



**VARIANCE REQUEST #851-26-000021-PLNG:
CRAWFORD / SHOCKEY**

*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 OF ADMINISTRATIVE REVIEW
Date of Notice: March 26, 2026**

Notice is hereby given that the Tillamook County Department of Community Development is considering the following:

#851-26-000021-PLNG: A Variance request to reduce the required 20-foot front (east) yard setback to 5-feet to allow for the placement of a single-family dwelling. The subject property is located within the Unincorporated Community of Pacific City / Woods, accessed off Park Lane, a county local access road, zoned Pacific City/Woods Low Density Residential (PCW-R1) Zone and designated as Tax Lot 5300 of Section 13D, Township 4 South, Range 11 West, Willamette Meridian, Tillamook County, Oregon. The applicant is Jade Crawford. The property owner is Kristina Shockey.

Written comments received by the Department of Community Development prior to 4:00 p.m. on April 9, 2026, will be considered in rendering a decision. Comments should address the criteria upon which the Department must base its decision. A decision will be rendered no sooner than the next business day, April 10, 2026.

Notice of the application, a map of the subject area, and the applicable criteria are mailed to all property owners within 250 feet of the exterior boundaries of the subject parcel for which an application has been made and other appropriate agencies at least 14 days prior to this Department rendering a decision on the request.

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

If you have any questions about this application, please contact the Department of Community Development at (503) 842-3408 x 3123 or melissa.jenck@tillamookcounty.gov

Sincerely,

A handwritten signature in black ink that reads "Melissa Jenck". The signature is written in a cursive, flowing style.

Melissa Jenck, CFM, Senior Planner

Sarah Absher, CBO, CFM, Director
Enc. Maps and applicable ordinance criteria

REVIEW CRITERIA

ARTICLE VIII - VARIANCE PROCEDURES AND CRITERIA

SECTION 8.030: REVIEW CRITERIA: A VARIANCE shall be granted, according to the procedures set forth in Section 8.020, if the applicant adequately demonstrates that the proposed VARIANCE satisfies all of the following criteria:

- (1) Circumstances attributable either to the dimensional, topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, if all applicable standards were to be met. Such circumstances may not be self-created.
- (2) A VARIANCE is necessary to accommodate a use or accessory use on the parcel which can be reasonably expected to occur within the zone or vicinity.
- (3) The proposed VARIANCE will comply with the purposes of relevant development standards as enumerated in Section 4.005 and will preserve the right of adjoining property owners to use and enjoy their land for legal purposes.
- (4) There are no reasonable alternatives requiring either a lesser or no VARIANCE.

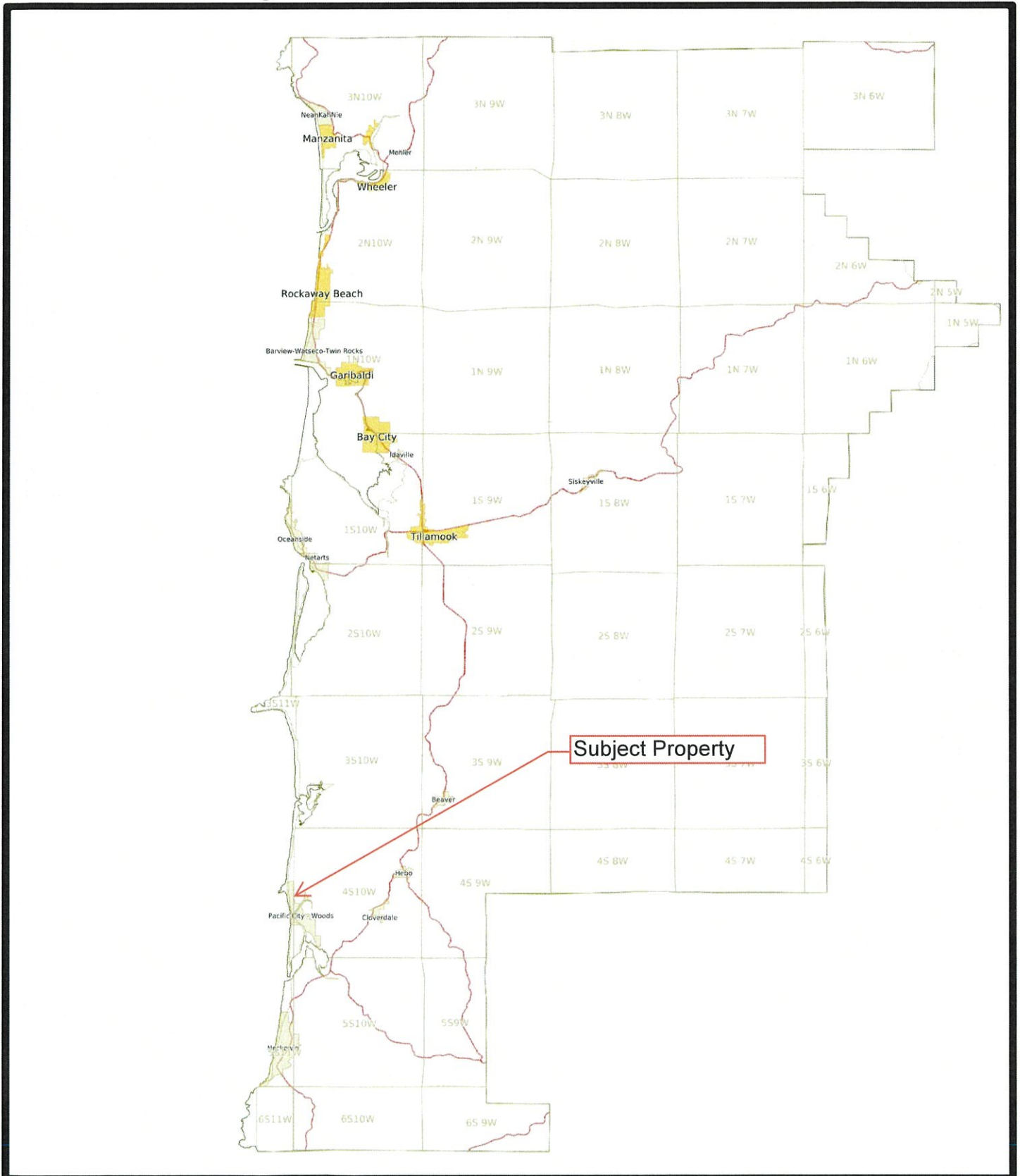
SECTION 4.005: RESIDENTIAL AND COMMERCIAL ZONE STANDARDS

In all RESIDENTIAL AND COMMERCIAL ZONES, the purpose of land use standards is the following:

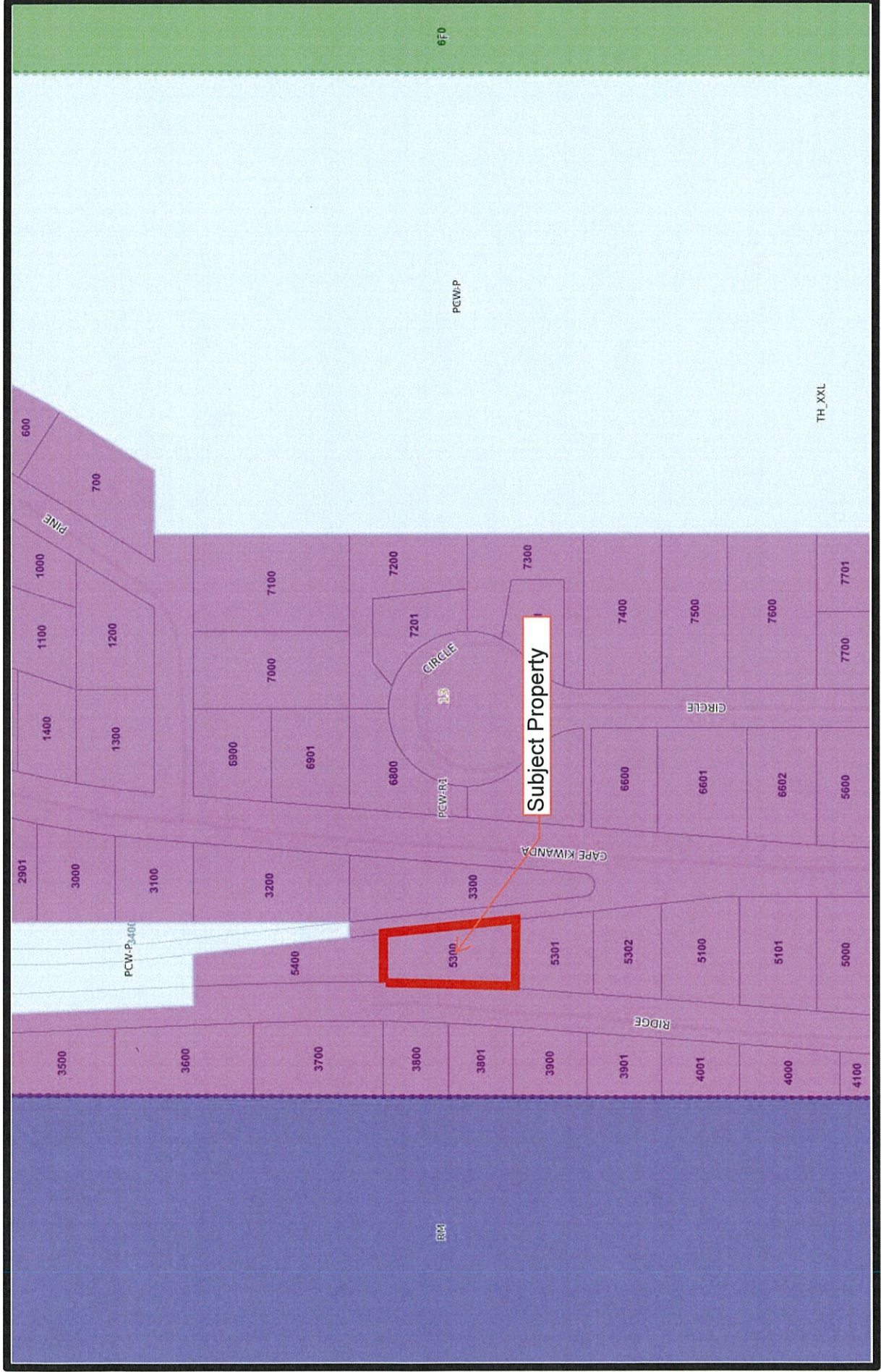
- (1) To ensure the availability of private open space;
- (2) To ensure that adequate light and air are available to residential and commercial structures;
- (3) To adequately separate structures for emergency access;
- (4) To enhance privacy for occupants of residences;
- (5) To ensure that all private land uses that can be reasonably expected to occur on private land can be entirely accommodated on private land, including but not limited to dwellings, shops, garages, driveways, parking, areas for maneuvering vehicles for safe access to common roads, alternative energy facilities, and private open spaces;
- (6) To ensure that driver visibility on adjacent roads will not be obstructed;
- (7) To ensure safe access to and from common roads;
- (8) To ensure that pleasing views are neither unreasonably obstructed nor obtained;
- (9) To separate potentially incompatible land uses;
- (10) To ensure access to solar radiation for the purpose of alternative energy production.

EXHIBIT A

Vicinity Map



Zoning Map



THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

S.E. 1/4 SEC. 13 T.4S. R. 11W. W.M.
TILLAMOOK COUNTY

04S11W13D
HAYSTACK HEIGHTS

04S11W13D
HAYSTACK HEIGHTS

Revised 4/01/24, WS



C. GEN

- CANCELLED
- 900
- 2301
- 5500
- 6400
- 7500
- 101
- 5200
- 5701
- 3501

SEE MAP 4S 11W 13

E 14

102

100 TC

33.20 AC.

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SEE MAP 4S 10W 18

SEE MAP 4S 11W 13

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SEE MAP 4S 11W 24AA

22-2

22-1

Subject Property

HAYSTACK HEIGHTS

PLAT 2015-16

PLAT 1992-93

PLAT 1992-93

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

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PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

PLAT 2015-16

M.C.

LOT 4

LOT 3

Tillamook County
2025 Real Property Assessment Report
 Account 243846

Map 4S1113D005300
 Code - Tax ID 2202 - 243846

Tax Status Assessable
 Account Status Active
 Subtype NORMAL

Legal Descr PARTITION PLAT 2022-05

Lot - PARCEL 1

Mailing SHOCKEY, KRISTINA
 PO BOX 164
 IGO CA 96047

Deed Reference # 2024-3598
 Sales Date/Price 08-23-2024 / \$110,000
 Appraiser KARI FLEISHER

Property Class 100 MA SA NH
 RMV Class 100 09 ST 909

Site	City
------	------

Value Summary						
Code Area		RMV	MAV	AV	RMV Exception	CPR %
2202	Land	88,990		Land	0	
	Impr	0		Impr	0	
Code Area Total		88,990	40,710	40,710	0	
Grand Total		88,990	40,710	40,710	0	

Land Breakdown									
Code Area	ID #	RFPD	Ex	Plan Zone	Value Source	Trend %	Size	Land Class	Trended RMV
2202	0	<input checked="" type="checkbox"/>		PCW-R1	Market	103	0.28 AC		88,990
Code Area Total							0.28 AC		88,990

Improvement Breakdown									
Code Area	Year ID #	Stat Built	Class	Description	Trend %	Total Sqft	Ex%	MS Acct	Trended RMV
No data present in this section.									

Exemptions / Special Assessments / Notations
Notations
<ul style="list-style-type: none"> ■ CHANGES TO VALUATION JUDGMENT (REDUCTION) 308.242 ADDED 2019 Stipulated Agreement

Comments 02/11/14 Reappraised land, tabled values.ef 1/2020 Changes in Valuation Judgement (Stipulated Agreement). Reviewed property and made adjustments to land. Rolled values forward. RCW 3/17/20 Code change due to fire patrol removal. LM
 3/28/22 TL 5300 and 5200 was combined prior to p. plat 2022-05 created TL 5301 and 5302 from TL 5300. Apportioned MAV. 96/23 to bring to market. Cancelled TL 5200 see JV-22-3086985. KF
 8/18/23 Brought land to market after p. plat 2022-05 created TL 5301 and 5302 from TL 5300. see JV-22-3086985. KF

National Flood Hazard Layer FIRMette



123°58'32"W 45°13'28"N



123°57'55"W 45°13'2"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*

Future Conditions 1% Annual Chance Flood Hazard *Zone X*

Area with Reduced Flood Risk due to Levee. See Notes, *Zone X*

Area with Flood Risk due to Levee *Zone D*

OTHER AREAS OF FLOOD HAZARD

NO SCREEN *Zone X*

Area of Minimal Flood Hazard *Zone X*

Effective LOMRs

Area of Undetermined Flood Hazard *Zone X*

OTHER AREAS

GENERAL STRUCTURES

Channel, Culvert, or Storm Sewer

Levee, Dike, or Floodwall

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

- Digital Data Available
- No Digital Data Available
- Unmapped

MAP PANELS



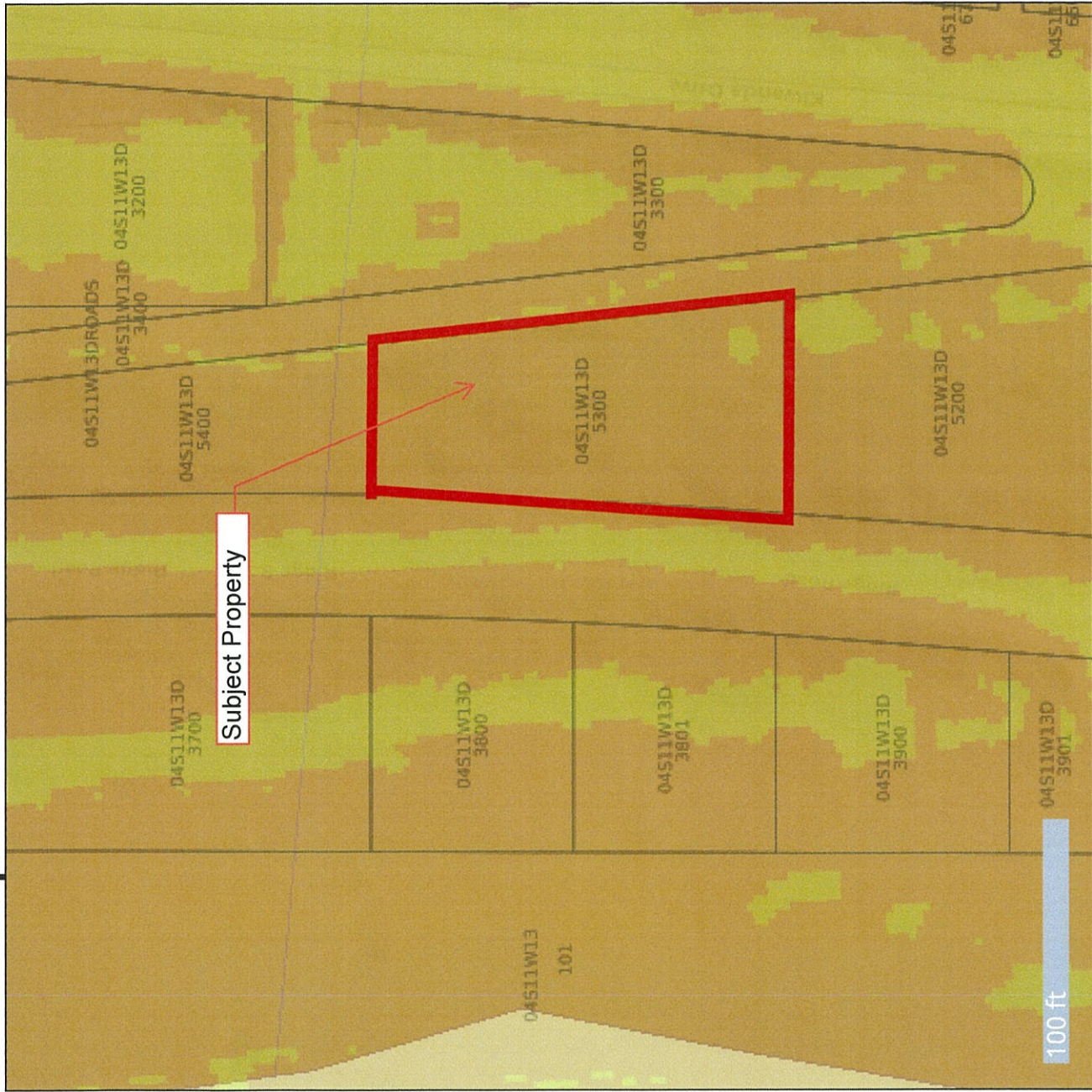
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/26/2026 at 7:36 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Hazard Map

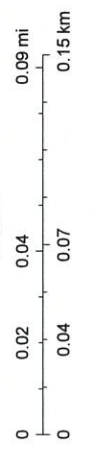



Legend	
	B - Beach
	FDA - Active foredune
	AFDA - Artificial dune
	FD (W) - Reactivated, erosion/flooding
	H - Hummocks, active
	FD - Stabilized foredune
	IFD - Inland foredune
	DC - Dune complex
	DC (W) - wet
	DS - Dune, younger stabilized
	ODS - Dune, older stabilized
	OS - Open sand
	W - Interdune
	WMF - Wet mountain front
	WDP - Wet deflation plain
	WL - Wetland
	WSP - Wet surge plain
	WFP - Wet flood plain
	LK - Lake
	CT - Coastal terrace
	LD - Landslide
	FED - Fluvial, estuary deposit

Statewide Wetlands Inventory



3/26/2026, 12:37:05 PM





 Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, USGS TNM - National Hydrography Dataset, Data Refreshed January, 2026., Source: Esri, Vantor, Earthstar Geographics, and the GIS User










-  ArcGIS World Geocoding Service
-  Sections
-  Large Scale Coastline
-  NHD Area
-  USFWS National Wetlands Inventory NWI
-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Riverine
-  SWI Predominantly Hydric Map Units

EXHIBIT B



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

Applicant (Check Box if Same as Property Owner)

Name: Jade Crawford Phone: 503 515 7363

Address: 7750 Vaughn Rd

City: Tillamook State: OR Zip: 97141

Email: jadesbeachhouse@yahoo.com

Property Owner

Name: Kristina Shocker Phone: (503)999-4677

Address: PO Box 1641

City: IGO State: CA Zip: 950047

Email: KRISTINSTARRANSOUTWEST@GOL.COM

Request: 5' Front Yard Setback

OFFICE USE ONLY	
RECEIVED	
JAN 12 2026	
BY: <u>AW</u>	
<input type="checkbox"/> Approved	<input type="checkbox"/> Denied
Received by: <u>AW</u>	
Receipt #: <u>147112</u>	
Fees: <u>\$ 1,995.00</u>	
Permit No: <u>851-26-000021-PLNG</u>	

Type II

- Farm/Forest Review
- Conditional Use Review
- Variance
- Exception to Resource or Riparian Setback
- Nonconforming Review (Major or Minor)
- Development Permit Review for Estuary Development
- Non-farm dwelling in Farm Zone
- Fore-dune Grading Permit Review
- Neskowin Coastal Hazards Area

Type III

- Detailed Hazard Report
- Conditional Use (As deemed by Director)
- Ordinance Amendment
- Map Amendment
- Goal Exception
- Nonconforming Review (As deemed by Director)
- Variance (As deemed by Director)

Type IV

- Ordinance Amendment
- Large-Scale Zoning Map Amendment
- Plan and/or Code Text Amendment

Location:

Site Address:

Map Number: 45 11 13D 5300

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.

Kristina Shocker
 Property Owner Signature (Required)

1/7/26
 Date

[Signature]
 Applicant Signature

1/7/26
 Date

Proposal to Tillamook County Planning for a Setback Variance

We appreciate the previous approval and effort through the application process for a setback variance. However, the owner was wanting to request a five foot front yard setback and the attached geological reports were conducted and based on that five foot request, as seen in the attached. Due to some miscommunication on our end, as noted, we had applied for and been approved for a ten foot front setback. With that said, we are reapplying with all of the following narrative to remain applicable to our new application with the only change being the request from ten foot to five foot.

In regards to Lot 2, Block 2 of Haystack Heights, SE 1/4 Section 13, T4S, R11W, The Owner, Kristina Shocky, hereby referred to as the applicant, seeks the granting of a front yard setback variance. The applicant requests the modification to a 5 ft setback to insure both enjoyment of property rights by her and minimization of a geological and natural surrounding disturbances.

The following will address the applicants need for said variance and display conformance to both the review criteria set out in Section 8.030 and Article iv supplementary regulations of Section 4.005.

Section 8.030

- (1) In the vicinity of the applicants lot the primary property right enjoyed by landowners is the placement and occupation of single family dwellings. The applicant seeks the same, however, the existing topography of the lot greatly limits possible options to place such a structure due to the great majority of the lot being steeply sloped sand dune. The one fairly level building area is on the street side of the lot on the SE corner. Currently zoned setbacks prohibit the use of this portion of the lot. At the recommendation of our geologist, Jason Morgan, we are seeking a variance to utilize this building area and limit disturbing the sloped sand dune and vegetation (see attached). The applicant has already conceded the need to drastically reduce the square footage and footprint of a desired dwelling to substantially less than to those of surrounding landowners. But even with that, the maintaining of a standard front setback would push the structure so far toward the aforementioned steep dune that the width of such a structure would not be practical or would require a substantial invasion into the dune. This would result in both the possible unwanted destabilization of the disturbed area and if possible, the applicant to expend what could be considered exorbitant and limiting expenses. In addition, the owner desires to maintain as much natural foliage and its stabilizing effect as possible, and believes the surrounding community as well. By locating the desired dwelling in the proposed location much removal of existing floral would be avoided, both maintaining helpful stabilization of the lot and natural visual appeal.
- (2) As mentioned above, the applicant seeks to enjoy the same use of the property as other landowners in the vicinity, that being the building and occupying of a single family dwelling.
- (3) Refer to supplementary regulations in Article iv, Section 4.005, Residential and Commercial zoned standards.

- (1) The applicants lot is of substantial size and private open space would not be affected especially considering the small size of the proposed dwelling.
- (2) There are no obstructions to either the applicants proposed dwelling or any structures of neighboring landowners.
- (3) No other structures are proposed on the applicants property and side setbacks will be adhered to separating it from any neighboring structures, none of which exist currently.
- (4) The applicant would have no visual line of sight to any surrounding dwellings from the proposed location.
- (5) The requested variance would ensure the applicant's ability to have a dwelling and parking area, while still maintaining private open space and safe access to the common road.
- (6) The applicant lot is one of only two on Pike Road and located at the end of it. Pike Road is a seldom used straight and level dead end road with no visual obstructions.
- (7) Same as above
- (8) The applicant's proposed dwelling will be well under applicable height restrictions and is in a location that has no ability to restrict any views of surrounding properties.
- (9) No incapable land uses are proposed
- (10) No plans for alternative energy production are proposed

- (4) The applicant contends that adhering to the standard front setback would, as mentioned before, would require an inhibitive expense and unwanted destabilization of the lot and considers those unreasonable alternatives to a setback variance of five feet.

BLOCK 4

NOTES

THIS IS A TOPOGRAPHIC SURVEY OF LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS. THE PURPOSE OF THIS SURVEY IS TO SHOW TOPOGRAPHIC INFORMATION IN RELATION TO THE BOUNDARY ON LOTS 2 AND 3, BLOCK 2. THIS MAP DOES NOT CONSTITUTE AS A BOUNDARY SURVEY. FOR BOUNDARY INFORMATION SEE MAP BY THIS FIRM DATED APRIL 23, 2008. TILLAMOOK COUNTY SURVEY RECORDS, RECORDS WERE NOT LOCATED AND OTHER INSTRUMENTS MAY BE PRESENT.

LEGEND

- 1/4" DIA. X 4" HIGH PLASTIC CAP MARKER "DALLAS ESPLIN L2 2007"
- ◆ 1/2" X 1/2" X 1/2" WOODEN PEG
- 1/4" DIA. AND TYPE NOTED
- 1/4" DIA. AND TYPE NOTED
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- 1/4" DIA. AND TYPE NOTED

RIDGE ROAD (50')

CAPE KIWANDA DRIVE (60')

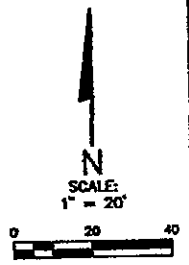
LOT 2

LOT 3

LOT 4

PARK LANE (20')

Proposed 5' Setback
Approx Dwelling Location 14x40
Driveway



REGISTERED PROFESSIONAL LAND SURVEYOR

DRAWN
DECEMBER 3, 2014
DALLAS W. ESPLIN
R3277
RECORD 20140000000000000000

BAYSIDE SURVEYING LLC
11765 HWY 101 SOUTH
TILLAMOOK, OR 97141
503-842-5551

TOPOGRAPHIC MAP FILE:
SHAWN MACDONALD
LOTS 2-3, BLOCK 2
HAYSTACK HEIGHTS,
TILLAMOOK COUNTY PLAT RECORDS
DE 1/4 SECTION 13, T4S, R11W
TILLAMOOK COUNTY, OREGON

TYPED AND RECORDED
RECORDS



MORGAN CIVIL ENGINEERING, INC.

PO Box 358, Manzanita, OR 97130

ph: 503-801-6016

www.morgancivil.com

October 28, 2025

Kristina Shockey

PO Box 164

Igo, CA 96047

KrisstsTarpansOutWest@aol.com

Re: Addendum to Dune Hazard Report for Tax Lot 5300, Map 04S 11W 13D, Parcel 1 of Partition Plat 2022-05, Pacific City, Tillamook County, Oregon (Park Lane) Project #19-07-Mac

Dear Ms. Shockey:

As requested, I have completed a brief follow-up engineering evaluation of the site conditions on your property. This assessment was completed for the purpose of preparing this addendum to the Dune Hazard Report. The original Dune Hazard Report for the property was completed by Morgan Civil Engineering, Inc. and is dated March 9, 2020. A geologic report for the lot has recently been completed by Warren Krager, CEG, dated October 28, 2025.

Plan Review

A preliminary site plan was prepared by Morgan Civil Engineering. A home is proposed near the front of the property with access from Park Lane. The home will be supported on structure fill, with a retaining wall at the property line.

Site Conditions

Following a recent site inspection of the subject property and a review of the previous Dune Hazard Report for this property, it is my opinion that the conditions on the site have not changed. The engineering standards set forth in that report remain valid for the property.

The previous engineering report can be utilized by the new owner, listed above. The use of a wall with fill to support the home is an acceptable alternative. The fill must be placed in level lifts about 8 inches thick, with each lift watered, and thoroughly compacted.

Due to the lot being shallow and the over-steepened dune slope, I strongly recommend that a front yard setback variance be obtained. Based on the site conditions, a 5-foot setback is preferred. This will limit the disturbance to the slope.

KRISTINA SHOCKEY

October 28, 2025

MORGAN CIVIL ENGINEERING, INC.

*Update to Dune Hazard Report
for Tax Lot 5300, Map 4S 11W 13D
Pacific City, Tillamook County*

Updated Wind Design Requirements – The site is in a 135 miles per hour basic wind gust speed zone, unprotected from the ocean winds (Exposure 'D' as per the 2023 ORSC). Therefore, the building must be designed to withstand the minimum required lateral wind gust loads. In general, one- and two-story wood frame construction designed to withstand 135 miles per hour Exposure 'D' wind loading will also withstand even severe earthquake loads. According to the ORSC, structures in Exposure 'D' are typically required to have an engineering analysis calculation of lateral wind loads. Such calculations must be submitted with the building permit application. The lot is located 1400 feet from the ocean beach.

Updated Seismic Design Requirements – The North Oregon Coast is defined by the 2023 ORSC as lying within a D₂ Seismic Design Category. As such, structures built in this area must, at a minimum, comply with the structural requirements for the D₂ Design Category.

Should you have any questions regarding my investigation or this updates report, please contact me at jason@morgancivil.com or 503-801-6016.

Sincerely,

MORGAN CIVIL ENGINEERING, INC.

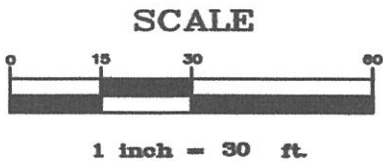


Jason R. Morgan, PE
Professional Engineer

cc: jadesbeachhouse@yahoo.com
Project File #19-07-Mac

<V:\19-07-Mac\Reports\Shockey DHR Add.docx>





TOPOGRAPHY BASED ON
2008 DOGAMI LIDAR DATA.

PAGE 1

OCT. 3, 2025

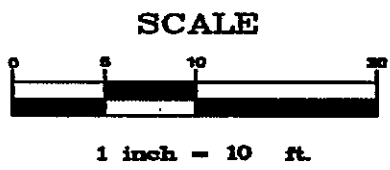
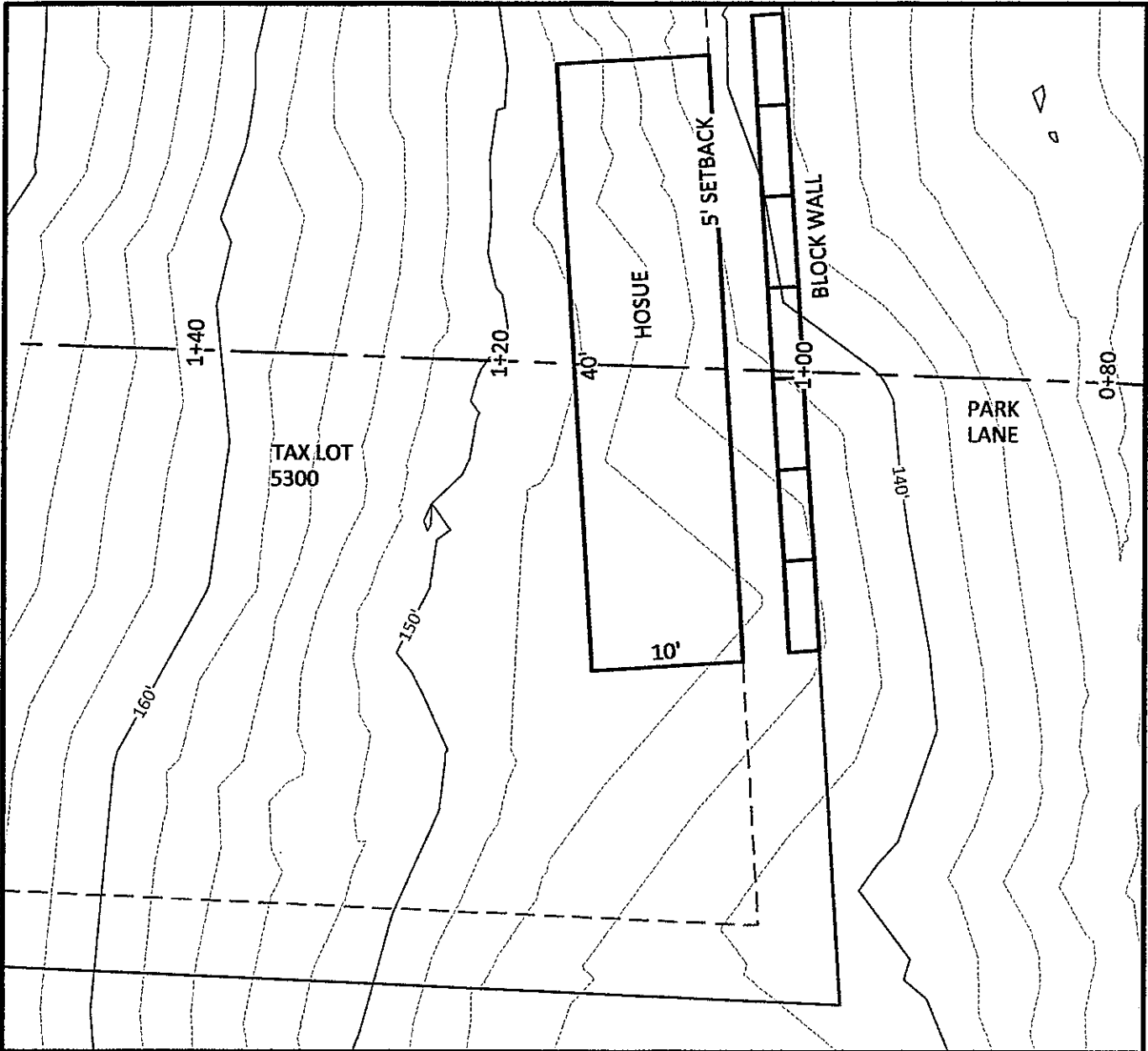
KRISTINA SHOCKEY
 LOTS 2, BLOCK 2
 RIDGE VIEW HEIGHTS, PARK LANE
 SITE LAYOUT
 PACIFIC CITY/MAP 4S 11W 13D



**MORGAN CIVIL
ENGINEERING, INC.**

PO BOX 358
 MANZANITA, OR 97130
 (503) 801-6016
 www.morgancivil.com

- CIVIL ENGINEERING
- INSPECTION
- PLANNING



PAGE 2

OCT. 3, 2025

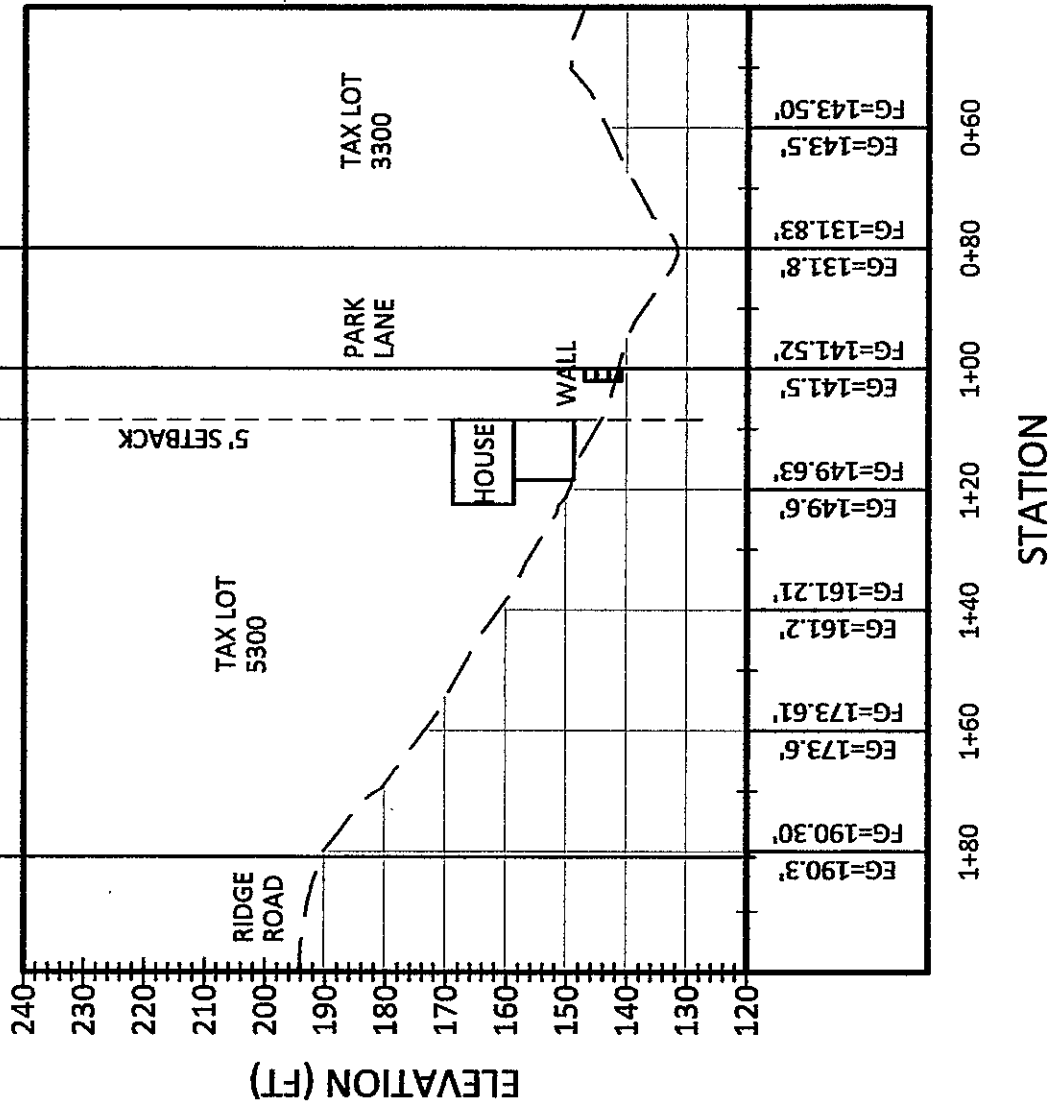
KRISTINA SHOCKEY
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- CIVIL ENGINEERING
- INSPECTION
- PLANNING

TL 5300 PROFILE



KRISTINA SHOCKEY
 LOT 2, BLOCK 2
 RIDGE VIEW HEIGHTS, PARK LANE
 SITE PROFILE
 PACIFIC CITY/MAP 4S 11W 13D



**MORGAN CIVIL
 ENGINEERING, INC.**

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- INSPECTION
- PLANNING

**R. Warren Krager, R.G., C.E.G.
Consulting Engineering Geologist
Oregon CEG #E957**

October 27, 2025

Kristina Shockey, in care of:
Jason R. Morgan, P.E.
Morgan Civil Engineering, Inc.
PO Box 358, Manzanita, OR 97130

**Subject: Engineering Geologic Site Reconnaissance
 and Geologic and Dune Hazard Report
 Proposed Residence and Retaining Wall, Park Lane,
 Tax Lot 5300, Map 4S 11W 13D, Haystack Heights
 Pacific City, Tillamook County, Oregon**

Dear Ms. Shockey and Mr. Morgan:

As you requested, I am pleased to submit my engineering geologic reconnaissance and dune hazard report for the subject project.

Introduction

This engineering geologic and dune hazard report has been prepared in general accordance with the Tillamook County Land Use Ordinance (TCLUO) Section 3.530, for application for a Dune Area Development Permit. The subject property is mapped in older stabilized dune area according to Oregon Department of Geology and Mineral Industries (DOGAMI) Open-File Report O-20-04. Steeply sloped, poorly graded, fine-grained sand dune deposits were observed on site.

R. Warren Krager, R.G., C.E.G. (Oregon Licensed Engineering Geologist E-957) conducted the surficial reconnaissance of the proposed building area on Tax Lot 5300 with you and a companion, and Mr. Morgan, P.E., on August 5, 2024. The reconnaissance included a walk over portions of the subject property and observation of existing sand soil exposed at ground surface, slope, and Vegetation. Approximately one-half hour was spent in observation and discussion of the proposed building area, slope stability, and drainage and erosion control considerations. Subsurface exploration was not conducted. Fine-grained sand is expected to a depth of several tens of feet below the existing ground surface in the proposed building addition area.

The conclusions and recommendations of this report are based on observations of site surface conditions and local surrounding area, a review of soils and geologic hazard conditions that may be expected during the design life of the proposed structure, and general familiarity with engineering geologic conditions of the area. The following geologic reports, maps, aerial photographs, and other information were reviewed and used in preparation this report:

- DOGAMI Open-File Report O-20-04, Temporal and Spatial Changes in Coastal Morphology, Tillamook County, Oregon, Jonathon C. Allen, 2020.
- USGS Open File Report 90-202, Preliminary Geologic Map of the Nestucca Bay Quadrangle, Tillamook County, Oregon, 1990.
- Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon, Oregon Department of Geology and Mineral Industries (DOGAMI), Bulletin 74, 1972.

- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/>. accessed online October 24, 2024.
- Google Earth Aerial photographs of the Cape Kiwanda area, photo dates: May 5, 1994, August 15, 2000, November 14, 2002, June 28, 29, 2005, August 1, 2011, July 6, 2012, July 30, 2014, August 23, 2016, June 22, 2017, April 15, 2021, April 13, 2023, and July 21, 2024.
- Kristina Shockey, Lot 2, Block 2, Ridge View Heights, Park Lane, Site Layout, Pacific City, Map 4S 11W, 13D, including 2008 Lidar Topography, prepared by Morgan Civil Engineering, dated October 3, 2025.

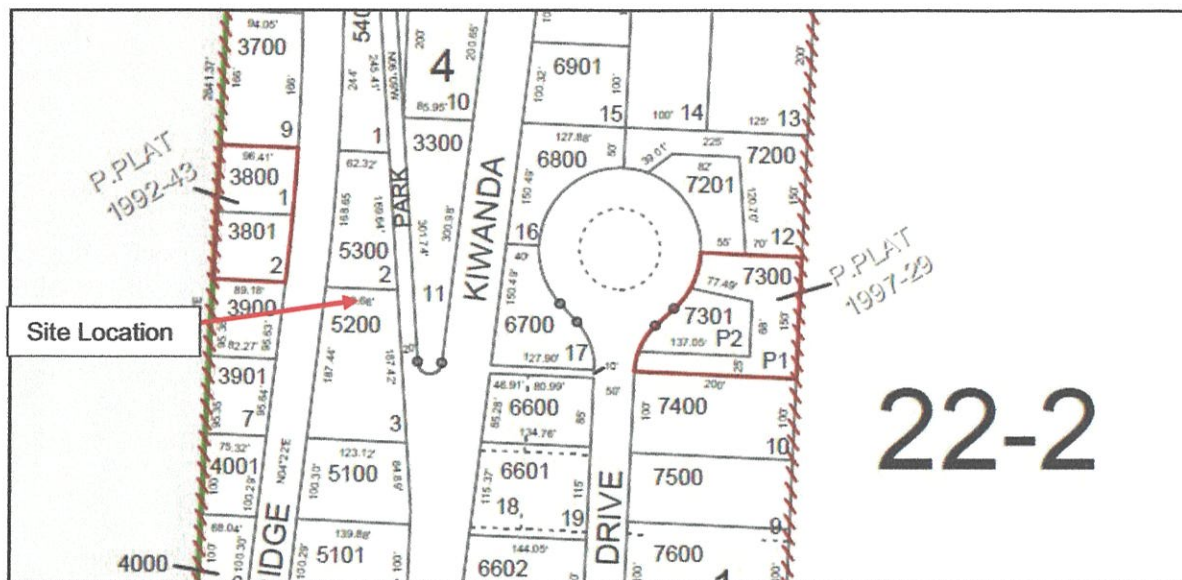


Figure 1 - Site Location Plan, Portion of Tillamook County Tax Lot Map 4S 11W 13D, Haystack Heights.



Photograph 1- View to the southwest of Tax Lot 5300 proposed building area from Park Lane.

Site Location and Project Description

The subject property consists of an undeveloped residential lot on the west side of Park Lane, located off the west side of Kiwanda Drive, about ½-mile east of Cape Kiwanda, north of Pacific City, Oregon, as shown on **Figure 1**. The subject property is described as Tax Lot 5300, on Tillamook County Map 4S 11W 13D, Haystack Heights. Tax Lot 5300 is about 169 feet in length, north to south, about 88.6 feet wide on its southern boundary, and about 62.3 feet wide on its northern boundary. The steeply sloped proposed building area near the southeast corner of the property, shown in **Photograph 1**, had been stripped of most vegetation and contained cut tree stumps, partially stripped or disturbed organic sandy loam topsoil and exposed disturbed fine-grained dune sand at the time of our site reconnaissance.

I have not seen detailed plans for the proposed home. From our conversation, I understand that the proposed residence footprint will be about 10 feet wide by 40 feet long. The longer dimension of the proposed home will be oriented generally north-south, parallel to slope elevation contours. The proposed home will include two stories of living area, but no garage. The upper story will likely have a wider dimension which may be cantilevered over the first story on its west side, or partially supported on isolated foundation piers, depending on the additional second story width. We expect the proposed home will be a conventional wood frame structure supported on continuous perimeter shallow spread foundation, and possible piers embedded in the slope on the west side of the home.

A proposed variance request of Tillamook County for a front yard building setback reduction to five feet on the west side of Park Lane has been discussed between Ms. Shockey, Mr. Morgan, PE, and myself, and is recommended for this property and proposed home concept. With the recommended 5-foot-wide front yard building setback granted, a three-tier gravity block retaining wall along the Ridge Road western right-of-way boundary is proposed to raise elevation and reduce slope gradient within the eastern margin of the proposed building footprint. The eastern foundation of the proposed home will be supported on engineered retaining wall backfill.

The Tax Lot 5300 boundary outline and dimensions, Ridge Road and Park Lane public rights-of-way, proposed five-foot-wide building setback, gravity block retaining wall, 10-foot-wide by 40-foot-long first-floor building footprint, plan location of a slope building section profile, and superimposed 2008 Lidar topographic contours are presented in **Figure 2**.

The approximately 60 percent to 62 percent east-west slope profile through Tax Lot 5300, and the proposed home building footprint and retaining wall section are shown in **Figure 3**.

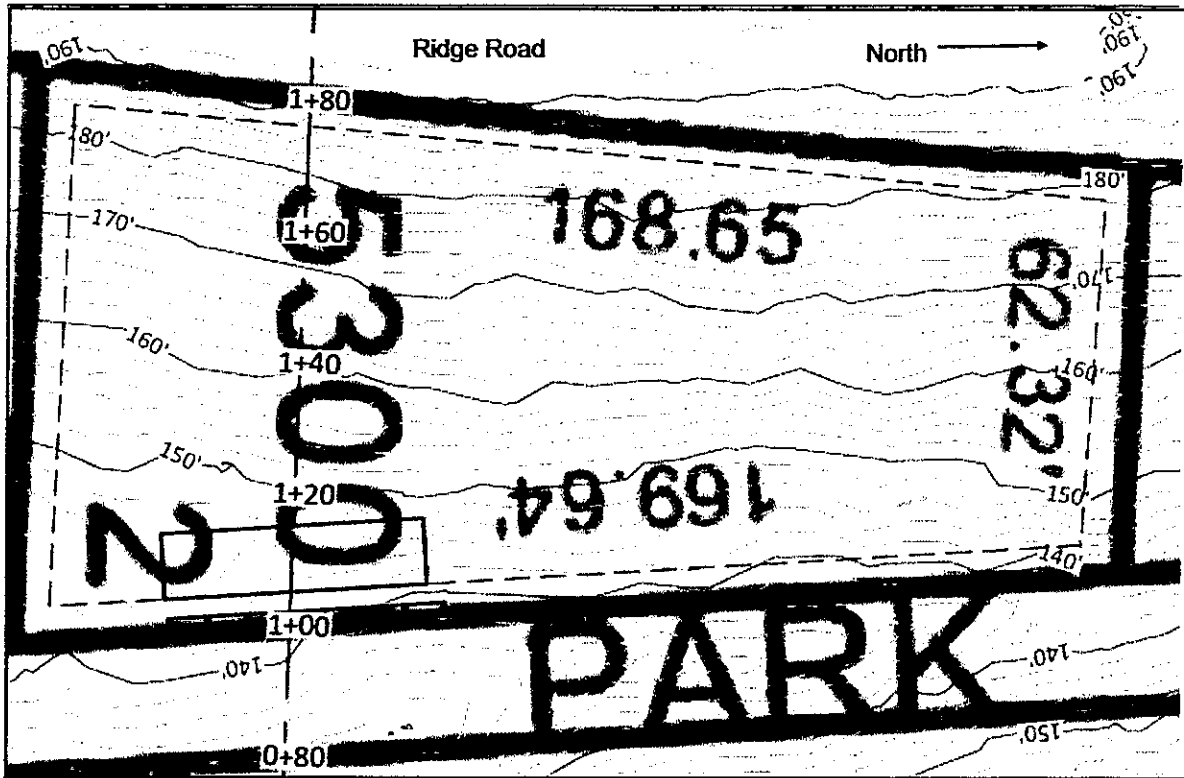


Figure 2 – 2008 Lidar topography of Tax Lot 5300 showing proposed 10-foot by 40-foot home footprint set back 5 feet from Park Lane right-of-way, prepared by Morgan Civil Engineering, Inc.

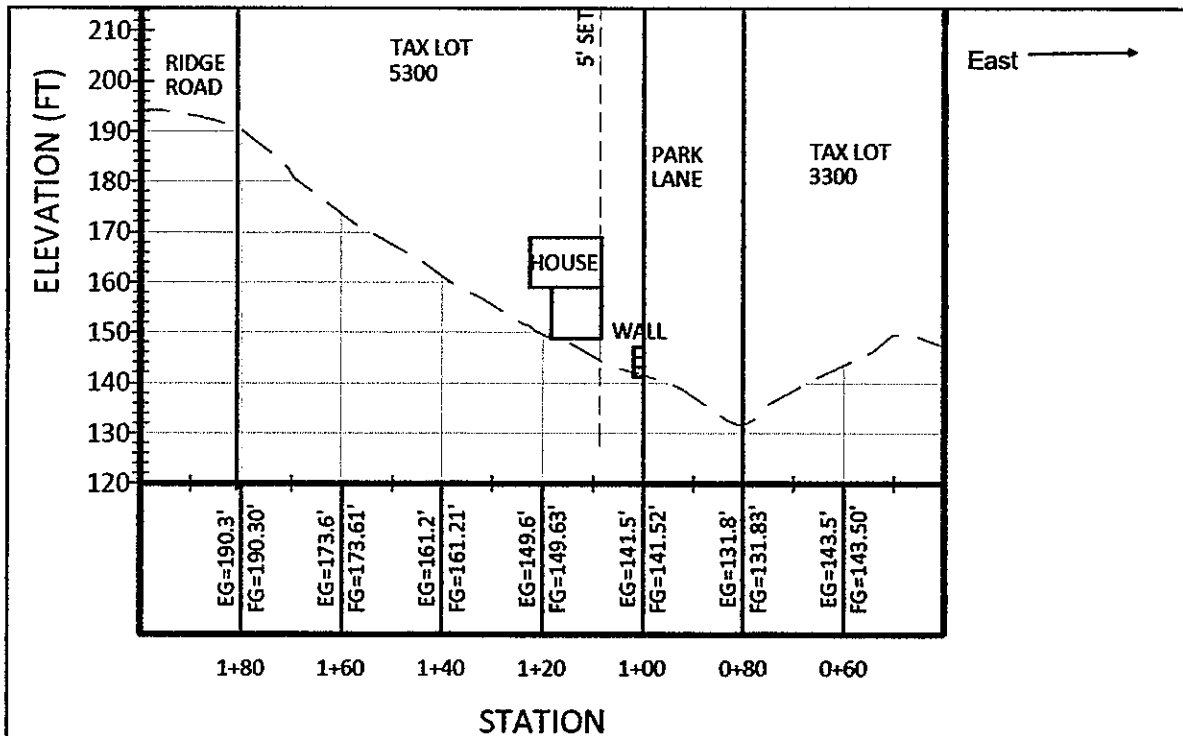


Figure 3 - Slope profile through Tax Lot 5300, with building footprint and retaining wall section.

Soils and Geology

Surface soils on the property are mapped as Waldport fine sand, thin surface, 15 to 60 percent slopes, by the USDA NRCS Web Soil Survey. This soil forms on concave linear surfaces of foredunes, blowouts and dunes ridges on marine terraces. The typical near-surface soil profile described by the USDA includes one inch of slightly decomposed plant material, underlain by fine sand to 60 inches or more in depth. The approximate home footprint area contained organic sandy loam and disturbed fine-grained dune sand exposed at the existing ground surface at the time of our site reconnaissance. It is my interpretation that the sand soil in the proposed building site is native dune sand consistent with the USDA mapped Waldport fine sand.

Figure 4 shows the mapped surface geologic deposits of the project area. The area around Tax Lot 5300 is mapped in Quaternary to Holocene age fine-grained dune sand, map unit **sd**. Naturally outcropping sandstone bedrock exposed at Cape Kiwanda is mapped as Tertiary Miocene age Astoria Formation. Haystack Rock consists of Tertiary volcanic intrusive rock, **Ti**, of Tertiary, Miocene age.

Although subsurface exploration was not conducted in the planned building area of Tax Lot 5300, bedrock or fluvial deposits are not expected at shallow depths on Tax Lot 5300. The Quaternary age longitudinal sand dune ridge on which Tax Lot 5300 is located reaches a crest elevation of about 230 feet above mean sea level. The highest exposed elevation of the Astoria Formation in Cape Kiwanda is about 130 feet above men sea level. I estimate that up to 100 feet thickness of Quaternary Dune sand may underlie Tax Lot 5300.

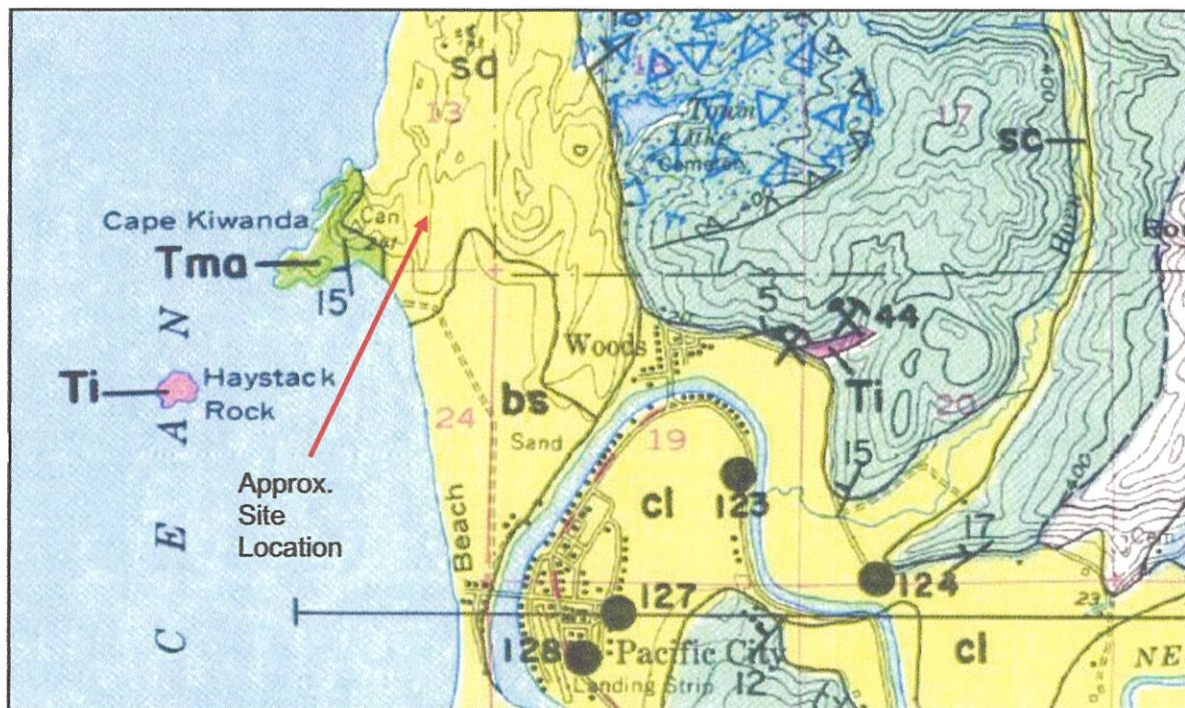


Figure 4- Portion of Geologic Map of Hebo Quadrangle, DOGAMI Bulletin 74, 1972.

Seismic Hazard Discussion

The principal geologic hazard throughout western Oregon is potential for a strong earthquake on the Cascadia Subduction Zone. The CSZ is an active thrust fault system in a zone of tectonic plate convergence located in the sea floor about 50- to 60-miles off the northern Oregon coast. This fault interface between the oceanic Juan De Fuca and North American continental tectonic plates is currently considered locked with friction and building pressure and strain along the coastal margin.

Geologic and geophysical research has established that the CSZ has produced 19 large, magnitude 8-9 earthquakes in the past 10,000 years. Recurrence intervals between past earthquakes range from 110 years to 1,150 years, with an average recurrence interval of about 490 years. Historic Japanese tsunami records and modern tree ring dating techniques have been used to calculate that the most recent CSZ earthquake occurred in January of 1,700 A.D.

Based on the geologic record of past strong earthquakes, it is expected that the CSZ will produce future strong earthquakes. Scientists and engineers generally agree that the potential intensity of the next CSZ earthquake could exceed moment magnitude 8.5. The strong ground shaking could last several minutes and may be followed by days or weeks of strong aftershocks. Other earthquake sources occur in this region. These include fault ruptures deep within the subducting oceanic plate and within the overlying continental crust. However, the CSZ earthquake is considered the greatest seismic hazard to the region and that which dictates engineering design requirements for structures.

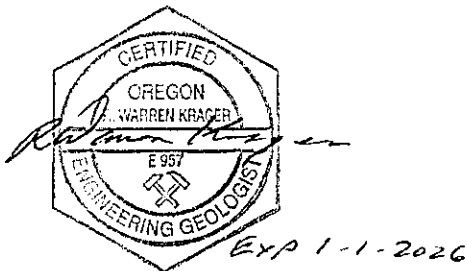
Strong CSZ earthquake ground shaking may cause instability in steep unconsolidated sand dune slopes. Because of the steepness of the leeward dune slope through Tax Lot 5300, CSZ earthquake induced slope instability risk is considered low to moderate. This slope appears to be over steepened in the upper elevations of Tax Lot 5300 from placement of side cast fill from construction of Ridge Road. The dune ridge has experienced multiple CSZ earthquakes in the geologic past so the slope instability with likely to be limited to manmade fill placed over the natural dune slope. I expect that reestablishing native shrubs and grasses after construction will reduce slope reduce seismic slope instability and erosion risk to Tax Lot 5300.

The ocean floor fault displacement associated with a strong CSZ earthquake will initiate and ocean tsunami that will reach the Oregon coast about 15- to 20-minutes after the strong earthquake is initially felt. Tax Lot 5300 is above the tsunami inundation elevation predicted to result from a large CSZ sea floor fault rupture.

This report may be used only by the client and their authorized agents for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on- and off-site), or other factors may change over time and could materially affect our conclusions and recommendations. Therefore, this report should not be relied upon more than three years from its date of issue.

If the construction is delayed by more than three years, I would be happy to review site and design conditions and revise this report if appropriate. If you have any questions regarding the information presented in this report, please do not hesitate to contact me at 360-903-4861 or warrenkrager@gmail.com.

Sincerely,



R. Warren Krager, R.G., C.E.G.
Oregon Licensed Engineering Geologist E-957