments: Inventory update 8/17/04 vy 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:18:57 pm

Account #	399462	Tax Status	ASSESSABLE
Map #	1N1007DD00121	Acct Status	ACTIVE
Code - Tax #	5624-399462	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 18		
Mailing Name	KLEIN, JEFFREY S & TERRY	Deed Reference #	2018-6375
Agent		Sales Date/Price	10-24-2018 / $679,000.00
In Care Of		Appraiser	RANDY WILSON
Mailing Address	12230 SW RIVERVIEW LN WILSONVILLE, OR 97070		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	16667-1

Situs Address(s)	Situs City
ID# 1 17440 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	334,830			Land	0	
	Impr.	345,810			Impr.	0	
Code Area Total		680,640	582,980	582,980		0	
Grand Total		680,640	582,980	582,980		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.20		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.20		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1999	147	Split level	112	2,214			345,810
				Grand Total		2,214			345,810

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: Inventory update 8/17/04 vy 2/13 Reappraised and tabled land. RCW

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:19:15 pm

Account #	399465	Tax Status	ASSESSABLE
Map #	1N1007DD00122	Acct Status	ACTIVE
Code - Tax #	5624-399465	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 19		
Mailing Name	HOLLAND, GLENNA M TRUSTEE &	Deed Reference #	2019-4673
Agent		Sales Date/Price	08-08-2019 / $775,000.00
In Care Of	HOLLAND, RACHAEL M TRUSTEE	Appraiser	EVA FLETCHER
Mailing Address	3136 NE 45TH AVE PORTLAND, OR 97213		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	16668-1

Situs Address(s)	Situs City
ID# 1 17460 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	336,830			Land	0	
	Impr.	362,100			Impr.	0	
Code Area Total		698,930	554,120	554,120		0	
Grand Total		698,930	554,120	554,120		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.24		320,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.24		336,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	147	Split level	112	2,296			362,100
				Grand Total		2,296			362,100

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: Inventory update 8/17/04 vy 2/13 Reappraised and tabled land/Size chge. RCW 07/23/15 Added porch conversion to living, new porch, gas fireplace, and new decks - applied exception. Added concrete and asphalt and increased eff year for new siding and windows - RMV only.ef

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:19:37 pm

Account #	399468	Tax Status	ASSESSABLE
Map #	1N1007DD00123	Acct Status	ACTIVE
Code - Tax #	5624-399468	Subtype	NORMAL
Legal Descr	PINE BEACH REPLAT UNIT 1 Lot - 20		
Mailing Name	ELLIS, MICHAEL LEON TRUSTEE	Deed Reference #	2017-5655
Agent		Sales Date/Price	09-18-2017 / $0.00
In Care Of		Appraiser	EVA FLETCHER
Mailing Address	2614 Q ST VANCOUVER, WA 98663		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	1464-1

Situs Address(s)	Situs City
ID# 17480 PINE BEACH WAY	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	336,330			Land	0	
	Impr.	802,560			Impr.	0	
Code Area Total		1,138,890	814,310	814,310		0	
Grand Total		1,138,890	814,310	814,310		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.33		320,730
5624					OSD TYPE A - AVERAGE	100				15,600
					Grand Total			0.33		336,330

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	2016	157	Split level	112	3,637			802,560
				Grand Total		3,637			802,560

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: 2/13 Reappraised and tabled land. RCW 04/11/17 Added new SFD at 63% complete and added new detached garage. Removed development adjustment. Added OSD and SW. ef 05/22/18 Home is now complete.ef

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:14:27 pm

Account #	62425	Tax Status	ASSESSABLE
Map #	1N1007DA03000	Acct Status	ACTIVE
Code - Tax #	5624-62425	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	DOWLING, DAVID A & ANGELA M	Deed Reference #	2020-6069
Agent		Sales Date/Price	09-03-2020 / $695,000.00
In Care Of		Appraiser	EVA FLETCHER
Mailing Address	19690 WILDWOOD DR WEST LINN, OR 97068		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	27131-1

Situs Address(s)	Situs City
ID# 17560 OCEAN BLVD	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	338,830			Land	0	
	Impr.	351,300			Impr.	0	
Code Area Total		690,130	619,010	619,010		0	
Grand Total		690,130	619,010	619,010		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	0	☑		CR-2	Market	97	A	0.67		322,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.67		338,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1989	145	Two story or more	112	2,816			351,300
				Grand Total		2,816			351,300

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: 02/07/13 Reappraised land. Tabled values. RBB 08/29/17 Corrected mapping error that occurred during conversion to GIS. Size change only.ef

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:19:57 pm

Account #	62611	Tax Status	ASSESSABLE
Map #	1N1007DA03100	Acct Status	ACTIVE
Code - Tax #	5624-62611	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	DANNO, EVAN F TRUSTEE	Deed Reference #	2020-5674
Agent		Sales Date/Price	08-25-2020 / $626,000.00
In Care Of		Appraiser	ROBERT BUCKINGHAM
Mailing Address	144 HIGHLAND RIDGE RD KALISPELL, MT 59901		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	27142-1

Situs Address(s)	Situs City
ID# 1 17490 OCEAN BLVD	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	
5624	Land	334,830			Land	0
	Impr.	363,480			Impr.	0
Code Area Total		698,310	579,650	579,650		0
Grand Total		698,310	579,650	579,650		0

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.22		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.22		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	149	Basement First Floor	112	2,544			363,480
				Grand Total		2,544			363,480

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
5624							
SPECIAL ASSESSMENT:							
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020	

Comments: 09/15/09 Phase one review - updated inventory.ef 02/07/13 Reappraised land. Tabled values. RBB

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:20:11 pm

Account #	355715	Tax Status	ASSESSABLE
Map #	1N1007DA03104	Acct Status	ACTIVE
Code - Tax #	5624-355715	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	LOCKWOOD, MARY ANN CO-TRUSTEE &	Deed Reference #	2019-6887
Agent		Sales Date/Price	07-03-2019 / $0.00
In Care Of	KEMBALL, T. MARK CO-TRUSTEE	Appraiser	ROBERT BUCKINGHAM
Mailing Address	2355 SW SCENIC DR PORTLAND, OR 97225		

Prop Class	101	MA	SA	NH	Unit
RMV Class	101	05	OF	536	17770-1

Situs Address(s)	Situs City
ID# 1 17488 OCEAN BLVD	COUNTY

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	334,830			Land	0	
	Impr.	301,390			Impr.	0	
Code Area Total		636,220	562,670	562,670		0	
Grand Total		636,220	562,670	562,670		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624					LANDSCAPE - FAIR	100				500
5624	1	☑		RK-R-2	Market	97	A	0.17		318,730
5624					OSD TYPE A - AVERAGE	100				15,600
						Grand Total		0.17		334,830

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
5624	1	1997	143	One and 1/2 story	112	1,940			301,390
				Grand Total		1,940			301,390

Exemptions/Special Assessments/Potential Liability

Code Area	Type							
5624								
SPECIAL ASSESSMENT:								
■ SOLID WASTE	Amount	12.00	Acres	0	Year	2020		

Comments: 02/07/13 Reappraised land. Tabled values. RBB

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:21:00 pm

Account #	62719	Tax Status	ASSESSABLE
Map #	1N1007DA03203	Acct Status	ACTIVE
Code - Tax #	5624-62719	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	BERG, MEGAN	Deed Reference #	2020-29
Agent		Sales Date/Price	01-02-2020 / $180,000.00
In Care Of		Appraiser	ROBERT BUCKINGHAM
Mailing Address	1734 W YAMPA ST COLORADO SPRINGS, CO 80904		

Prop Class	100	MA	SA	NH	Unit
RMV Class	100	05	OF	536	13540-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
5624	Land	312,720			Land 0	
	Impr.	0			Impr. 0	
Code Area Total		312,720	283,800	283,800	0	
Grand Total		312,720	283,800	283,800	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.15		312,720
						Grand Total		0.15		312,720

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Comments: 02/07/13 Reappraised land. Tabled values. RBB

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

March 21, 2021 2:20:42 pm

Account #	322822	Tax Status	ASSESSABLE
Map #	1N1007DA03204	Acct Status	ACTIVE
Code - Tax #	5624-322822	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	VON SEGGERN, HEATHER STECK	Deed Reference #	2020-39
Agent		Sales Date/Price	01-02-2020 / $175,000.00
In Care Of		Appraiser	ROBERT BUCKINGHAM
Mailing Address	337 SOMERSET AVE SARASOTA, FL 34243		

Prop Class	100	MA	SA	NH	Unit
RMV Class	100	05	OF	536	4366-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
5624	Land	312,720			Land	0	
	Impr.	0			Impr.	0	
Code Area Total		312,720	283,800	283,800		0	
Grand Total		312,720	283,800	283,800		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
5624	0	☑		RK-R-2	Market	97	A	0.12		312,720
						Grand Total		0.12		312,720

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Comments: 02/07/13 Reappraised land. Tabled values. RBB

Real Market Value Based on 2020 County Tax Assessment Reports

Account #	Map #	RMV
399441	1N1007DD00114	$1,575,520
399444	1N1007DD00115	$657,960
399447	1N1007DD00116	$834,070
399450	1N1007DD00117	$316,730
399453	1N1007DD00118	$710,300
399456	1N1007DD00119	$316,730
399459	1N1007DD00120	$705,120
399462	1N1007DD00121	$680,640
399465	1N1007DD00122	$698,930
399468	1N1007DD00123	$1,138,890
62425	1N1007DA03000	$690,130
62611	1N1007DA03100	$698,310
355715	1N1007DA03104	$636,220
62719	1N1007DA03203	$312,720
322822	1N1007DA03204	$312,720
	TOTAL:	**$10,284,990**

WATSECO-BARVIEW WATER DISTRICT

BOX 295 -:- ROCKAWAY, OREGON 97136

8-15-96

Tillamook County Planning Dept.
Room 7
Tillamook, Oregon 97141

RE: 1N10 7DA 3100

This is to confirm that the above property has water service available for the property.

Sincerly,
WATSECO-BARVIEW WATER DISTRICT
Jerry Milson
OFFICE MANAGER

RECEIVED
JAN 28 1997
COMMUNITY DEVELOPMENT

Twin Rocks Sanitary District

P.O. Box 69
Rockaway Beach, OR 97136

8-15-96

Tillamook County Planning Dept.
Room 7
Tillamook, Oregon 97141

RE: 1N10 7DA 3100

This is to confirm that the above property has sewer service available for the property.

Sincerely,

TWIN ROCKS SANITARY DISTRICT

Jerry Nelson
OFFICE MANAGER

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