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Tillamook County Department of Community Development
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RECEIVED
AUG 2 2024
BY: DDixon

PLANNING APPLICATION

OFFICE USE ONLY	
Date Stamp	
<input type="checkbox"/> Approved <input type="checkbox"/> Denied	
Received by:	
Receipt #:	
Fees: 1995.-	
Permit No: 851-21-00072-PLNG	

Applicant (Check Box if Same as Property Owner)

Name: House on the Hill, LLC Phone: 503-290-8539
Address: 3650 SE Johnson Creek Blvd.
City: Portland State: OR Zip: 97222
Email: nilehagen@gmail.com

Property Owner

Name: Dennis and Chris Phone: 541-842-8281
Pastega, Trustees
Address: PO Box 94
City: Oceanside State: OR Zip: 97134
Email: denny@pepsimpg.com

Request: Conditional use approval for new hotel

- | | | |
|--|---|---|
| Type II | Type III | Type IV |
| <input type="checkbox"/> Farm/Forest Review
<input type="checkbox"/> Conditional Use Review
<input type="checkbox"/> Variance
<input type="checkbox"/> Exception to Resource or Riparian Setback
<input type="checkbox"/> Nonconforming Review (Major or Minor)
<input type="checkbox"/> Development Permit Review for Estuary Development
<input type="checkbox"/> Non-farm dwelling in Farm Zone
<input type="checkbox"/> Fore-dune Grading Permit Review
<input type="checkbox"/> Neskowin Coastal Hazards Area | <input type="checkbox"/> Extension of Time
<input type="checkbox"/> Detailed Hazard Report
<input checked="" type="checkbox"/> Conditional Use (As deemed by Director)
<input type="checkbox"/> Ordinance Amendment
<input type="checkbox"/> Map Amendment
<input type="checkbox"/> Goal Exception | <input type="checkbox"/> Ordinance Amendment
<input type="checkbox"/> Large-Scale Zoning Map Amendment
<input type="checkbox"/> Plan and/or Code Text Amendment |

Location:

Site Address: 1816 Maxwell Mountain Road, Oceanside, OR
Map Number: 1S 11W 25AA
2200, 2400, 6600
Township Range Section Tax Lot(s)

Clerk's Instrument #: _____

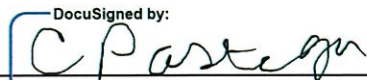
Authorization

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:

DocuSigned by:


Dennis Pastega, Trustee of the Dennis Pastega Generation Skipping Trust dated June 3, 1996

DocuSigned by:


Chris C. Pastega, Trustee of the Chris C. Pastega Revocable Trust

Applicant:

House on the Hill, LLC, an Oregon limited liability company

DocuSigned by:
By: 
Mike Hagen, Manager

INTRODUCTION

This application concerns property in Oceanside identified as Tax Lots 1S1125AA 2200, 2400 and 6600 (the "Property"). The Property is the site of the former 'House on the Hill' motel which closed about 10 years ago and has fallen into disrepair. Applicant House on the Hill, LLC ("Applicant") intends to demolish the existing structures and build a new 24-unit hotel with 29 off-street parking spaces, including covered parking below the units. The hotel also includes a spa and dining facility for hotel guests only. Applicant is under contract to purchase the Property from its current owners, Dennis and Chris Pastega.

On September 13, 2023, Applicant participated in a pre-application conference for this application with the Tillamook County Community Development Department (the "Department"), as required by LUO¹ 10.030(2)(c). Following the conference, the Department produced a pre-application meeting summary confirming that Conditional Use Review is required to approve the hotel. Applicant also requests approval of a Type I Geologic Hazard Assessment Review pursuant to LUO Section 4.130.

General Information

Date: July 26, 2024

Applicant: House on the Hill, LLC
 3650 SE Johnson Creek Blvd.
 Portland, OR 97222
 (503) 290-8539
nilehagen@gmail.com

Applicant's Representative: Mick Harris
 Tonkon Torp LLP
 888 SW Fifth Avenue, Suite 1600
 Portland, OR 97204
 503-802-5765
mick.harris@tonkon.com

Property Address: 1816 Maxwell Mountain Road, Oceanside, OR

Owners: Dennis Pastega, Trustee of the Dennis Pastega Generation Skipping Trust dated June 3, 1996, and Chris C. Pastega, Trustee of the Chris C. Pastega Revocable Trust

Tax Lots: 1S1125 AA 2200, 2400, 6600

Acreage: 1.46 acres

¹ Tillamook County Land Use Ordinance.

Current Zoning: CR-3, Planned Development (PD) overlay

Current OSL: As determined in County File No. 851-16-00149-PLNG condition #3
(copy of decision attached as Exhibit B)

Proposal: New 24-unit hotel with 29 off-street parking spaces and a spa and dining facility open only to hotel guests

Applicable
Criteria: Base CR-3 zone – LUO 3.016
PD Overlay zone – LUO 3.520
Conditional Use – LUO Article 6
Off-street parking – LUO 4.030
Geologic Hazard Assessment Review – LUO 4.130
Oceanfront Setbacks – LUO 3.530(8)

Exhibits and Attachments

Exhibit A – January 5, 2017 Notice of Decision, County File No. 851-16-00149-PLNG

Attachment 1 – Site Plans

Attachment 2 – Geotechnical Report

Attachment 3 – Traffic Impact Analysis

Attachment 4 – Landscape Plan

Attachment 5 – Renderings

PROPOSAL SUMMARY

Applicant proposes a new 24-unit hotel to replace the 'House on the Hill' motel, which operated on the Property for decades before closing approximately 10 years ago. Because the current structures are in such disrepair and not suitable for repair, Applicant intends to build a new hotel on the site, adhering to the density maximums and parking regulations of the applicable zoning. Because of the physical and topographical restrictions which the Property presents, Applicant proposes 24 hotel units in three separate buildings with 29 off-street parking spaces, including covered parking for each unit underneath the massing of the buildings. Applicant also proposes using the adjoining parcels as part of the development in order to allow for use of the entire Property. Amenities will include a spa and restaurant that will not be open to the public and instead will be auxiliary services available only for guests of the hotel.

Existing Conditions



Surrounding Land Uses

North: Residential

South: Beach

West: Oregon State Parks Oceanside Beach State Recreation Site

East: Residential and tourist accommodation

Proposed Site Plan

See Attachment 1.

REVIEW CRITERIA

Code criteria are stated in bold, with Applicant's response below each criterion in plain text. Inapplicable provisions of certain LUO sections have been omitted for clarity and brevity.

Conditional Uses

LUO 6.030: General Requirements

A conditional use shall be authorized, pursuant to the procedures set forth in Section 6.020, if the applicant adequately demonstrates that the proposed use satisfies all relevant requirements of this Ordinance, including the review criteria contained in Section 6.040 or the Health Hardship provisions contained in Section 6.050, and the following general requirements:

- (1) A conditional use shall be subject to the standards of the zone in which it is located, except as those standards have been modified in authorizing the conditional use. ...**

The standards of the applicable CR-3 and PD Overlay zones are discussed below.

LUO 6.040: Review Criteria

Any conditional use authorized according to this Article shall be subject to the following criteria, where applicable:

- (1) The use is listed as a Conditional Use in the underlying zone, or in an applicable overlying zone.**

Motels and hotels, including eating and drinking establishments, are a conditional use in the CR-3 zone. LUO 3.016(3)(d).

- (2) The use is consistent with the applicable goals and policies of the Comprehensive Plan.²**

Oceanside Community Plan

Policy 1. Community Form

- 1.1 Oceanside shall be designated as an Urban Unincorporated Community.**

Acknowledged, no response necessary.

² As is customary in Tillamook County, the policies to be evaluated to satisfy this criterion in Oceanside are the policies of the Oceanside Community Plan.

- 1.2 Every effort shall be made to preserve the "rustic coastal village atmosphere," the natural resources, and the beauty of Oceanside for the benefit of residents, visitors and future generations.**

The design and massing of the proposed project is congruent with the scale, nature, and materiality of the surrounding neighborhood and is intended to blend into the area. Design is intended to address the topographical limits and constraints of the site itself. The massing is deliberately broken down to allow for views and to provide a sense of scale.

Policy 2. Transportation

- 2.1 Where feasible, roadways in the core area will be improved to allow for more adequate public and emergency vehicle access.**

The site will be rebuilt and is designed with focus on access for vehicles, pedestrians and emergency vehicles.

- 2.2 Encourage the maximization and utilization of required off street parking areas to enable residents and guests of Oceanside the ability to adequately access roadways and to assure that roadways remain uncluttered and accessible to emergency vehicles.**

According to the Traffic Impact Analysis (see Attachment 3), peak parking demand during the Saturday afternoon peak hour requires 22 parking spaces for the proposed project. LUO 4.030(13)(c) requires 24 spaces. The project will provide 29 off-street spaces, more than enough to meet demand under either measure.

- 2.3 Development of walkways and bike paths throughout the community and between Oceanside, Netarts and Cape Meares and non-automobile dependent (transit, bicycle and pedestrian) travel will be encouraged.**

Not applicable to this site, no modifications to sidewalks or bike paths are part of this proposed project.

- 2.4 The county will work with the community and the Oregon State Department of Transportation to develop an access management and on street parking plan.**

Not applicable, since all required private parking has been provided within the Property – see response to criterion 2.2 above.

Policy 3. Housing

- 3.1 Building design and landscape that enhances the aesthetic quality of the community are encouraged.**

Not applicable to this project, no housing proposed. The scale and design of the buildings has been tailored to fit within the aesthetic quality of the surrounding neighborhood.

3.2 (missing)

3.3 Encourage programs that focus on cleaning up existing poor condition homes and structures within the community

Proposal is to demolish the structures on the site that are in disrepair and build new structures that will enhance the visual character and quality of the Property.

3.4 Small legally existing lots of less than 7,500SF will be allowed to be built upon consistent with all applicable regulations. Small lot coverage standards consistent with the resolution of the "small lots" issue reflected in the Tillamook County Land Use Ordinance, Section 5.100, shall be met.

Not applicable; the Property is 1.46 acres which is 63,598 sf.

3.5 Future development and lot partitioning shall occur only after the minimum zone standards, topography, geologic hazards, and public facility availability factors are taken into consideration to assure that adequate lot sizes are created which will not require future variances and which will not pose potential health hazards to life and/ or property.

No partition of any of the lots comprising the Property is proposed.

Policy 4. Community Character

The residents place high value on many qualities of the Oceanside Community, such as:

- Scenic ocean and bay vistas
- Abundant vegetation and wildlife
- Serenity and privacy
- Natural lighting (moon & stars)
- Natural noise (ocean & wildlife)

They encourage visitors, future property owners and residents to understand, respect and embrace these values through adherence to the following policies:

The proposed project has embraced these values with the design of the site and buildings by orienting all units toward the ocean view, providing landscaping and plantings throughout, allowing for spaces between buildings intended for outdoor enjoyment of the natural environment including open-air views, sounds, and lighting of the surrounding beach-

front. Minimal lighting has been implemented in the project for the Site Plan in adherence with dark sky principles, such as minimal safety lighting and full-cut off fixtures that cast no light upwards.

- 4.1 Every means should be taken to assure that development along the ocean and Highway 131 be compatible with maintaining the existing natural character of the area by maintaining or creating a vegetative buffer between development and the ocean and highway.**

The proposal is consistent with the oceanfront setback line and will leave the ocean frontage as natural as possible. The Property does not border Highway 131.

- 4.2 When developing, design considerations shall be given for retention of existing vegetation, the existence of wildlife, valued property rights, and the desire for solitude of surrounding property owners and residents.**

Applicant has designed the project to maintain as much of the existing vegetation and wildlife as possible. This proposal will not negatively impact the property rights or solitude of surrounding property owners and residents.

- 4.3 A program to support and possibly create a regional land trust shall be encouraged.**

Not applicable.

- 4.4 Construction of manmade structures which consider environmental effects and consequences shall be encouraged.**

Applicant has applied "a light touch" on the Property by maintaining existing grades, drainage, and retaining walls where possible. Stormwater plans have integrated natural flows and have been designed to manage water on site.

- 4.5 Encourage creation of programs that would promote a safe community environment with regard to fire, traffic, crime, personal property, and health.**

Not applicable.

- 4.6 Preserve and enhance the use of open spaces to avoid a crowded feel in the community, including the preservation and enhancement of trees and natural vegetation. Native plant species are encouraged in all landscaping by distribution of a recommended landscaping materials guidebook.**

Applicant intends to utilize landscaping materials recommended by the County's guidebook. Placement and massing of buildings has taken into account the desire for open spaces and view corridors on the Property.

- 4.7 Reduction of intrusion such as noise, harsh lighting, view obstructions, clutter, and drainage runoff by completing new constructions within a reasonable period of time and in a timely fashion; utilizing off-street parking areas for resident and guest parking so that roadways may remain uncluttered and accessible to emergency vehicles; maintain outdoor lighting design and placement so that it does not cast direct light onto adjacent properties and adversely affect neighbors.**

The design complies with dark skies principles in lighting, and while some exterior lighting is required for safety, it will be designed and sited to ensure it does not conflict with neighboring properties and their interest in dark skies. Sufficient parking is provided on-site so that no parking will be necessary on adjacent roadways.

- 4.8 Preserve neighborhood attractiveness by encouraging placing power distribution lines for new buildings underground and limiting satellite dish size to as small as possible. Utility lines will be placed underground for new subdivisions and planned developments when existing areas redevelop underground utilities shall be installed, unless placement will jeopardize the stability of adjacent properties.**

To the extent new power lines are to be installed for this project, Applicant will work closely with public utilities to ensure that the lines are sited underground when possible. No satellite dishes are presently proposed as part of the project.

- 4.9 Commercial developments, when possible, should be designed with natural siding, weathered wood, durable and rustic sign material to preserve the natural appearance of the community.**

Design of the proposed project is in line with the surrounding neighborhood in both massing, form, and materiality through the use of materials with a durable and natural look.

- 4.10 Maintain the low density urban residential zoning classification.**

Not applicable, no zoning change is proposed.

- 4.11 Retain the existing county building height regulations.**

Applicant's design complies with the applicable height regulations.

- 4.12 Limit commercial development to the existing commercial core area and allow no additional commercial zoning.**

The project would replace an existing hotel structure, so no expansion of existing commercial areas is proposed.

- 4.13 Tillamook County will assist the Oceanside Neighborhood Association and the local property owners in developing a plan for the commercial area to establish guidelines for future commercial development which will retain the unique characteristics of the community.**

Acknowledged. Applicant intends to meet all applicable guidelines.

- 4.15 New uses authorized within the community growth boundary shall not adversely affect farm or forest management practices conducted in accordance with federal and state laws. Authorization to create a parcel or dwelling adjacent to land zoned for farm or forest use shall require a notarized declaratory statement signed by all current property owners who appear on the property deed or contract. This statement shall serve as a covenant that runs with the land, binding heirs, assigns, lessees and successors. This covenant shall affirm that residents of the parcel may be subject to farm or forest management practices conducted in accordance with federal and state laws which ordinarily and necessarily produce noise, dust, smoke and other impacts. Those signing the statement acknowledge that they "do hereby accept the potential impacts from farm and forest practices as normal and necessary and part of the risk of establishing a dwelling in this area, and acknowledge the need to avoid activities that conflict with nearby farm or forest uses." The signed and notarized covenant must be approved by the County Planning Director and recorded with the Tillamook County Clerk.**

The proposed project is located on a redevelopment site within Oceanside and will not impact farms or forests.

- 4.16 Water shed protection is the critical element in maintaining and rehabilitating the water quality in the Oceanside watershed area. The ONA will work with the county and other appropriate authorities and landowners on implementation of the Oregon Forest Practices Act and other applicable regulations to achieve this goal.**

Not applicable.

- 4.17 Off-site advertising signs shall be prohibited inside the community growth boundary.**

No off-site advertising signs are proposed.

- 4.18 Other signs shall be adequately regulated to retain a village appearance.**

Any signage required for the project will be responsibly planned, submitted and reviewed by the appropriate jurisdictional body.

Policy 5. Public Involvement

- 5.1 The county will refer all proposed projects, formal application requests and applications affecting the community to the Oceanside Neighborhood Association (ONA) for review and input.**

Applicant has met with the ONA to discuss the proposed project and received favorable feedback.

- 5.2 The ONA will identify common goals with the neighboring communities so that they can work together to achieve these goals.**

Acknowledged, no response required.

- 5.3 The ONA will serve as an advocate for the community and fulfill the statewide goal of the encouraging "grassroots" citizen involvement in the public and decision making process.**

Acknowledged, no response required.

- 5.4 The ONA will formulate policy to ensure that responsible long term use of the community's resources are consistent with community goals.**

Acknowledged, no response required.

- 5.5 The ONA will develop a system of mediation for the resolution of problems and disputes within the community as they pertain to land use planning.**

Acknowledged, no response required.

- 5.6 Tillamook County and the Oceanside Neighborhood Association will continue to find ways to effectively involve residents and property owners in the planning decision process.**

Acknowledged, no response required.

Tillamook County Comprehensive Plan.

- a. Goal 1 Citizen Involvement**

Administrative requirements for County, no response needed. This application is being processed in accordance with adopted County procedures.

- b. Goal 10 Housing**

Not applicable, this is not a housing project. The increase in available recreational hotel units in the area should provide relief to the availability of long term rental units in the area.

c. Goal 11 Public Facilities

The Property is located within the urban core of Oceanside and is currently served by all necessary utilities (water, sewer, electric, trash). Applicant will coordinate with all relevant service providers for repair/replacement of necessary connections or modifications to levels of service for the proposed development.

d. Goal 12 Transportation

The traffic impacts of the proposed project are minimal, generating 10 inbound trips and 14 outbound trips during the Saturday afternoon peak hour. These traffic volumes do not trigger any warrants for improvements on any studied roads or intersections. With the project, background traffic conditions are sufficient to meet all applicable standards through the 2026 buildout year. See the Traffic Impact Analysis attached as Attachment 3.

e. Goal 14 Urbanization

The proposed project replaces an existing hotel structure within the urban core of Oceanside. No new urbanization, utilities, or impact to rural, agricultural, or forest land is proposed as part of this development.

(3) The parcel is suitable for the proposed use considering its size, shape, location, topography, existence of improvements and natural features.

The proposed project replaces a former hotel on the same site, and the characteristics of the Property listed in this criterion have not meaningfully changed since the prior hotel was approved and operational. This criterion is met.

(4) The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or prevents the use of surrounding properties for the permitted uses listed in the underlying zone.

The proposed project replaces a former hotel on the same site which operated harmoniously with surrounding properties for many years, and the characteristics of the area have not meaningfully changed since the prior hotel was approved and operational. This criterion is met.

(5) The proposed use will not have detrimental effect on existing solar energy systems, wind energy conversion systems or windmills.

Applicant is unaware of any such energy facilities in the vicinity of the Property, and even if they exist, the project should have no impact on them. This criterion is met.

- (6) The proposed use is timely, considering the adequacy of public facilities and services existing or planned for the area affected by the use.**

The proposed project replaces a former hotel on the same site, and public facilities and services available to the Property have not meaningfully changed since the prior hotel was approved and operational, nor is Applicant aware of any pending changes that would impair the proposed project.

Base Zoning

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.

Acknowledged, no response required.

(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.

...

The proposed project is not an outright permitted use in the CR-3 zone.

(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.

...

(d) Motel and hotel, which may include eating and drinking establishments.

The proposed project is a conditional use in the CR-3 zone.

(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.**

Subparagraph (a) is not applicable. The remaining standards are all met, as shown on the Site Plan.

- (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.**

This standard is met. The average maximum building height for all proposed structures is under 35 feet, as shown on the Site Plan.

- (h) Livestock shall be located no closer than 100 feet to a residential building on an adjacent lot.**

Not applicable.

- (i) Lot size and yard setback standards shall apply to motels or hotels in the CR-3 zone.**

All lot size and setback standards are met.

- (j) For multifamily structures with separately owned dwelling units with common walls, yard setbacks shall apply to the entire structures only.**

Not applicable.

SECTION 3.520: PLANNED DEVELOPMENT OVERLAY

- (1) PURPOSE: The purpose of the PLANNED DEVELOPMENT is to permit greater flexibility and creativity in the design of land development than is**

presently possible through the strict interpretation of conventional zoning and land division ordinances. The intent is to encourage development designs that preserve and/or take advantage of the natural features and amenities of a property such as, but not limited to, views water frontage, wetlands, sloping topography, geologic features and drainage areas. A Planned Development should be compatible with the established and proposed surrounding land uses. A Planned Development should accrue benefits to the County and the general public in terms of need, convenience and service sufficient to justify any necessary exceptions to the zoning and land divisions ordinances.

Acknowledged, no response required.

(2) STANDARDS AND REQUIREMENTS: The following standards and requirements shall govern the application of a Planned Development in an area in which it is permitted.

(a) A PLANNED DEVELOPMENT OVERLAY ZONE is allowed in the RR-2, RR-10, CSFR, CR-1, CR-2, CR-3, RMH, RC, CC and RI, CI, and unincorporated community zones where permitted.

The proposed project is in the CR-3 zone, so this criterion is met.

(b) A planned development may include any uses and conditional uses permitted in the RR, CSFR, CR-1, CR-2, CR-3, RMH, and RC zones. In addition, the uses permitted in the CC and CI, RI, and unincorporated community zones where permitted will be permitted in the areas where the underlying zone permits those uses.

The proposed hotel is a conditional use in the CR-3 zone, so this criterion is met.

(c) The density of a planned development will be based on the density of the underlying zone.

Not applicable; there are no density standards for hotels in the CR-3 zone.

(d) The height limit may be increased to not more than 35 feet by the Planning Commission in approving a specific Planned Development project. If the applicant is requesting a height increase, this request shall be noted in the notice to affected property owners. The Planning Commission may allow an increase in the height if there is a reasonable basis for the additional height such as: topography of the site, clustering of units, preservation of open space, staggering of building sites, and view corridors between ocean front dwelling units.

This standard is met. The average maximum building height for all proposed structures is under 35 feet, as shown on the site plan.

(e) Dimensional standards for lot area, depth, width, and all yard setback standards of the underlying zone shall not apply and these standards shall

be established through the Planned Development approval process in order to fulfill the purpose set forth in Section 3.520(1). In the RR/PD zoned areas, only those properties located within a Community Growth Boundary can utilize this item. All rural RR/PD zoned land shall conform to the density and standards of the RR zone.

Not applicable; Applicant does not propose to vary the lot area, depth, width and setback standards of the underlying CR-3 zone, all of which are met as discussed above.

(f) The development standards of the Land Division Ordinance shall provide the basic guide for the design of a planned development. Variances may be permitted through the Planned Development approval process in order to fulfill the purposes set forth in Section 3.520 (1). Variance process and criteria contained in the Tillamook County Land Division Ordinance and Tillamook County Land Use Ordinance must be followed.

Not applicable; Applicant does not seek any variances to the Land Development Ordinance.

(3) PLANNED DEVELOPMENT PROCEDURE: The following procedures shall be observed in applying for and acting on a planned development.

(a) An applicant shall submit a preliminary development plan to the Planning Department for review. The preliminary plan shall include the following information: (1) Proposed land uses, building locations and housing unit densities. (2) Proposed circulation pattern indicating the status of street ownership. (3) Proposed open space uses. (4) Proposed grading and drainage pattern. (5) Proposed method of water supply and sewage disposal. (6) Economic and supporting data to justify any proposed commercial development in an area not so zoned. (7) Relation of the proposed development to the surrounding area and the comprehensive plan.

Housing densities and item (6) are not applicable. Items (1), (2), (3) and (7) are found on sheet A102 of the Site Plan. Item (2) is also found in the Traffic Impact Analysis. Item (4) is found in the Geotechnical Report. Item (5) is found on sheet A101 of the Site Plan and in the Geotechnical Report.

(b) During its review the Planning Department shall distribute copies of the proposal to county agencies for study and comment. In considering the plan, the Planning Department shall seek to determine that:

(1) There are special physical conditions or objectives of development which the proposal will satisfy to warrant a departure from the standard ordinance requirements.

Applicant does not seek to depart from the requirements of the underlying zoning, but because the PD overlay is applicable to the site, Applicant

addresses the PD overlay criteria in this application. This criterion is not applicable.

(2) Resulting development will not be inconsistent with the comprehensive plan provisions or zoning objectives of the area.

The proposed project meets all applicable goals and policies of the Oceanside Community Plan, and all requirements of the CR-3 and PD overlay zones, as discussed above. This criterion is met.

(3) The plan can be completed within a reasonable period of time.

Applicant intends to commence the project as soon as the necessary permits are approved and will maintain a consistent workflow throughout the project with completion estimated in 2026.

(4) The streets are adequate to support the anticipated traffic and the development will not overload the streets outside the planned area.

The traffic impacts of the proposed project are minimal, generating 10 inbound trips and 14 outbound trips during the Saturday afternoon peak hour. These traffic volumes do not trigger any warrants for improvements on any studied roads or intersections. With the project, background traffic conditions are sufficient to meet all applicable standards through the 2026 buildout year. See the Traffic Impact Analysis attached as Attachment 3. This criterion is met.

(5) Proposed utility and drainage facilities are adequate for the population densities and type of development proposed.

The proposed project replaces a former hotel on the same site for which existing utility and drainage facilities were adequate, and the proposed project will not increase use of such facilities beyond levels previously experienced at the Property. This criterion is met.

(6) The parcel is suitable for the proposed use, considering its size, shape, location, topography, existence of improvements, and natural features.

The proposed project replaces a former hotel on the same site, and the characteristics of the Property listed in this criterion have not meaningfully changed since the prior hotel was approved and operational. This criterion is met.

(7) The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or prevents the use of surrounding properties for the permitted uses listed in the underlying zone.

The proposed project replaces a former hotel on the same site which operated harmoniously with surrounding properties for many years, and the characteristics of the area have not meaningfully changed since the prior hotel was approved and operational. This criterion is met.

(8) The proposed use is timely, considering the adequacy of public facilities and services existing or planned for the area affected by the use.

The proposed project replaces a former hotel on the same site, and public facilities and services available to the Property have not meaningfully changed since the prior hotel was approved and operational, nor is Applicant aware of any pending changes that would impair the proposed project.

(9) Proposed uses which are not otherwise permitted by the underlying zoning on the parcel are accessory uses within the entire development.

Not applicable, as there are no proposed uses not otherwise permitted in the CR-3 zone.

(c) The Planning Department shall notify the applicant whether, in its opinion, the foregoing provisions have been satisfied and, if not, whether they can be satisfied with further plan revision.

Acknowledged, no response required.

(d) Following this preliminary review, the applicant may request approval of the planned development by the Planning Commission according to the provisions in Article VI if the proposal is to take place on property designated with the PLANNED DEVELOPMENT OVERLAY ZONE prior to May 30, 1985.

The Property was subject to the PD overlay zone prior to May 30, 1985. Consequently, Applicant requests approval pursuant to Article VI of the LUO, which is discussed above in this application.

(e) If the property is to be divided under the provisions of the Land Division Ordinance, a request according to the requirements of that Ordinance shall be included as part of the Planning Commission's review.

Not applicable, no land division is requested.

(f) The filing fee for a planned development is the total of all fees for the action requested.

The required filing fees have been paid concurrently with the filing of this application.

(g) In addition to the requirements of this section, the Planning Commission may attach conditions it finds are necessary to carry out the purposes of this ordinance.

Acknowledged, no response required.

(h) Planned Development shall be identified on the zoning map with the letters "PD" in addition to the abbreviated designation of the existing zone.

Acknowledged, no response required.

(i) Building permits in a planned development shall be issued only on the basis of the approved plan. Any changes in the approved plan shall be submitted to the Planning Commission for approval in accordance with the procedures for approval of a conditional use request.

Acknowledged, no response required.

(j) In an existing PD overlay zone, lots on parcels of record as of the date of adoption of this ordinance which are less than one acre in size, may be built upon in accordance with all other requirements of the zone in which the lot or parcel is located and of this ordinance.

Acknowledged, no response required.

(4) TO ESTABLISH A NEW PLANNED DEVELOPMENT OVERLAY ZONE: To establish a Planned Development Overlay designation under Article IX of this ordinance, the applicant must submit to the department the following material in addition to the requirements of Article IX and Section 3.520 (3):

...

Not applicable, as no new PD overlay designation is requested.

Other Applicable Criteria

SECTION 4.030: OFF-STREET PARKING AND OFF-STREET LOADING REQUIREMENTS

(1) PURPOSE: The purpose of requirements for off-street parking and loading areas is to relieve traffic congestion; to ensure customer convenience and safety; to provide safe access to parked vehicles; and to help ensure safe and timely response of emergency vehicles.

Acknowledged. All parking for the proposed project will be provided on the Property and off-street.

(2) PARKING SPACE: A single parking space shall be at least 8 feet by 20 feet in size.

All proposed parking spaces will meet these minimum size requirements.

(3) TIMING OF COMPLIANCE: At the time any structure or use is erected or enlarged, or the use of any parcel or structure is changed, all required off-street parking spaces and loading areas provided in conjunction with an existing use shall not be reduced below the minimum requirements of this Ordinance.

The project will not reduce off-street parking spaces or loading areas below minimum requirements. The project will provide 29 off-street spaces, 7 more than the 22 spaces necessary to meet peak hour parking requirements and 5 more than the 24 spaces required by the LUO.

(4) PARKING FOR MULTIPLE USES: In the event several uses occupy a single structure or parcel of land, the total parking requirements shall be the sum of the requirements of the several uses computed separately. Joint use of the same parking and loading spaces by more than one use may be permitted, provided that the hours of operation of the separate uses do not overlap, and that satisfactory legal evidence is presented to the Department to establish the joint uses.

Not applicable. All on-site parking will be limited to hotel guests and employees. There will be no accessory uses open to the public that require additional parking.

(5) USE OF REQUIRED PARKING AREAS: Parking areas required by this Section are designated for the operable vehicles of residents and their guests, and the owner, customer, patrons, and employees of commercial or industrial activities only. Vehicle or material storage, or the parking of vehicles used to conduct an activity, shall require additional parking areas.

All parking spaces will be designated for exclusive use by patrons or employees of the project.

(6) DRAINAGE: Areas used for standing and maneuvering of vehicles shall have a surface that is suitable for all-weather use, and shall be drained so as to avoid the flow of water across public sidewalks and streets.

The design adheres to this criterion.

(7) BUFFERING NON RESIDENTIAL PARKING AREAS: Non-residential parking and loading areas adjacent to a residential use shall be enclosed along the residential use by a sight obscuring fence that is from five to six feet in height, except where vision clearance is required.

Not applicable.

(8) CURBING: Parking spaces along the boundaries of a lot shall be contained by a curb or bumper rail that is at least four inches high and is set back at least four and one-half feet from the property line.

The design adheres to this criterion.

(9) LIGHTING: Artificial lighting shall not create or reflect substantial glare into any adjacent residential zone or use.

The design adheres to this criterion.

(10) PROXIMITY TO TRAFFIC: Parking areas for four or more vehicles shall be of sufficient size to allow the backing and maneuvering of vehicles entirely out of the flow of traffic.

The design adheres to this criterion.

(11) SCHOOL DRIVEWAY: A one-way driveway for loading and unloading children shall be located on the site of any school having a capacity of more than 25 students.

Not applicable.

(12) OFF-STREET LOADING AREAS: Activities that receive or distribute materials or merchandise by truck shall install and utilize loading docks in sufficient numbers and size to accommodate loading requirements without the disruption of nearby traffic. Parking areas required by this Ordinance may only be used for loading operations during periods of the day when not required for patron or customer parking.

Not applicable.

(13) PARKING SPACE REQUIREMENTS: Requirements for types of building and uses not specifically listed herein shall be determined by the Department, based upon the requirements for comparable uses either listed below or active elsewhere in the county.

...

(c) MOTEL, HOTEL OR GROUP COTTAGES: One space for every unit.

According to the Traffic Impact Analysis (see Attachment 3), peak parking demand during the Saturday afternoon peak hour requires 22 parking spaces for the proposed project. This criterion requires 24 spaces. The project will provide 29 off-street spaces, more than enough to meet demand under either measure.

SECTION 4.130: DEVELOPMENT REQUIREMENTS FOR GEOLOGIC HAZARD AREAS

4.130(1) Purpose

The purpose of these Development Requirements for Geologic Hazard Areas is to protect people, lands and development in areas that have been identified as being subject to geologic hazards.

The provisions and requirements of this section are intended to provide for identification and assessment of risk from geologic hazards, and to establish

standards that limit overall risk to the community from identified hazards to a level acceptable to the community. Development in identified hazard areas is subject to increased levels of risk, and these risks must be acknowledged and accepted by present and future property owners who proceed with development in these areas.

Acknowledged, no response required.

4.130(2) Applicability

The following areas are considered potentially geologically hazardous and are therefore subject to the requirements of Section 4.130:

...

- e) All lands along the oceanfront. An oceanfront lot is a lot or parcel that abuts the ocean shore state recreation area (as defined in OAR 736-021-0010) or a lot or parcel where there is no portion of a buildable lot between it and the ocean shore state recreation area. Lots or parcels that are fronted by roads, parks, beach accesses, or other minimal improvements are also considered oceanfront.**

The Property is along the oceanfront and therefore Section 4.130 applies. Applicant's Geotechnical Report is attached as Attachment 2.

4.130(3) Geologic Hazard Assessment Review

- a) Except for activities identified in Subsection 4.130(3)(b) as exempt, any new development or substantial improvement (as defined in Article 11) in an area subject to the provisions of this section shall require a Geologic Hazard Assessment Review.**
- b) The following development activities are exempt from the requirement for a Geologic Hazard Assessment Review:**

...

This application is not exempt from Geological Hazard Assessment Review. Geologic Hazard Assessment Review is conducted as a Type I process concurrent with any other application related to the proposed use. Applicant's Geotechnical Report meeting the requirements of LUO 4.130(3)(d) and 4.130(4) is attached as Attachment 2.

4.130(5) Decisions of Geological Assessment Reviews

A decision on a Geologic Hazard Assessment Review shall be based on findings of compliance with the following standards:

- a) The Geologic Hazard Report shall meet the content standards set forth in Section 4.130(4).**

Applicant's Geotechnical Report meeting the requirements of LUO 4.130(3)(d) and 4.130(4) is attached as Attachment 2.

b) In approving a Geologic Hazard Assessment Review, the decision maker may impose any conditions which are necessary to ensure compliance with the provisions of this section or with any other applicable provisions of the Tillamook County Land Use Ordinance.

Acknowledged, no response required.

c) The development plans for the application conform, or can be made to conform, with all the recommendations and specifications contained in the Geologic Hazard Report.

Applicant's development plan for the proposed project conforms to all the recommendations and specifications of the Geotechnical Report.

d) In the event the decision maker determines that additional review of the Geologic Hazard Report by a qualified licensed geoprofessional is necessary to determine compliance with this section, Tillamook County may retain the services of such a professional for this purpose. The applicant shall be responsible for all costs associated with the additional review. The results of that evaluation shall be considered in the decision of the Geologic Hazard Assessment Review.

Acknowledged, no response required.

4.130(6) Development Standards for Uses Subject to Review

In addition to the conditions, requirements and limitations imposed by a required Geologic Hazard Report, all uses subject to a Geologic Hazard Assessment Review shall conform to the following requirements:

a) Hazard Disclosure Statement: All applications for new development or substantial improvements subject to Geologic Hazard Assessment Review shall provide a Hazard Disclosure Statement recorded with the Tillamook County Clerk's Office and signed by the property owner that acknowledges:

...

Acknowledged, and Applicant will accept a condition of approval requiring recordation of a Hazard Disclosure Statement.

b) Mitigation measures: Mitigation measures required to make the site suitable for the proposed development, including their design and construction specifications, shall be included in the Geologic Hazard Report and followed.

Applicant's development plan for the proposed project conforms to all the recommendations and specifications of the Geotechnical Report, including mitigation measures.

c) Safest site requirement: All new structures shall be limited to the recommendations contained in the Geologic Hazard Report; and

1. Property owners should consider use of construction techniques that will render new buildings readily moveable in the event they need to be relocated; and

Applicant intends to comply with all necessary compliance measures related to the Geologic Hazard Report.

2. Properties shall possess access of sufficient width and grade to permit new buildings to be relocated or dismantled and removed from the site.

Applicant intends to comply with all necessary compliance measures related to the Geologic Hazard Report.

d) Minimum Oceanfront Setbacks: For oceanfront lots or parcels, the building footprint of all new development or substantial improvement subject to a Geologic Hazard Assessment Review shall also comply with the requirements of Section 3.530(8) Oceanfront Setbacks.

Compliance with Section 3.530(8) is demonstrated below.

e) Erosion Control Measures: All uses subject to a Geologic Hazard Assessment Review shall address the following erosion control measure requirements, designed by a qualified licensed geoprofessional:

1. Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one-time during construction;

2. Development plans shall minimize cut or fill operations so as to prevent off-site impacts;

3. Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development;

4. Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical;

5. Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be structurally retarded where necessary;

6. Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installation of temporary or permanent drainage across or above such areas, or by other suitable stabilization measures such as mulching, seeding, planting, or armoring with rolled erosion control products, stone, or other similar methods;

7. All drainage provisions shall be designed to adequately carry existing and potential surface runoff from the twenty-year frequency storm to suitable drainageways such as storm drains, natural watercourses, or drainage swales. In no case shall runoff be directed in such a way that it significantly decreases the stability of known landslides or areas identified as unstable slopes prone to earth movement, either by erosion or increase of groundwater pressure;

8. Where drainage swales are used to divert surface waters, they shall be vegetated or protected as necessary to prevent offsite erosion and sediment transport;

9. Erosion and sediment control devices shall be required where necessary to prevent polluting discharges from occurring. Control devices and measures which may be required include, but are not limited to:

i. Energy absorbing devices to reduce runoff water velocity;

ii. Sedimentation controls such as sediment or debris basins. Any trapped materials shall be removed to an approved disposal site on an approved schedule;

iii. Dispersal of water runoff from developed areas over large undisturbed areas.

10. Disposed spoil material or stockpiled topsoil shall be prevented from eroding into streams or drainageways by applying mulch or other protective covering; or by location at a sufficient distance from streams or drainageways; or by other sediment reduction measures; and

11. Such non-erosion pollution associated with construction such as pesticides, fertilizers, petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the

construction site through proper handling, disposal, site monitoring and clean-up activities.

The design adheres to these criteria. Applicant will accept a condition of approval requiring that it adhere to these requirements throughout construction.

f) Certification of compliance: Permitted development shall comply with the recommendations in the required Geologic Hazard Report. Certification of compliance shall be provided as follows:

a. Plan Review Compliance: Building, construction or other development plans shall be accompanied by a written statement from a certified engineering geologist or licensed geotechnical engineer stating that the plans comply with the recommendations contained in the Geologic Hazard Report for the Geologic Hazard Assessment Review.

b. Inspection Compliance: Upon the completion of any development activity for which the Geologic Hazard Report recommends an inspection or observation by a certified engineering geologist or licensed geotechnical engineer, the certified engineering geologist or licensed geotechnical engineer shall provide a written statement indicating that the development activity has been completed in accordance with the applicable Geologic Hazard Report recommendations.

c. Final Compliance: No development requiring a Geologic Hazard Report shall receive final approval (e.g., certificate of occupancy, final inspection, etc.) until the department receives:

i. A written statement from a certified engineering geologist or licensed geotechnical engineer indicating that all performance, mitigation, and monitoring measures specified in the Geologic Hazard Report have been satisfied;

ii. If mitigation measures incorporate engineering solutions designed by a licensed professional engineer, a written statement of compliance by the design engineer;

iii. A written statement by the qualified licensed geoprofessional indicating that all erosion control measure requirements were met.

Applicant intends to comply with all necessary compliance measures related to the Geologic Hazard Report.

g) Restoration and replacement of existing structures:

a. Notwithstanding any other provisions of this ordinance, application of the provisions of this section to an existing use or structure shall not have the effect of rendering such use or structure nonconforming as defined in Article 7.

b. Replacement, repair or restoration of a lawfully established building or structure subject to this section that is damaged or destroyed by fire, other casualty or natural disaster shall be permitted, subject to all other applicable provisions of this ordinance, and subject to the following limitations:

i. Replacement authorized by this subsection is limited to a building or structure not larger than the damaged/destroyed building.

ii. Structures replaced pursuant to this subsection along the oceanfront shall be located no further seaward than the damaged structure being replaced.

iii. Replacement or restoration authorized by this subsection shall commence within one year of the occurrence of the fire or other casualty which necessitates such replacement or restoration.

c. A building permit application for replacement, repair, or restoration of a structure under the provisions of this subsection shall be accompanied by a Geologic Hazard Report prepared by a qualified licensed geoprofessional that adheres to the Geologic Hazard Report Standards outlined in Section 4.130(4). All recommendations contained in the report shall be followed.

d. A building permit application for replacement, repair, or restoration authorized by this subsection shall be processed and authorized as Type I review pursuant to Section 10.020.

Acknowledged, no response required.

Oceanfront Setback

LUO 3.530 (8) OCEANFRONT SETBACKS: As used in this section, "vegetation line" means the ocean shore state recreation area boundary as described in ORS 390.770 or the line of established upland shore vegetation, whichever is farther inland. In areas subject to the provisions of this section, all development, except for activities listed as exempt in subsection (5)(b), shall be set back from the vegetation line the greater of:

(a) A distance specified in a required Geologic Hazard Report if it is more restrictive than the Oceanfront Setback Line; or

Not applicable.

(b) A distance established through calculation of an Oceanfront Setback Line (OSL) as follows:

(A) On a lot or parcel where there are existing buildings located within 300 feet of the boundaries of the subject lot or parcel on both the north and the south, the OSL is a line drawn between the nearest building to the north and the nearest building to the south. The line shall be drawn between the most oceanward points of the two building footprints closest to the vegetation line.

(B) On a lot or parcel where there are buildings within 300 feet of the boundaries of the subject lot or parcel on one side only (north or south), the OSL is the average distance from the vegetation line of all such buildings. The measurement for calculating the average shall be made from the most oceanward point of the building footprints closest to the vegetation line.

(C) On a lot or parcel where there are no buildings within 300 feet north or south of the boundaries of the subject lot or parcel, the OSL is the average distance from the vegetation line of the nearest two buildings. The measurement for calculating the average shall be made from the most oceanward point of the building footprints closest to the vegetation line.

(D) For purposes of calculating the OSL, "building" means a lawfully established, permanent residential, commercial, public, or industrial structure within 500 feet of the vegetation line and located on a lot or parcel that abuts the vegetation line. It does not include detached accessory structures.

(E) For purposes of calculating the OSL, "closest point of a building" means the point on an exterior wall of a building that is closest to the vegetation line. It does not include decks, second story decks, other structural improvements above finished grade, unroofed porches or landings, walkways, or building projections such as cornices, eaves, canopies, sunshades, gutters, or chimney chases.

As discussed in the Geotechnical Report, the OSL for this property was established by the County's Notice of Decision on January 5, 2017 in File No. 851-16-000149-PLNG (see Exhibit A) as "measured 20-feet from the western property line and 20-feet from those property lines fronting and abutting land under Oregon State Parks jurisdiction." The Geotechnical Report demonstrates that except for one minor encroachment, no part of the proposed project encroaches over the OSL. The minor encroachment is insignificant and should

be disregarded because (i) the calculated stability results carried out at the encroachment location indicate a sufficient Factor of Safety (as described in the Geotechnical Report); and (ii) the proposed project otherwise meets all the requirements of LUO 3.530(8)(b).

(c) In no case may any structure or other development be permitted west of the statutory vegetation line or line of actual vegetation, whichever is more landward, except as authorized by the Oregon Department of Parks and Recreation in accordance with OAR Chapter 736, division 20.

Applicant does not propose any structures or other development west of the statutory vegetation line or line of actual vegetation, whichever is more landward.

(d) (missing)

(e) On lots or parcels created prior to the effective date of this section, where the application of the minimum oceanfront setback, together with any other required yards and/or setbacks, results in a building footprint area of less than 1,500 square feet, the required yard setback opposite the oceanfront may be reduced as follows:

(A) The required yard setback opposite the oceanfront may be reduced by an amount necessary to provide a building footprint of not more than 1,500 square feet, or to a minimum of 10 feet, whichever is less.

(B) If the reduction in setback permitted in subsection (A) results in a permissible building footprint of less than 1,500 square feet, the oceanfront setback may be reduced by an amount necessary to provide a building footprint of not more than 1,500 square feet.

Not applicable; the available building footprint is larger than 1,500 square feet.

(f) Notwithstanding the above provisions, the Planning Director shall require a greater setback from the ocean where there is evidence of significant coastal, environmental, or geologic hazards as determined by a Geologic Hazard Report submitted pursuant to Section 3.530(6) or other information available to the Department. In making this determination, the Geologic Hazard Report and the Director shall consider evidence of recent and future beach erosion and whether the proposed development has been designed to adequately minimize and mitigate for any adverse environmental effects to the fullest extent required by law.

As demonstrated in the Geotechnical Report, there are no special considerations relative to calculation of the OSL that would implicate subsection (f).

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Pastega, Trustee

Recorded in the County of Tillamook,
State of Oregon.

DEES' NAME:

Tassi O'Neill, Tillamook County Cler

Pastega, Trustee

Pastega, Trustee

TAX STATEMENTS TO:

and Chris Pastega

airview Rd.

ok, OR 97141

STATUTORY WARRANTY DEED

DENNIS PASTEGA, Trustee of The Dennis Pastega Generation Skipping Trust 1996 ("Grantor"), conveys and warrants to DENNIS PASTEGA, Trustee of the Revocable Trust as to an undivided one-half interest, and to CHRIS C. PASTEGA of the Chris C. Pastega Revocable Trust as to an undivided one-half interest), the following described real property, commonly known as 1816 N Oceanview Rd., Oceanside, Oregon, and more particularly described as:

See Legal Description attached hereto as Exhibit A and by this reference incorporated herein.

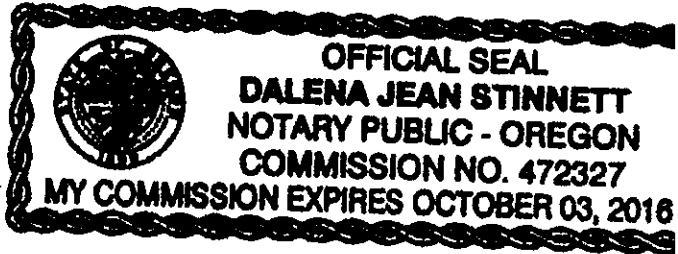
NOT TO: Liens, encumbrances, covenants, conditions, restrictions and/or easements, if any, of record.

Consideration for this conveyance is \$0 and other good and valuable consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PURCHASER OR RECEIVING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 AND 6, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 8, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS OR ZONING REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PURCHASER OR RECEIVING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE PROPERTY BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOCAL ZONING DISTRICT.

Dennis Pastega
DENNIS PASTEGA, Trustee

OF OREGON)
) ss.
of Ella Mook)



This instrument was acknowledged before me on this 20 day of Dec
DENNIS PASTEGA, as Trustee of The Dennis Pastega Generation Skipping Tru

Dalena Jean Stinnett
Notary Public - State of Oregon

NO. 1:

land in the Northeast quarter of the Northeast quarter of Section 25, Township 1 South, 1 of the Willamette Meridian in Tillamook County, Oregon; said tract is Parcel I and a portion of Book 357, Page 78, Tillamook County Deed Records, and being more particularly described as follows:

Beginning at a point 1470.94 feet North and 813.31 feet West from the initial point of Oceanside; South $0^{\circ} 50' 08''$ East 73.18 feet to a point 1398.28 feet North and 804.60 feet West from the initial point of Oceanside;
South $67^{\circ} 51' 00''$ East 80.00 feet;
South $45^{\circ} 51' 53''$ West 230.33 feet;
North $45^{\circ} 48' 25''$ West 103.07 feet;
North $21^{\circ} 40' 05''$ East 63.26 feet;
North $27^{\circ} 59' 31''$ West 97.64 feet;
North $45^{\circ} 15' 00''$ East 178.25 feet;
South $44^{\circ} 45' 00''$ East 85.22 feet;
South $82^{\circ} 42' 00''$ West 10.04 feet;
South $07^{\circ} 18' 00''$ East 17.50 feet to the point of beginning.

The foregoing adjusts the boundaries of an existing parcel. See Survey A-7120 for basis and monumentation data.

NO. 2:

land in the Northeast Quarter of the Northeast Quarter of Section 25, Township 1 South, of the Willamette Meridian in Tillamook County, Oregon; said tract is a portion of Parcel 7, Page 78, Tillamook County Deed Records, and is more particularly described as follows: Beginning at a point 1470.94 feet North and 813.31 feet West from the initial point of Oceanside; South $0^{\circ} 50' 08''$ East 73.18 feet to a point 1398.28 feet North and 804.60 feet West from the initial point of Oceanside;

South $67^{\circ} 51' 00''$ East 80.00 feet to the point of beginning;
South $53^{\circ} 56' 00''$ East 30.00 feet;
South $36^{\circ} 04' 00''$ West 116.12 feet;
South $53^{\circ} 56' 00''$ East 10.00 feet to a point which is 1250.72 feet North and 766.53 feet West from the initial point of Oceanside;
South $36^{\circ} 04' 00''$ West 122.16 feet;
North $45^{\circ} 48' 25''$ West 80.00 feet;
North $45^{\circ} 51' 53''$ East 230.33 feet to the point of beginning.

of the Willamette Meridian in Tillamook County, Oregon; said tract is a portion of Parcel 7, Page 78, Tillamook County Deed Records, and is more particularly described as following at a point 1470.94 feet North and 813.31 feet West from the initial point of Oceanside South $0^{\circ} 50' 08''$ East 73.18 feet to a point 1398.28 feet North and 804.60 feet West from point of Oceanside;

South $67^{\circ} 51' 00''$ East 80.00 feet;

South $53^{\circ} 56' 00''$ East 30.00 feet to the point of beginning;

South $36^{\circ} 04' 00''$ West 116.12 feet;

South $53^{\circ} 56' 00''$ East 10.00 feet to a point which is 1250.72 feet North and 766.53 feet West from initial point of Oceanside;

South $53^{\circ} 56' 00''$ East 40.00 feet;

North $36^{\circ} 04' 00''$ East 116.12 feet;

North $53^{\circ} 56' 00''$ West 50.00 feet to the point of beginning.

The foregoing adjusts the boundaries of an existing parcel. See Survey A-7120 for basis and monumentation data.

This legal description was created prior to January 1, 2008.

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Tillamook County Department of Community Development
BUILDING, PLANNING & ON-SITE SANITATION

1510-B Third Street
Tillamook, Oregon 97141
www.tillamookcounty.gov
(503)-842-3408

Land of Cheese, Trees, and Ocean Breeze

June 26, 2024

PRE-APPLICATION MEETING SUMMARY

HOTEL DEVELOPMENT PROJECT
1816 Maxwell Mountain Road
Tax Lots 2200, 2400 & 6600
of Section 25AA, Township 1 South, Range 11 West, Tillamook County, Oregon

Several meetings have been held with Community Development to consider a new hotel proposal with focus on the following:

- Identification of Zoning Districts & Overlay Zones
- Confirmation of Uses Permitted
- Required Land Use Approvals & Review Processes
- Oceanfront Setback Line
- Accessory Uses
- Required Off-Street Parking Regulations
- Transportation & Utility Infrastructure
- Community Engagement

Maps:

- Zoning Map
- Beaches & Dunes NRCS Map

Zoning Districts & Overlay Zones:

- Underlying Zone is High Density Urban Residential (R-3)
 - Documentation included in this summary confirming zoning designation for subject properties did not change as a result of the adoption of the Oceanside Unincorporated Community Boundary and implementing ordinances for properties within the boundary.
- Overlay Zone is Planned Development (PD)

Required TCLUO Zoning Standards:

- High Density Urban Residential (R-3) zone lists hotels as a use permitting conditionally, Section 3.016(3)(c).
- Development standards are contained in Subsection 4. Minimum lot size and yard requirements for multi-family dwellings shall apply to a hotel in the R-3 Zone.
- Property is considered to be oceanfront. Building height maximums are also contained in Subsection 4; however, the Planned Development (PD) Overlay Zone also applies for development of the subject property, allowing for height of structures up to 35-feet.

- Planned Development (PD) Overlay Zone allows for design flexibility and building heights of up to 35-feet. Density cannot be increased through the PD Overlay Zone.

Required TCLUO Supplemental Standards:

- TCLUO Section 4.030: Off-Street Parking and Off-Street Loading Requirements: Number of parking spaces for a hotel is one parking space per unit. Each parking space shall be a minimum of 8-feet by 20-feet. Provisions for maneuverability of vehicles, lighting, curbing and other standards are contained within Section 4.030.
- TCLUO Section 4.130: Development Requirements for Geologic Hazard Areas contains requirements for development of the subject properties, including a requirement for a Geologic Hazard Assessment and adherence to the Oceanfront Setback Line for properties that abut the ocean shore.
 - A copy of the Geologic Hazard Report and previous Oceanfront Setback Line determination are included with this report.
 - A Geologic Hazard Assessment is required for development of the hotel project.

Required Land Use Approvals:

- Hotel proposal requires Conditional Use review and approval. Review criteria were discussed at meetings and a copy of the criteria (Article 6) is included with this report. Approval requires demonstration that criteria have been met or can be met through Conditions of Approval.
 - Conditional Use request requires public hearing and will be processed as a Type III application.
 - TCLUO Article 10 outlines the process for a Type III review. A copy of TCLUO Article 10 is included with this report.
- Relief to parking requirements contained in Section 4.030 can only be achieved through an approved Variance and demonstration that the Variance criteria have been met. A copy of TCLUO Article 8 has been included with this report.

Discussion of Accessory Uses:

- The TCLUO does not provide clear guidance on what constitutes accessory use. Several iterations of the hotel project have been presented to Community Development for comment. Proposed accessory uses include eating and drinking facility (restaurant), a meeting/event conference space and a spa. The Planning Commission will have to determine what constitutes an accessory use.
- It is also undetermined at this time if additional parking spaces will be required for accessory uses such as those mentioned above. Provisions contained in TCLUO Section 4.030 and Section 6.070 could allow for modification in the location and number of required off-street parking and loading spaces, as determined by the Planning Commission.

Transportation & Infrastructure Discussion:

- Tillamook County Public Works Director Chris Laity confirmed a Traffic Impact Analysis is required for the proposed development and must be completed for review at the time of Conditional Use application submittal.
- Stormwater infrastructure must be designed in accordance with the recommendations of the geoprofessional (contained in Geologic Hazard Assessment) and must be designed in accordance with Tillamook County Public Works requirements.
- Tillamook County Public Works and the Netarts-Oceanside Fire District will want to review a final parking and traffic plan for the proposed development. This plan must be submitted with the Conditional Use application for agency and department review.
- Netarts-Oceanside Sanitary District may require additional sewer infrastructure improvements, to be determined by the District. A letter confirming sewer availability should be submitted to demonstrate adequate facilities and public services exist in the area and that the proposed hotel project is timely given the availability of services existing or planned for the area (Conditional Use Criterion #6).
- Oceanside Water District may require additional water infrastructure improvements, to be determined by the District. A letter confirming sewer availability should be submitted to demonstrate adequate facilities and public services exist in the area and that the proposed hotel project is timely given the availability of services existing or planned for the area (Conditional Use Criterion #6).
- A new hydrant may be required for development as discussed in meetings with Fire Chief Tim Carpenter.

Community Engagement:

- Staff recommendation that applicant meet with the Oceanside Neighborhood Association, the County appointed Citizen Advisory Committee for the Unincorporated Community of Oceanside.
- Community meeting took place on April 6, 2024, where applicants made a presentation of the project and received community feedback.
 - Feedback focused on development in a geologic hazard area, safety measures for public on beach below, adequate parking, adequate road and utility infrastructure, traffic flow and discussion of accessory uses (amenities) that could also be enjoyed by community at large.

Additional Information:

- OPRD Letter dated September 18, 2019, is included in this report to reflect conversations with applicant regarding previous Oceanfront Setback Line determination and development potential adjacent to that portion of Maxwell Point under OPRD jurisdiction.
- When discussing Conditional Use criteria, a Geologic Hazard Assessment is needed to support Conditional Use Criterion #3 (suitability of the site).
- Given the layout of location of proposed buildings and uses, properties (Tax Lots 2200, 2400 and 6600) shall be combined for development.

Sincerely,



Sarah Absher, CFM, Director

Encl: Zoning Confirmation Letter
Zoning Map
TCLUO Section 3.016 High Density Urban Residential (R-3) Zone
TCLUO Section 3.520 Planned Development Overlay (PD) Zone
TCLUO Section 3.530 Beach and Dune Overlay (BD) Zone (Oceanfront Setback Line & Geologic Hazard Assessment requirements contained in TCLUO Section 4.130_
TCLUO Section 4.030: Off-Street Parking and Off-Street Loading Requirements
TCLUO Section 4.130 Development Requirements for Geologic Hazard Areas
TCLUO Article 6
TCLUO Article 8
TCLUO Article 10
Pastega Reports Y163980B & Y123599
Oceanfront Setback Line Staff Report and Decision Letter
2019 Pastega Site Plan
NRCS Map
OPRD Letter dated September 18, 2019

GEOTECHNICAL REPORT

PROPOSED MOTEL SITE REDEVELOPMENT

1816 MAXWELL MOUNTAIN ROAD, OCEANSIDE, OREGON

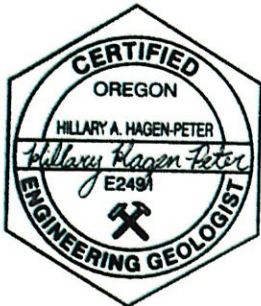
Prepared for:

Nile Hagen
Longfellows Development Corporation, LLC
Email: NileHagen@gmail.com

June 20, 2024

STRATA Project No. 23-0868.1

Prepared by:



Exp: 06/1/24

Hillary A. Hagen-Peter, RG CEG
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FIGURES

1. Landslide Inventory Map
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3. Oceanside Proposed New Development
4. Oceanside Summary of Remedial Treatments
5. Seismic Array Locations
6. Micropile Support Location Building 1
7. Upper Slope Soil Nails
8. Section C -C' Micropiles and Wall Tie-Backs
9. Micropile

APPENDICES

- A. Remi (Seismic Testing) Results
- B. Slope Analysis and Treatments Documentation

1.0 PROJECT BACKGROUND

Strata Design, LLC (STRATA) has prepared this update to our original Geotechnical Report/Geohazard update¹ for the proposed motel site redevelopment located at 1816 Maxwell Mountain Road in Oceanside, Oregon (see Landslide Inventory Map Figure 1). The proposed development has been reconfigured since our 2023 report. The primary purpose of this report is to address Geologic Hazard Report Standards TCLUO SECTION 4.130(4) of the Tillamook County (the County) Land Use Ordinances for review by the County and to provide geotechnical recommendations for the new development. We have been specifically asked to address the setback originally proposed by Schlicker in their 2014, 2016 and 2019 reports².

This geotechnical report follows up Strata Design LLC's (STRATA) 2023 report¹ and evaluation for the teardown of the existing buildings (Figure 2) and new construction of various motel buildings and a restaurant/spa with attached deck on lots 2200, 2400, and potentially 6600 (Figure 3). We understand design work on all three of these lots is still in progress and that formal plans have not been completed. A preliminary layout was provided to STRATA by you during the course of our work³.

2.0 SCOPE OF WORK COMPLETED

- Performed Geophysical surveys of the site using VsSurf ReMi™ equipment and data interpretation software.
- Performed supplemental geologic reconnaissance of the site incorporating the results of our ReMi survey, our previous report² and the borings from the Schlicker report.
- Presented findings and conclusions of geological hazard review in accordance with Geologic Hazard Report Standards TCLUO SECTION 4.130(4)—Development Requirements for Geologic Hazard Areas.
- Provided pre-design and stability for the proposed development, including building and slope mitigation for setbacks, foundation support, slope stabilization, and rockfall mitigation.

Note that final design reports and design drawing and specifications will need to be developed for the mitigation items laid out in this document.

2.1 Current Topographic and Aerial Drone Survey

STRATA used a UAV (drone) to gather orthophotographs of the site on February 16, 2023. The results of the drone survey are summarized in our original report¹. Based on that work, three cross-

¹ Geotechnical Report titled: "Development Update—Geologic Hazard Areas, Proposed Motel Site Redevelopment, 1816 Maxwell Mountain Road, Oceanside, Oregon." Prepared for Nile Hagen, Prepared by Strata Design, sealed by Rick Thrall, PE GE, dated May 22, 2023

² H.G. Schlicker & Associates—Geotechnical Investigation for Deep Foundations Addendum to an Update of a Geologic Hazards Study and Geotechnical Report (HGSA #163980), Tax Lots 2200 and 2400, Map 1S-11-25AA, 1816 Maxwell Mountain Road, Oceanside, Tillamook County, Oregon, dated March 5, 2019.

³ Link for the drawings forwarded via email by Nile Hagen, May 7, 2024.

section transects were developed across the site. These transect locations are superimposed on the development shown on Figure 3. The cross sections used in our stability and setback analysis are depicted in Figures 5, 6 and 7.

3.0 SUPPLEMENTAL EXPLORATIONS

In addition to the explorations depicted in our original hazard report we completed geophysical surveys (ReMi) to further define the quality of soils and rock on the site. The survey work was focused on both the northwest and southwest bluff areas for setback determinations and the swale in the area of Building 3 for foundation purposes.

3.1 Geophysical Survey

We performed two geophysical surveys at the site on March 14, 2024, to characterize subsurface materials to about 115 feet below ground surface (bgs). We utilized Terēan's VsSurf ReMi™ seismic equipment and processing software. The seismic survey was performed by assembling a series of geophones on the ground surface and using ambient noise or active seismic sources to generate seismic signals into the subsurface materials. In this case, we used ambient noise (foot and automobile traffic) and active seismic sources (hammer blows) to generate seismic waves that traveled through the subsurface and provided a shear-wave dispersion curve that was used to model subsurface shear-wave velocities. The weighted average of soil shear wave velocity in the upper 100 feet is designated as Vs100 and helps determine seismic site class according to American Society of Civil Engineers (ASCE) 7-16 standard.

For this project, we set up two 230-foot-long arrays of 24 geophones to analyze shear wave velocities of subsurface layers down to 115 feet bgs at the locations shown on Figure 5. Surface survey information was provided by you. Seismic survey #1 (Transect A-A', Figures 3 and 5) was performed within the north portion of Lot 2200 and oriented northeast southwest. The geophones were positioned within 2 to 20 lateral feet of the steep, north-descending slopes leading down to Tunnel Beach. Seismic survey #2 (Transect B-B', Figures 3 and 5) was performed through Lots 2200, 2400 and 6600 and oriented northwest southeast. The southeast portion of this seismic line was located along the steep, southeast-descending slope. We generated 1d and 2d profiles from the seismic data. Surveyed elevations differences between each geophone in both seismic arrays were accounted for in the data reduction process. The 1d profiles represent the average shear wave velocities below the centerpoint of the 230-foot-long array, whereas the 2d profile represents the subsurface layers below the center 140 feet of the 230-foot-long array. In this case, the 1d profile is accurate to about 115 feet bgs (one-half of the total seismic array length) and the 2d profile is accurate to about 65.75 feet bgs (one-fourth of the total seismic array length).

In summary, seismic survey #1 resulted in Vs100 of 1,284 feet per second (ft/s) and seismic survey #2 resulted in Vs100 of 1,494 ft/s. The results of the survey indicate that according to Table 20.3-1 in ASCE 7-16, this results in a designation of a Seismic Site Class C for both surveys.

A detailed report of the arrays is included in Appendix A. Based on published literature,⁴⁵⁶ these shear wave velocities are analogous with soil to a completely weathered rock. In seismic array 1 along the north portion of Lot 2200, the weathered rock jumps up to 1,400 ft/s around 32 feet bgs on average. In seismic array 2 that traverses through Lots 2200, 2400 and 6600, the weathered rock jumps up to 1,400 ft/s around 40 feet bgs on average. The slowest seismic velocities (softest materials) are located near the southeast end of seismic array 2, which is along the steep, southeast-descending hillslope. We presume this area is soft as a result of its lack of lateral support and potential for colluvial materials, particularly toward the bottom of the slope.

3.2 Slopes and Ground Conditions

The condition of the slopes surrounding the development is discussed in detail in our May 2023 report¹. Figure 3 shows our orthophoto-generated contours at the site on February 16, 2023 relative to the new building locations. We have observed evidence of sloughing and shallow landslides surrounding the proposed development with the high bluff being particularly active. Anecdotally, there are multiple described instances of sloughing and landslides including burial of the tunnel⁷. Some of the affected/affecting surround slope belongs to lot 2300, which appears to be owned by the State of Oregon⁸.

As indicated in the ReMi results (Appendix A), very poor soil and rock conditions are indicated underlying the entire site to depths of about 30 to 40 feet. Schlicker recommended in selected reports that some or all structures be founded on micropiles. Our ReMI results and our observations generally confirm the results reported in the Schlicker geotechnical reports². Thus we concur with Schlicker and recommend that all building be supported on micropiles (or equivalent) deep foundation systems.

Note that special attention needs to be given to surface grading and routing of surface flows, area drains, and roof drains. Flows over the bluffs and groundwater infiltrating into subsurface soil and rock will only exacerbate the unstable or marginally stable slopes. We thus recommend that all drainage will need to be directed to the east and into the existing roadway drain system.

The recommended treatment of the foundation and slope areas is summarized in Figure 4. Specific slope treatment for each of the buildings is described as follows:

Building 1.

General Building Support. As indicated, the entirety of Building 1 should be founded on 6-inch-diameter micropiles (or an equivalent foundation system) placed on 6-foot spacings. With 6-inch-diameter piles we assume a compression capacity of 50 kips ultimate or 25 kips allowable

⁴ Geo Engineer, In Situ Shear Wave Velocity Measurements in Rocks, March 24, 2015, <https://www.geoengineer.org/education/web-class-projects/cee-544-soil-site-improve-winter-2015/assignments/in-situ-shear-wave-velocity-measurements-in-rocks>.

⁵ N. Campbell, C. Fenton and S. Tallett-Williams, Australian Geomechanics Society, Geotechnical and Geophysical Site Characterisation, *An Investigation into the Effects of Material Properties on Shear Wave Velocity in Rocks/Soils*, 2016.

⁶ T.E. Fumal, United States Department of the Interior Geological Survey, *Correlations between seismic wave velocities and physical properties of near-surface geologic materials in the southern San Francisco Bay region*, California, 1978.

⁷ https://www.beachconnection.net/news/maxwell_point_tunnelbeach_oceanside.php

⁸ tillamookcountymaps.co.tillamook.or.us

supporting the structure. The spacings may be adjusted based on structural requirements. The piles should be a minimum of 50 feet deep and penetrate a minimum of 10 feet into the weathered bedrock to be determined by the geotechnical engineer representative. Our micropile analysis indicates a Factor of Safety (FS) of 2.25 in compression assuming a #20 steel bar and a conservatively assumed grout-to-ground adhesion of 2,000 pounds per square foot (psf).

Full Slope Analysis. Plan and Cross-Section Views of Transect E-E' (Figures represent the geometry of the approximate very steep [60°] slope below Building 1.) As per our ongoing work¹ and the 2014 HGSA geotechnical report², we can conclude the bluff below Building 1 has been actively sloughing and retreating over time. Historic information indicates that the bluff will likely continue to slough and fail¹. Stability analysis based on static conditions indicates a calculated FS of about 1± with the failure surface intersection 30 feet back from the top of the slope.

Figure 6 shows the minimum calculated FS of 0.60 with seismic loadings. Typically, a calculated FS of 1.0 with ½ PGA seismic loadings indicates acceptable ground deformation for life safety purposes. As shown, the calculated FS = 0.60 indicates an unacceptable condition within the failure surface envelope shown on the analysis. Note that the envelope indicating potential ground surface deformation extends a distance of 50 feet back from the edge of the bluff. For these conditions, the outer micropile supported footings closest to the bluff should be increased to an 8-inch diameter and founded to depths of 60 feet as shown on Figure 6.

Upper Bluff Stabilization. As noted, the upper portion of the bluff below Building 1 is sloughing and failing down onto the beach below. We suggest that the slope be stabilized by using high strength mesh (Geobrugg or Mirafi®) pinned into the slope using soil nails. Figure 4 shows the general area of stabilization, limited by the property boundaries with the State of Oregon Parks Department. Figure 7 shows that the calculated FS for 25-foot-long soil nails placed on 5-foot centers results in a calculated FS of 1.59, which is an acceptable result.

Building 2

As previously discussed, the overall Building 2 footprint should be stabilized using micropile support as discussed in the "General Building Support" section and shown on Figure 4. Figures 3 and 8(Transect C-C') show a topographic plan and cross section of the slope below Building 2. As stated in our original report,¹ the subject slopes are heavily vegetated and appear marginally stable under static conditions.

The stability analysis in Figure 7 includes analysis of the slope under seismic loading. The section includes the existing retaining wall. Assuming that the wall steel penetrates at least 9 feet into the ground and drives the failure surface below that, the calculated FS is 0.66 with the minimum failure surface penetrating into the building footprint. Thus, similar to Building 1, the outer piles should be 8-inch micropiles penetrating to a 50 feet depth.

Building 3

As discussed in our previous report,¹ we advanced two hand-auger borings (HA-1 and HA-2) within the Building 3 lots 2400 and 6600. Further, the west portion of our ReMi survey along seismic array 2, shows low strength soil and rock conditions to depths between 30 to 60 feet

(Appendix A). Thus, as we previously recommended and as shown on Figure 4, the overall Building 3 footprint should be stabilized using micropile support around the perimeter and interior to the structure. Seismic analysis of the bluff along the northern side of old lot 2400 indicates a stable condition under static loadings and marginal slope stability ($FS < 1$) under seismic conditions. However, it appears that the slope will slightly subside but not create a condition that would threaten life safety rest of the development. As a precaution, the slope could be mitigated but likely better left undisturbed.

Steel Pile with Lagging Wall.

Our original recommendation was to have a structural assessment of the wall¹. One possible mitigation measure is to reinforce the wall with tie-back anchors and walers as indicated in Figure 4.

3.3 Setback

We understand that a generalized 30-foot set back on the west bluff and 20-foot setback on the east bluff was recommended by Schlicker in their 2019 report². They specifically state:

“The northern deep foundations should be set back a minimum of 20’ from the upper bluff edge. The southwestern deep foundations need to be set back a minimum of 30’ from the upper bluff edge.”

The currently proposed building locations encroach into the setback areas as shown by Schlicker² (please reference *Figure 2* in the Schlicker Report²). The recommended 30-foot setback was measured from the bluff location at the time. The site and bluff location has changed since 2019 and measuring from the existing bluff location is not the same as measuring from the 2019 location. Figure 3 shows the setback location as drawn in Schlicker (*Figure 2*) relative to the existing buildings. As shown, Building 1 is located several feet landward of the 2019 buffer distance.

Figure 3 also shows the Oceanfront Setback Line (OSL) superimposed on the Building 1 and Building 2 locations. As shown on the figure, the proposed new building locations are outside of the OSL except for a small encroachment area to the northwest of Building 1. Note that we consider the small encroachment into the OSL setback to be insignificant.

In this report we have defined the ground conditions in detail based on the ReMi™ testing and detailed slope reconnaissance described in this document. We have used those conditions to calculate the required depth of the piles needed to support the buildings under static and seismic loadings. We have shown by calculation and by discussions portrayed in this document that the existing locations of the buildings are satisfactorily stable within the standards of the geotechnical profession. Please note that Schlicker did not back up his recommendation with any slope stability analysis or detailed subsurface investigations. So, the recommended 30’ setback is just an estimate. We thus suggest that the OSL provides a suitable set-back line for the proposed development.

4.0 SOIL NAIL AND MICROPILE DESIGN RECOMMENDATIONS

4.1 Micropiles

Figure 9 shows a schematic representation of the proposed 6-inch-diameter micropile. As shown, the micropile would consist of an equivalent #20 DWIDAG Steel Bar drilled to a depth of about 50 feet with 6 inches of concrete grout surround. Due to the potential for hole caving, a 5-foot surface casing might be needed and the hole should be drilled with hollow bar with equivalent structural properties to the #20 DWIDAG bar. As shown, a length of bar would extend above the ground surface so that an appropriate structural connection can be made into the footings or grade beams. The hole diameter and depth would be adjusted for the outside 8-inch piles to be placed at the locations shown on Figure 4. The calculated allowable loads for each micropile in tension and compression is 25,000 pounds assuming an FS of 2 for the 6" diameter micropiles. We conservatively assume a grout to ground adhesion of 2,000 psf in determining the capacity of the piles.

4.2 Soil Nail Wall

Given the steepness of the bluff and height above the ground, the nails can be installed with a slope drill with the crew operating off ropes. A 50,000 psi high strength stainless steel mesh should be laid out approximately 25 feet down the slope as shown on Figure 4. Then soil nails would be installed in approximate 4-inch bores using 40-millimeter hollow bar (or equivalent). The technique is to drill with standard drilling fluids pumping the fluids through the hollow bar and a sacrificial bit. Once drilled in, concrete (or equivalent) grout would be pumped through until the annulus is filled. The mesh would be attached and torqued to a pre-determined stress (we used a 25 kip lock off load in our analysis) using standard plates and nuts that thread onto the hollow bar. Specialized clips are also normally available. The bars and mesh can be planted through and various color coatings can be used to make the mesh visually blend into the rock.

Note that during this work the beach below would need to be closed as rocks will likely be loosened and released during the slope work. Also, a cooperative agreement with the State of Oregon Parks Department may be considered so that the stabilized slope area may be expanded.

5.0 ADDITIONAL SERVICES

The future performance and integrity of the structural elements will depend largely on understanding the site conditions and appropriate geotechnical design practice for slope stabilization, pile wall upgrades (as appropriate), proper site buffer distance, and foundation design. During construction, proper site preparation, drainage, fill placement, and construction procedures and safety enhancements should be followed when working on steep slopes.

Monitoring and testing (geotechnical special inspection) by experienced geotechnical personnel should be considered an integral part of the design and construction process. Note that in particular this includes micropile installation. STRATA may be retained upon request to provide the following services during construction:

- Conducting additional site reconnaissance and subsurface investigations based on the planned site improvements, as appropriate.
- Developing construction plans and specifications to support the design criteria for the project.
- Conducting construction support activities such as bid assistance and construction observation.

Please note that a monitoring program consisting of frequent site inspections and the installation of inclinometers and surface monuments. The instruments should be monitored yearly for the following 3 years after installation. After 3 years, the surface monuments should still be read annually but the inclinometer measurement frequency can be increased to every 3 years. The results of the monitoring should be immediately reviewed by qualified persons. Anomalies, interior building distress or inclinometer should be reported to the geotechnical engineer.

6.0 LIMITATIONS

This report was prepared for the exclusive use of our Client and members of the design team for this specific project. It should be made available to prospective contractors for information on the factual data only and not as a warranty of subsurface conditions, such as those interpreted from the explorations and discussed in this report.

The recommendations contained in this report are preliminary and are based on information derived through site reconnaissance, subsurface testing, and knowledge of the site area. Variation of conditions within the area and the presence of unsuitable materials are possible and cannot be determined until exposed during construction. Accordingly, STRATA's recommendations can be finalized only through STRATA's observation of the project's earthwork construction. STRATA accepts no responsibility or liability for any party's reliance on STRATA's preliminary recommendations.

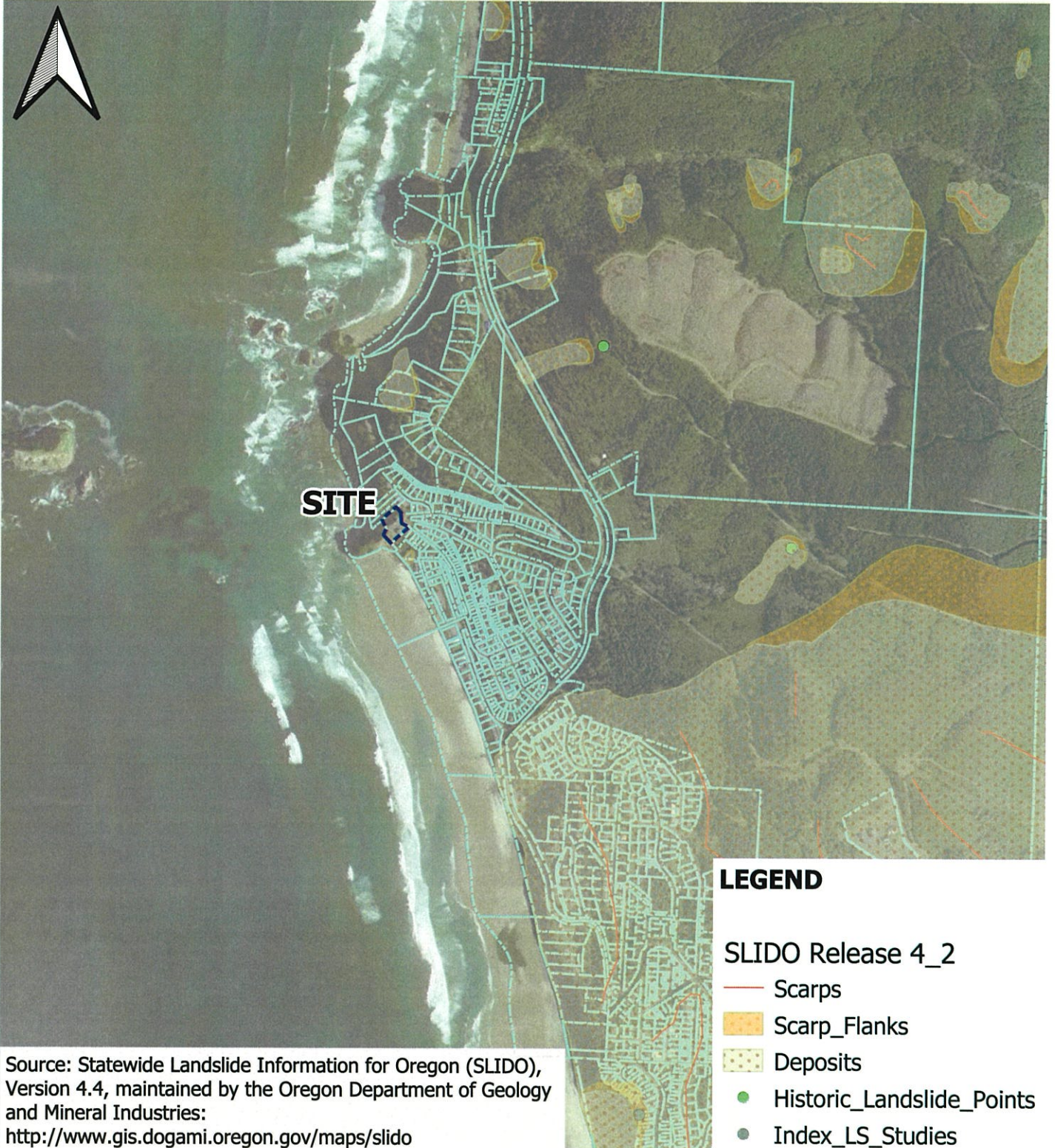
Unanticipated soil conditions are commonly encountered and cannot fully be determined by exploratory methods. Such unexpected conditions frequently require that additional expenditures be made to attain properly constructed projects. Therefore, a contingency fund is recommended to accommodate the potential for extra costs.

Within the limitations of the scope of work, schedule, and budget, the analyses, conclusions, and recommendations presented in this report were prepared in accordance with generally accepted professional geotechnical engineering principles and practice in this area at the time this report was prepared.

◆ ◆ ◆

FIGURE 1 LANDSLIDE INVENTORY MAP

OCEANSIDE MOTEL - STRATA PROJECT # 23-0868
1816 MAXWELL MOUNTAIN ROAD, OCEANSIDE, OREGON

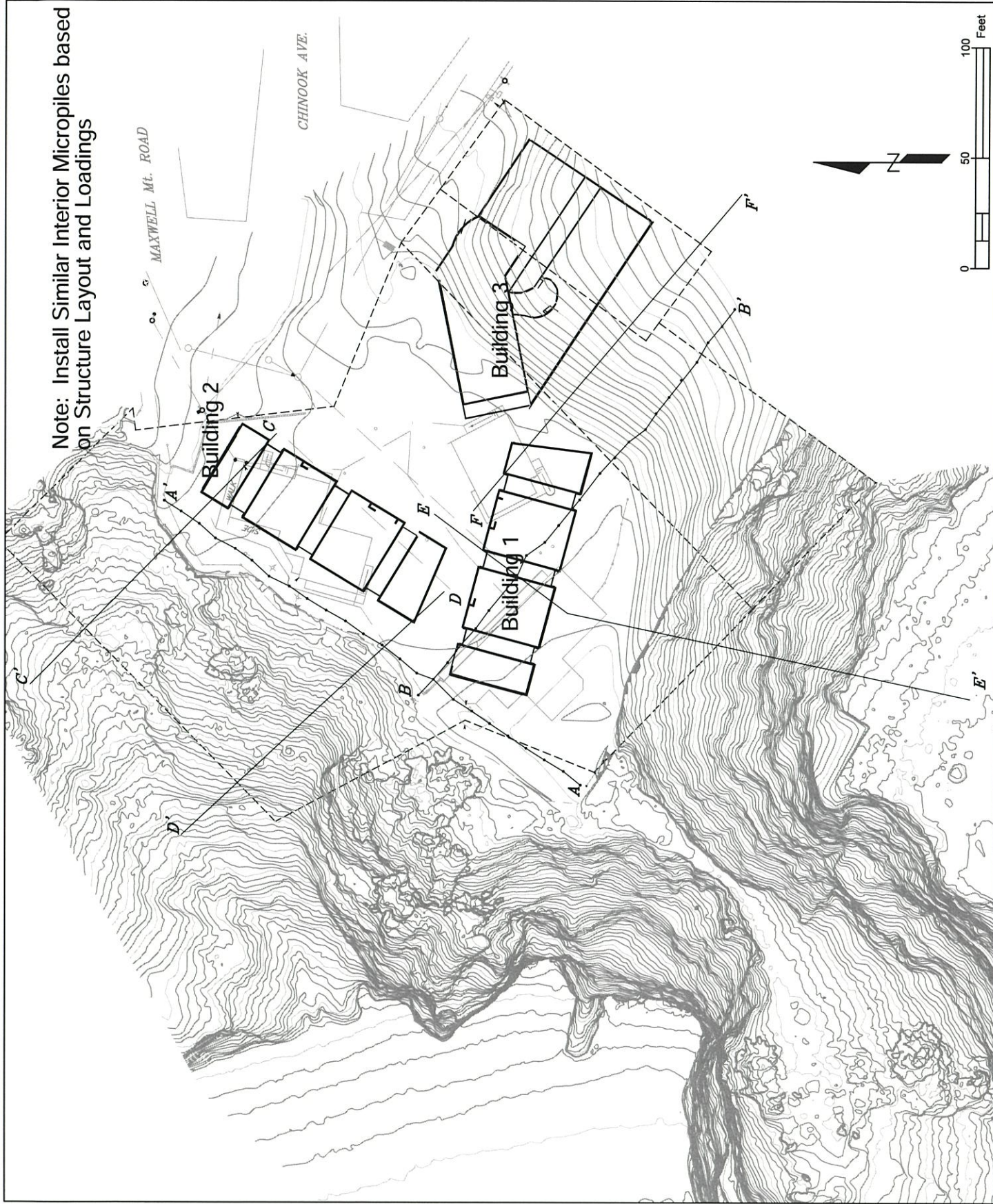


0 750 1,500 ft

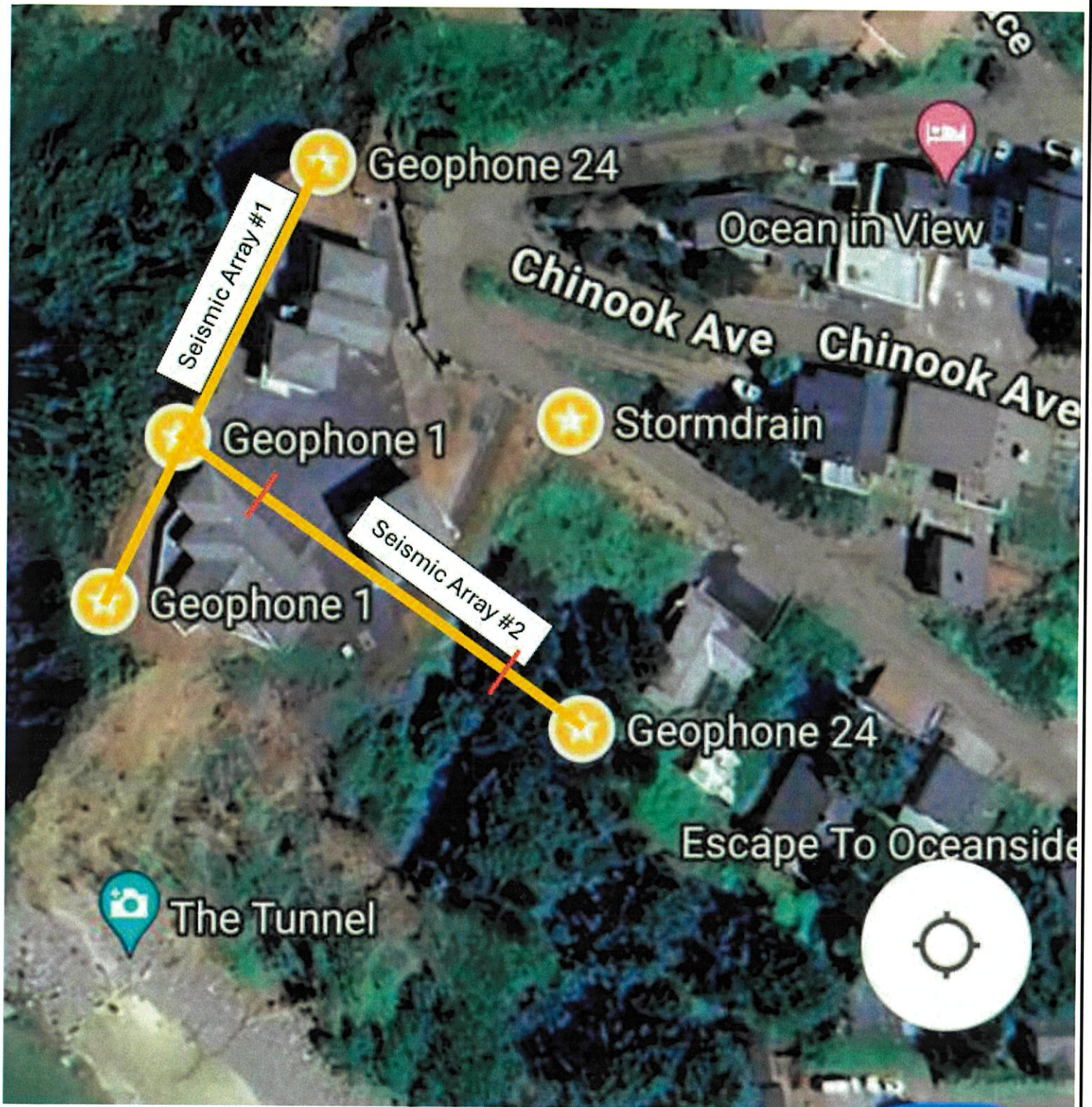




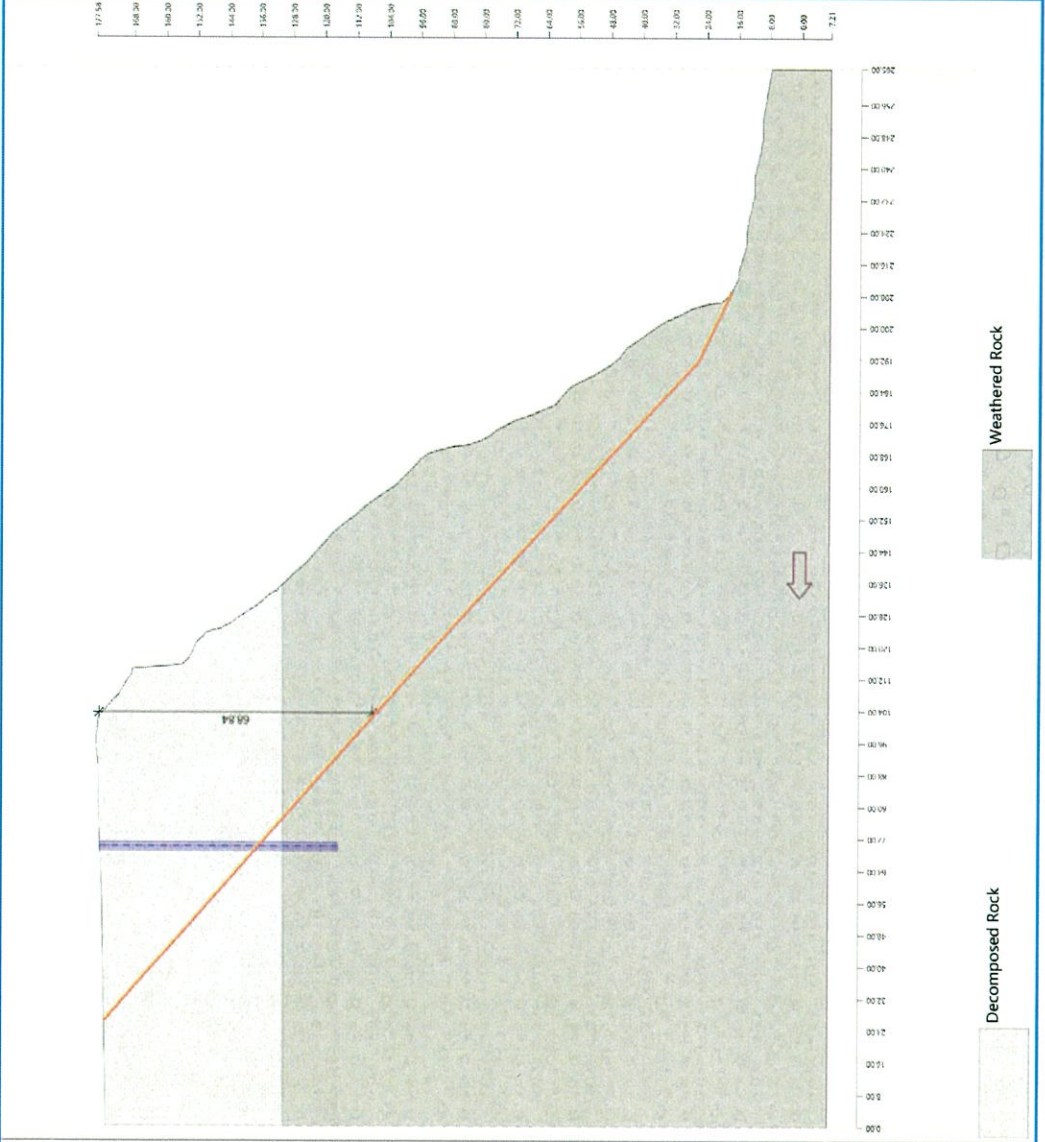
Note: Install Similar Interior Micropiles based on Structure Layout and Loadings



Oceanside Summary of Remedial Treatments



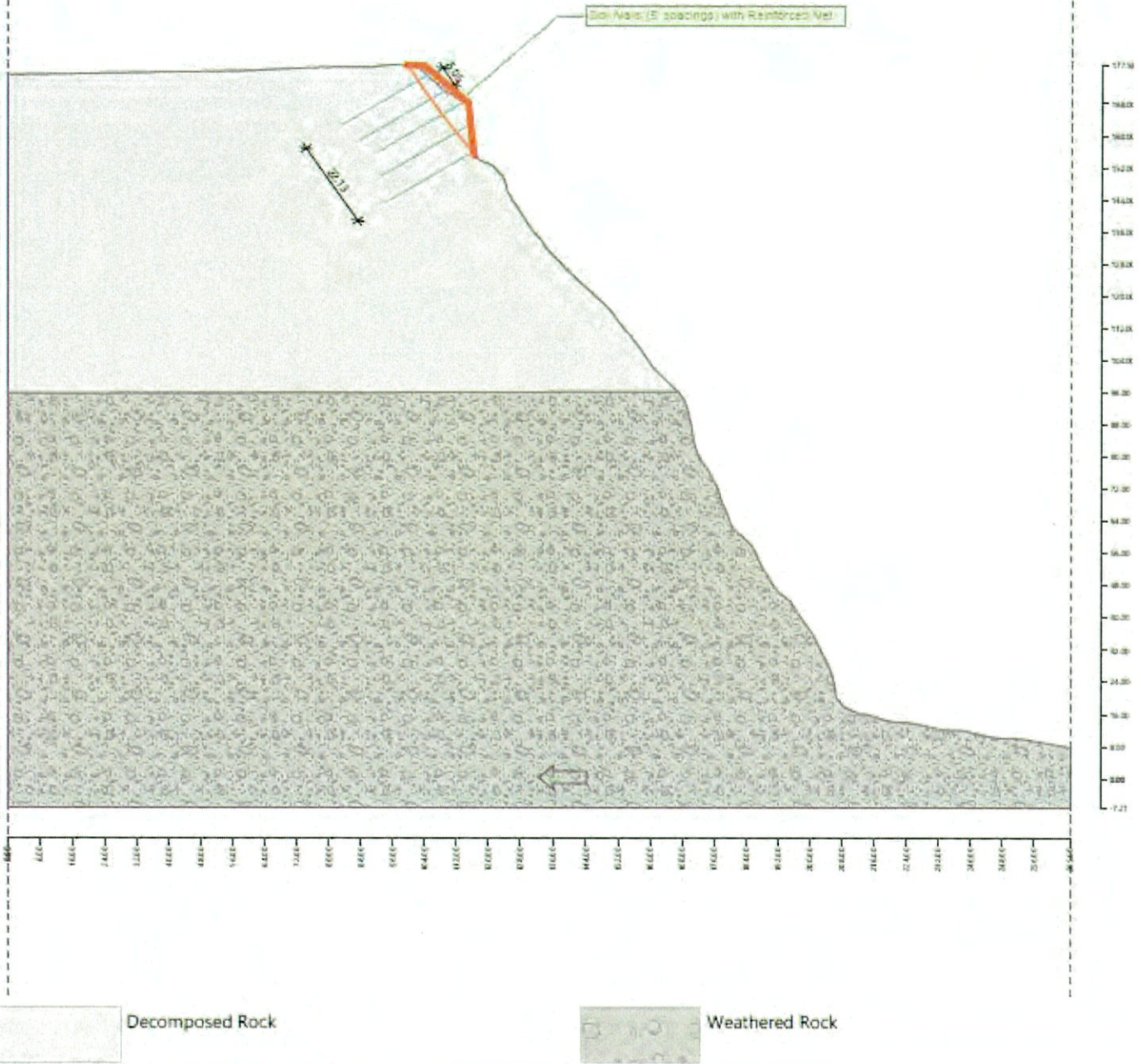
Name : Stage - analysis : 4 - 1



Analysis of the slip surface without optimization.
Slope stability verification (Janbu)
 Factor of safety = 0.60 < 1.25
Slope stability NOT ACCEPTABLE

[GEO5 - Slope Stability (32 bit) | version 5.2024.104.0 | hardware key 10675 / 1 | Strata Design LLC | Copyright © 2024 Fine spol. s r.o. All Rights Reserved | www.finesoftware.eu]
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Analysis of the slip surface without optimization.

Slope stability verification (Bishop)

Sum of active forces : $F_a = 12682.0$ lbf/ft

Sum of passive forces : $F_p = 20113.0$ lbf/ft

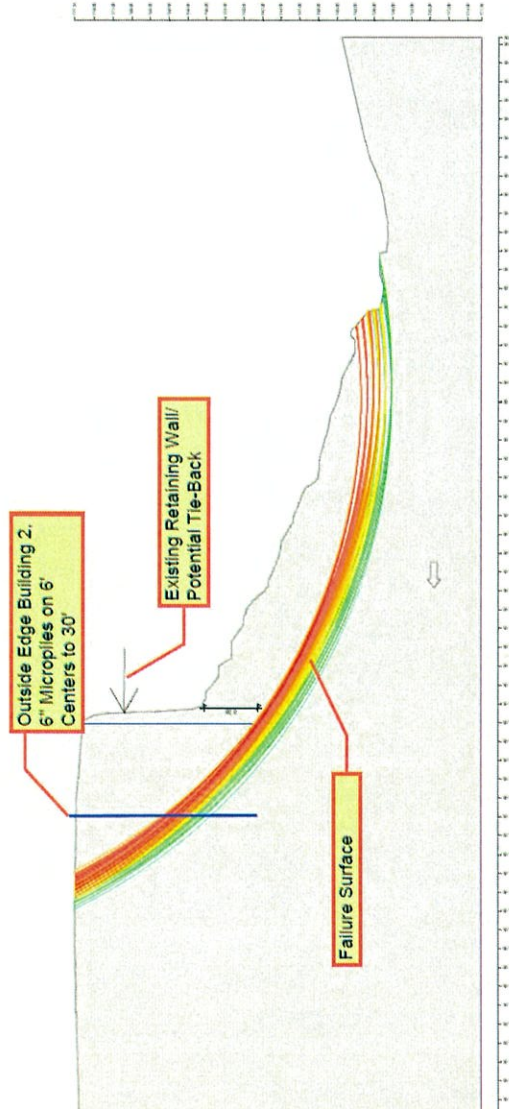
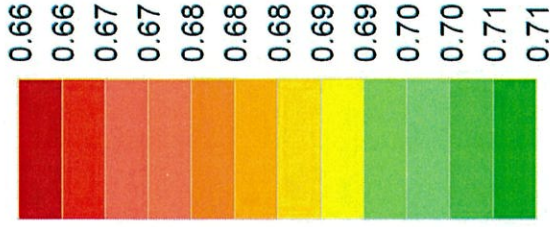
Sliding moment : $M_a = 2520158.9$ lbfft/ft

Resisting moment : $M_p = 3996849.6$ lbfft/ft

Factor of safety = 1.59 > 1.25

Slope stability ACCEPTABLE

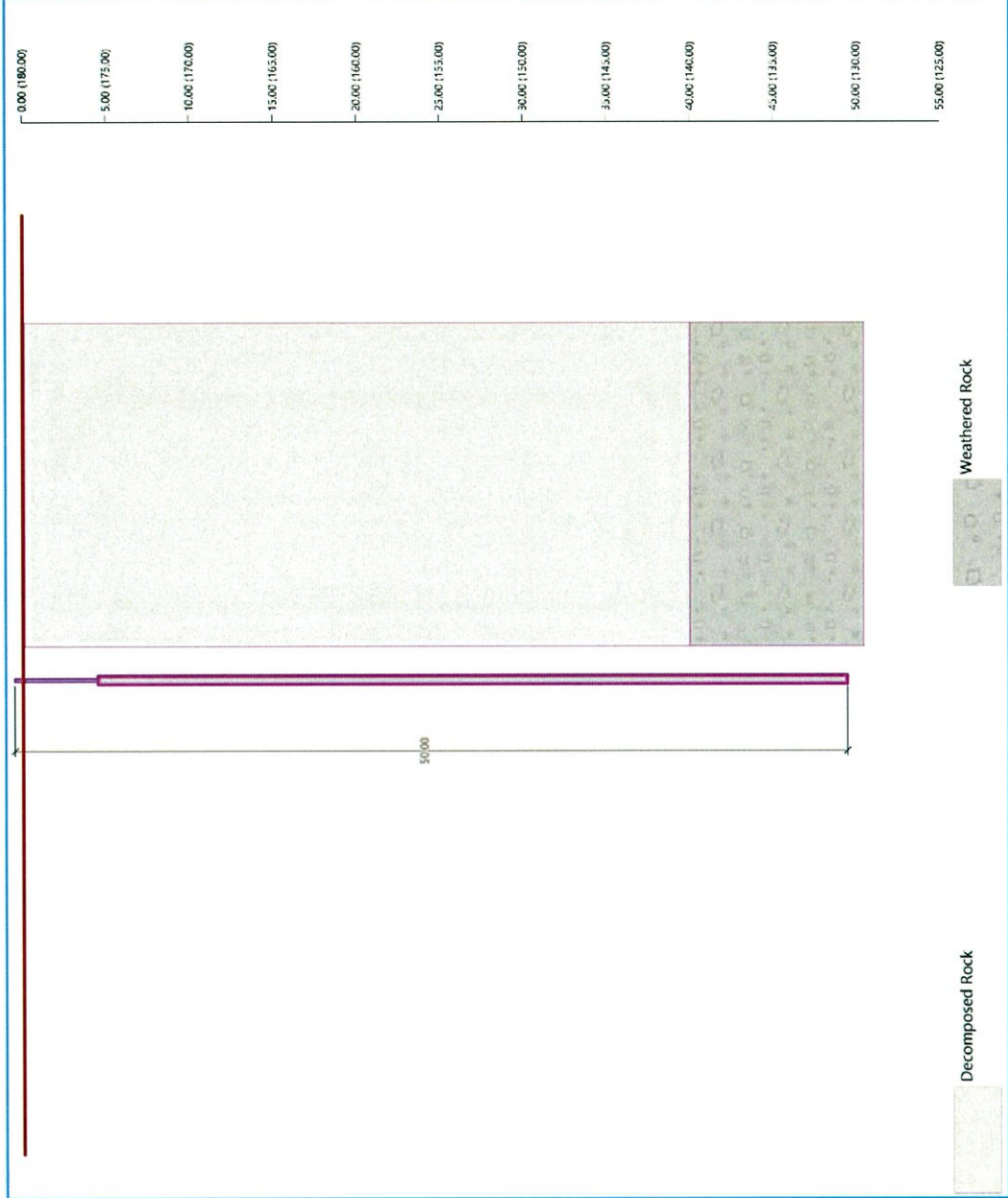
[GEO5 - Slope Stability (32 bit) | version 5.2024.13.0 | hardware key 10675 / 1 | Strata Design LLC | Copyright © 2024 Fine spol. s r.o. All Rights Reserved | www.finesoftware.eu] [GIntegro, LLC | 201.204.9560 | info@gintegro.com | www.gintegro.com]



Slip surface after grid search.
Slope stability verification (Bishop)
 Sum of active forces : $F_a = 98753.8$ ||
 Sum of passive forces : $F_p = 65182.2$ ||
 Sliding moment : $M_a = 8784148.2$ ||
 Resisting moment : $M_p = 5797957.7$ ||
Factor of safety = 0.66 < 1.25
Slope stability NOT ACCEPTABLE

[GEO5 - Slope Stability (32 bit) | version 5.2024.13.0 | hardware key 0687511 | Strata Design LLC | Copyright © 2024 Fine spol. s r.o. All Rights Reserved | www.fine-software.eu] [Gintegro - LLC | 201.204.6560 | info@gintegro.com | www.gintegro.com]

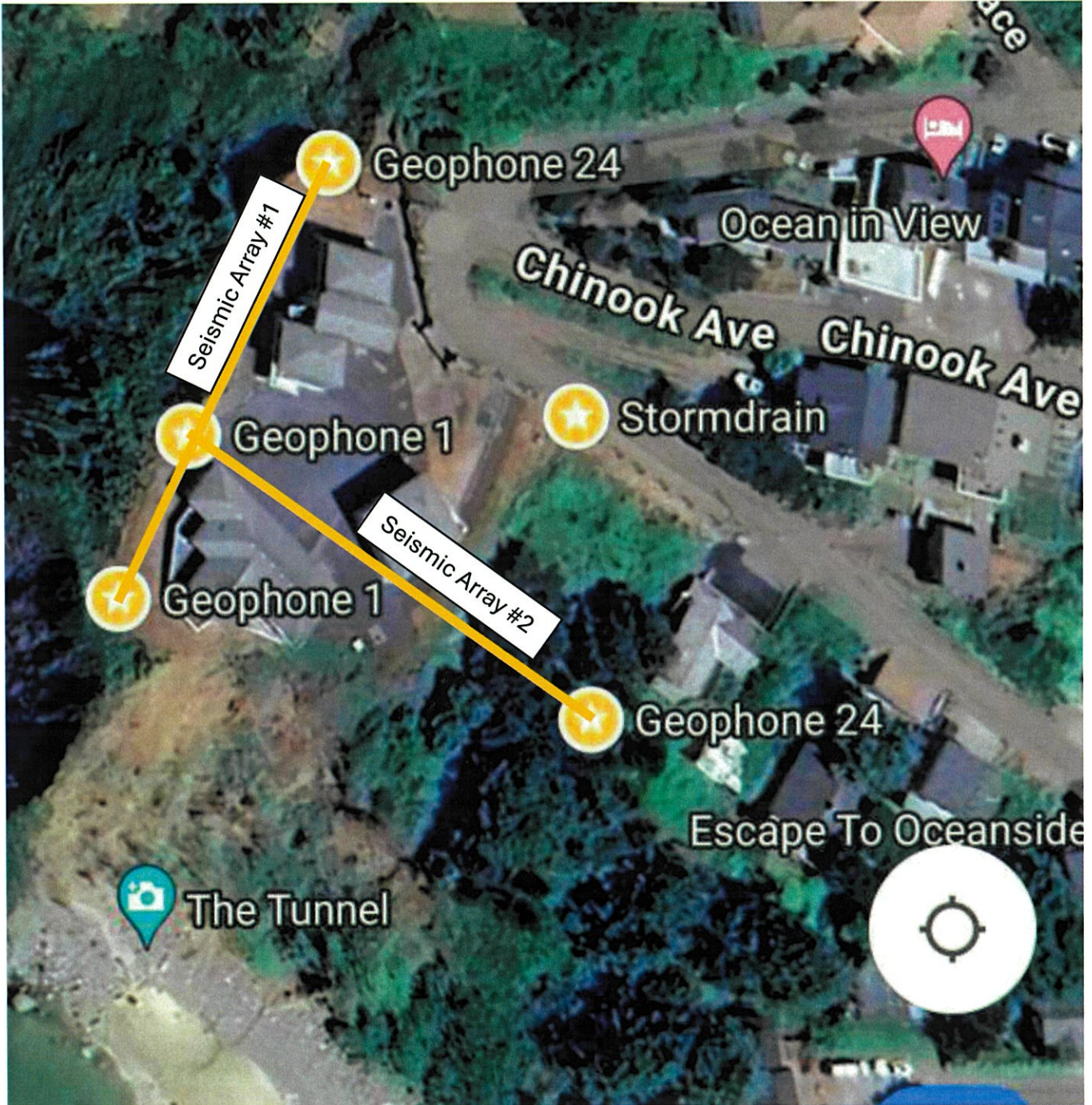
Name : Stage - analysis : 1 - 1



[GEC5 - Micropile (32 bit) | version 5 2024 104.0 | hardware key 10875 / 1 | Strata Design LLC | Copyright © 2024 Fine spol. s r.o. All Rights Reserved | www.finesoftware.eu]
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[Gintegro, LLC | 201.204.9560 | info@gintegro.com | www.gintegro.com]

Appendix A – ReMi Geophysical Results



Array Location

Datum: Stan Cook Land Services, LLC Site Map
Site Name: **Oceanside Motel - Seismic Line 2**
Center: 909.66, 903.29
Geophone 1: 814.86, 837.78
Geophone24: 1004.47, 966.09

Results

Vs100: **1,284 ft/s**
IBC Site Class: C
IBC Version: IBC 2018
ASCE: ASCE 7-16
Depth: **115 ft**

Survey Parameters

Geophone Count: 24
Geophone Spacing: 10 ft
Array Length: 230 ft
Survey Date: March 14, 2024
Performed By: Strata Design
Analysis By: Alison Starr
Analysis Date: March 27, 2024

Narrative**SHEAR WAVE VELOCITIES AND SEISMIC SITE CLASS**

Strata Design's geophysical site evaluation included subsurface seismic imaging and earthquake ground shaking potential evaluation using Terēan's VsSurf ReMi™ seismic data processing software. Seismic surveys were performed to determine depth to bedrock and the seismic site class per IBC 2018 and ASCE 7-16 using the weighted-average soil shear wave velocity for the upper 100 feet (Vs100). The surveys were performed by recording active and/or ambient (passive) seismic sources. The seismic recording array for these surveys consisted of 24, 4.5 Hz geophones at 10 ft spacing, for a total survey length of 230 feet. Example: Noise generated by walking along the survey line during data acquisition while ambient noise was generated from traffic along the nearby roads. The seismic data were acquired using a ReMiDAQ™ 4-24 channel seismograph, while data was processed using Terēan's ReMi™ software (terean.com/products). Survey results indicate a weighted-average soil shear wave velocity of the upper 100 feet (Vs100) of 1,284 ft/s. This results in a designation of a Seismic Site Class C according to Table ASCE 7-16.

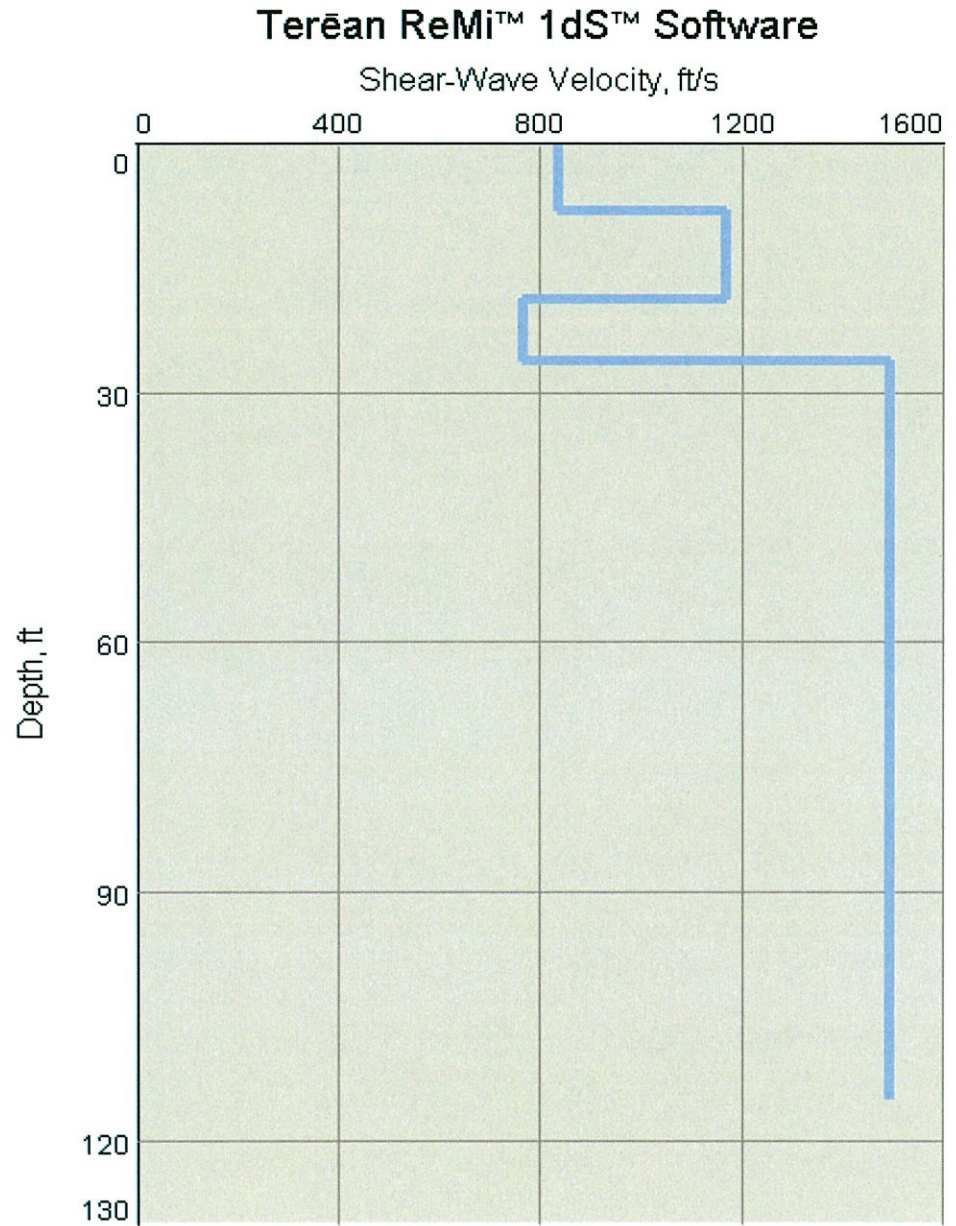
APPENDIX A - SEISMIC ARRAYS

Oceanside Motel - Seismic Line 1
23-0863.1 Oceanside Motel

Shear-Wave Velocity Report
Terēan VsSurf ReMi™ 2.1 Software



Depth (ft)	Vs (ft/s)
0.0	839
7.8	839
7.8	1,171
18.5	1,171
18.5	766
25.9	766
25.9	1,494
354.0	1,494



APPENDIX A - SEISMIC ARRAYS

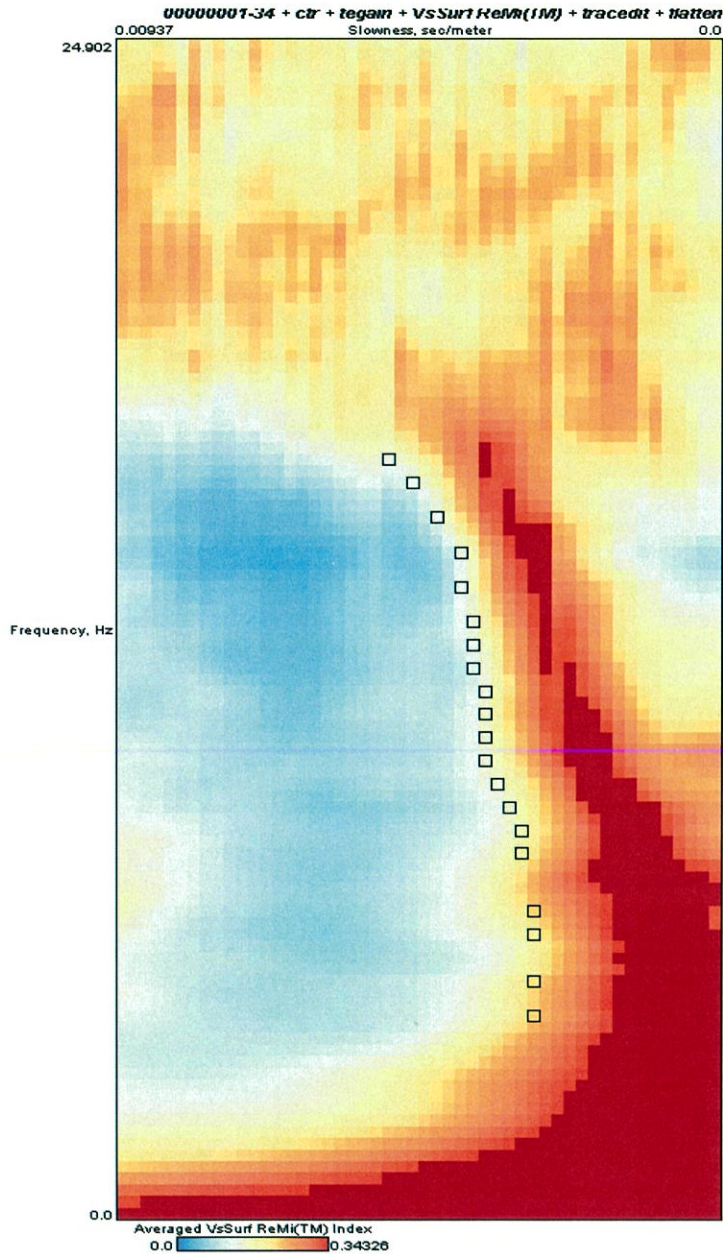
Oceanside Motel - Seismic Line 1
 23-0863.1 Oceanside Motel

Shear-Wave Velocity Report
 Terēan VsSurf ReMi™ 2.1 Software



Frequency (Hz)	Slowness (s/m)
16.113	0.00524
15.624	0.00487
14.892	0.00449
14.160	0.00412
13.427	0.00412
12.695	0.00393
12.207	0.00393
11.718	0.00393
11.230	0.00374
10.742	0.00374
10.253	0.00374
9.766	0.00374
9.277	0.00356
8.789	0.00337
8.301	0.00318
7.812	0.00318
6.592	0.00299
6.104	0.00299
5.127	0.00299
4.394	0.00299

Seismic File: 00000001.sgy
 Pre-Processing: ctr + regain
 Surveyed Geophones: Yes
 Max Frequency, Hz: 25
 Min Velocity, m/s: 107



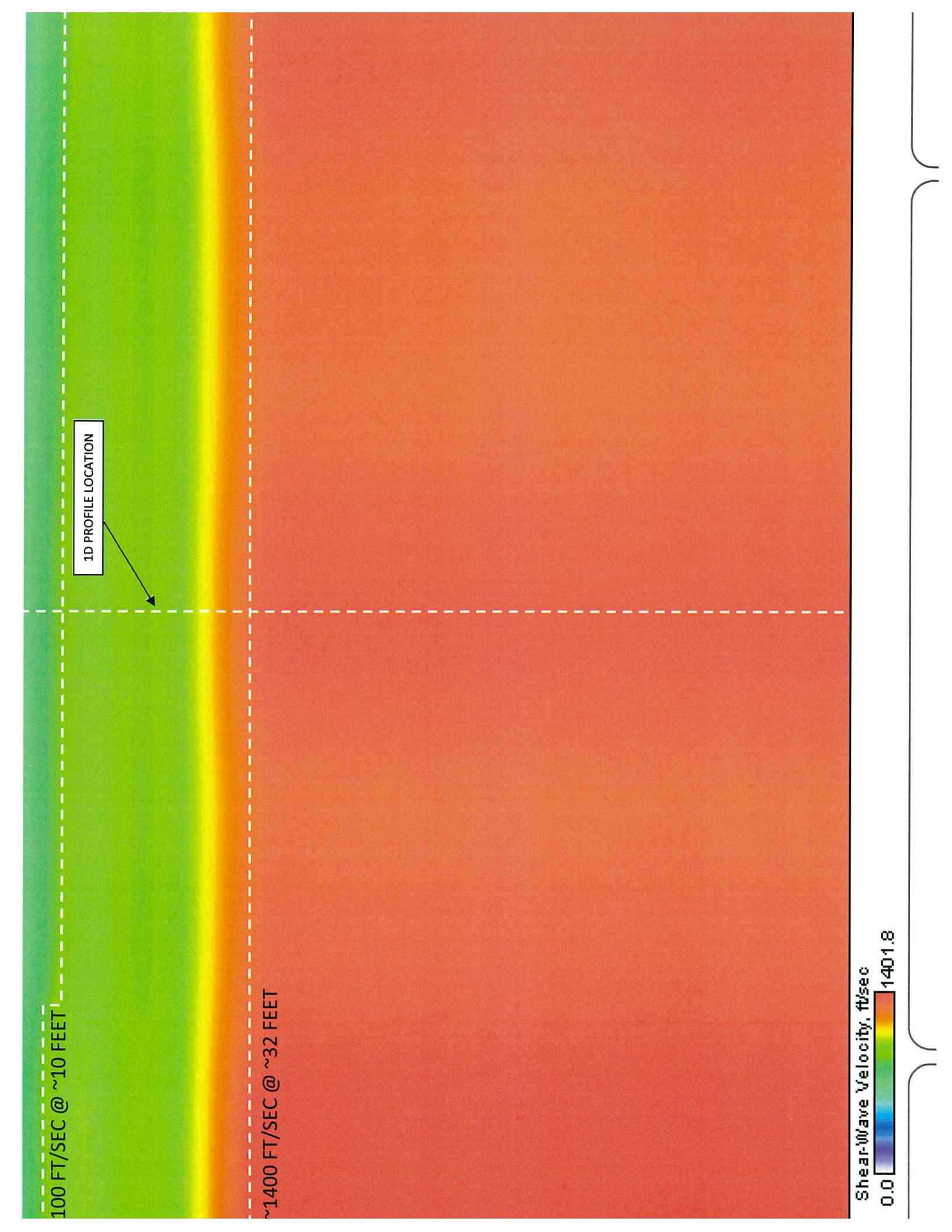
100 FT/SEC @ ~10 FEET

~1400 FT/SEC @ ~32 FEET

1D PROFILE LOCATION



Shear-Wave Velocity, ft/sec
0.0 1401.8



Array Location

Datum: Stan Cook Land Services, LLC Site Map
Site Name: **Oceanside Motel - Seismic Line 2**
Center: 909.66, 903.29
Geophone 1: 814.86, 837.78
Geophone24: 1004.47, 966.09

Results

Vs100: **1,494 ft/s**
IBC Site Class: C
IBC Version: IBC 2018
ASCE: ASCE 7-16
Depth: **115 ft**

Survey Parameters

Geophone Count: 24
Geophone Spacing: 10 ft
Array Length: 230 ft
Survey Date: March 14, 2024
Performed By: Strata Design
Analysis By: Hillary Hagen-Peter
Analysis Date: March 28, 2024

Narrative**SHEAR WAVE VELOCITIES AND SEISMIC SITE CLASS**

Strata Design's geophysical site evaluation included subsurface seismic imaging and earthquake ground shaking potential evaluation using Terēan's VsSurf ReMi™ seismic data processing software. Seismic surveys were performed to determine depth to bedrock and the seismic site class per IBC 2018 and ASCE 7-16 using the weighted-average soil shear wave velocity for the upper 100 feet (Vs100). The surveys were performed by recording active and/or ambient (passive) seismic sources. The seismic recording array for these surveys consisted of 24, 4.5 Hz geophones at 10 ft spacing, for a total survey length of 230 feet. Noise generated by walking along the survey line during data acquisition while ambient noise was generated from traffic along the nearby roads. The seismic data were acquired using a ReMiDAQ™ 3-24 channel seismograph, while data was processed using Terēan's ReMi™ software (terean.com/products). Survey results indicate a weighted-average soil shear wave velocity of the upper 100 feet (Vs100) of 1,494 ft/s. This results in a designation of a Seismic Site Class C according to Table ASCE 7-16.

APPENDIX A - SEISMIC ARRAYS

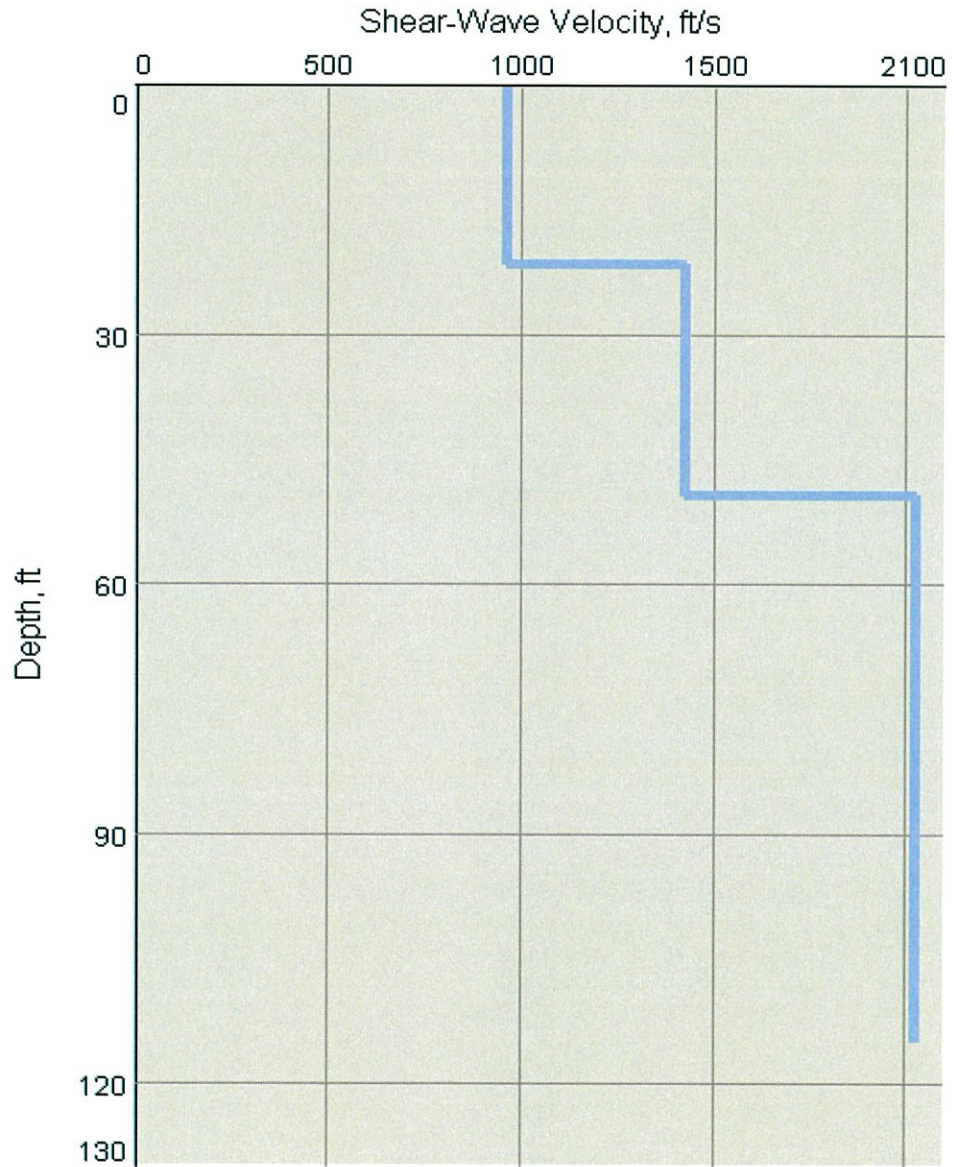
Oceanside Motel - Seismic Line 2
23-0863.1 Oceanside Motel

Shear-Wave Velocity Report
Terēan VsSurf ReMi™ 2.1 Software



Depth (ft)	Vs (ft/s)
0.0	966
21.2	966
21.2	1,426
49.3	1,426
49.3	2,025
377.3	2,025

Terēan ReMi™ 1dS™ Software



APPENDIX A - SEISMIC ARRAYS

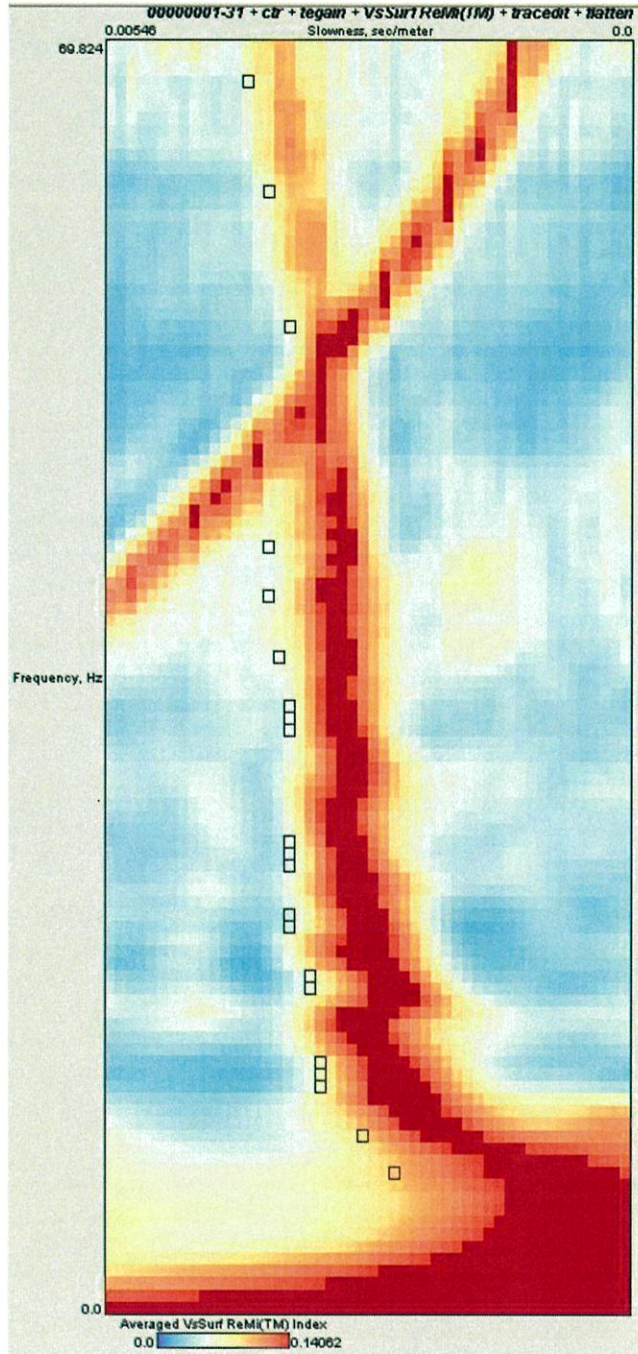
Oceanside Motel - Seismic Line 2
 23-0863.1 Oceanside Motel

Shear-Wave Velocity Report
 Terēan VsSurf ReMi™ 2.1 Software



Frequency (Hz)	Slowness (s/m)
67.810	0.00404
61.767	0.00382
54.382	0.00360
42.297	0.00382
39.611	0.00382
36.254	0.00371
32.897	0.00360
32.226	0.00360
33.569	0.00360
26.184	0.00360
25.512	0.00360
24.841	0.00360
22.155	0.00360
21.484	0.00360
18.798	0.00339
14.099	0.00339
13.427	0.00328
12.756	0.00328
10.070	0.00284
8.0566	0.00251

Seismic File: 00000001.sgy
 Pre-Processing: ctr + tegain
 Surveyed Geophones: Yes
 Max Frequency, Hz: 25
 Min Velocity, m/s: 107



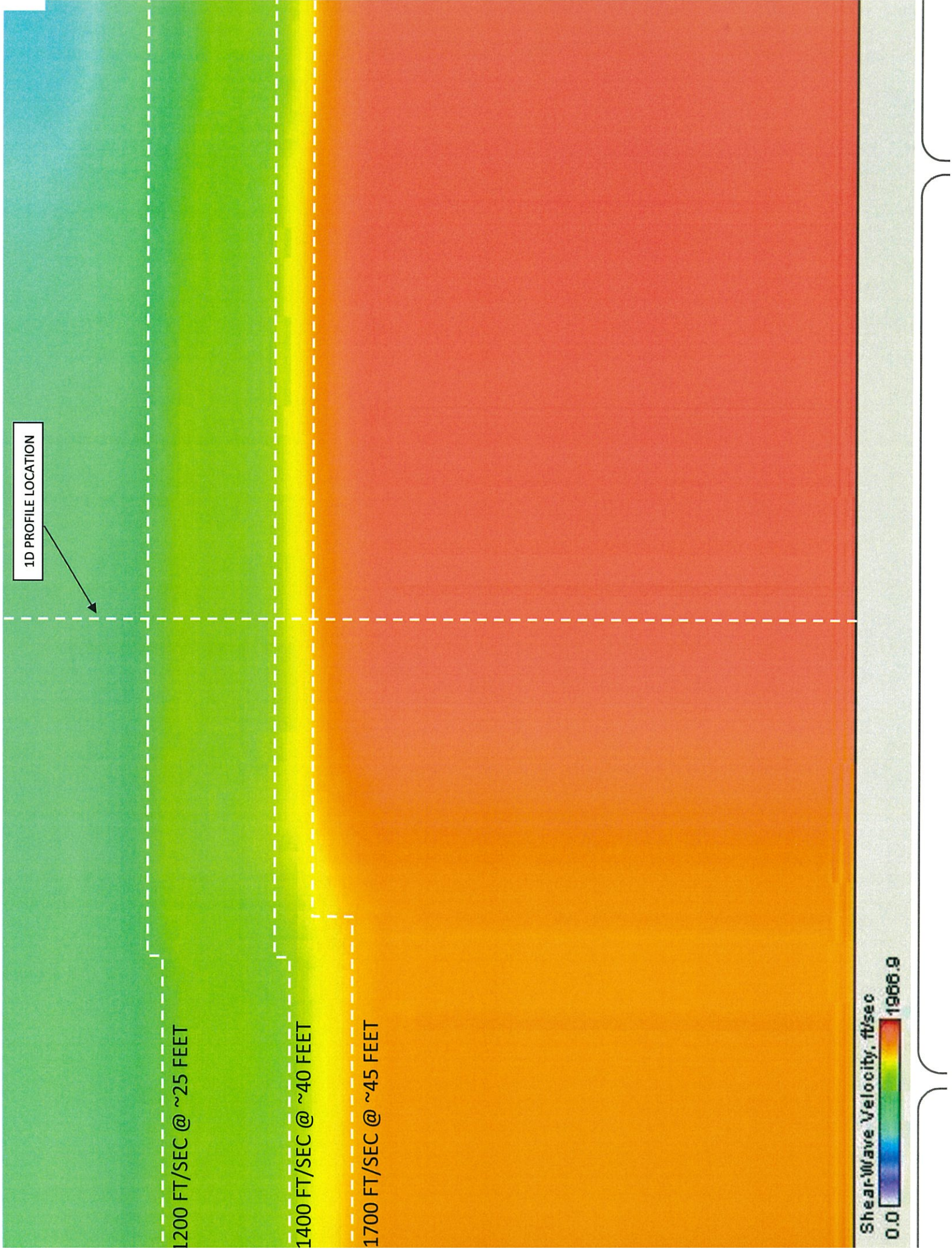
1D PROFILE LOCATION

1200 FT/SEC @ ~25 FEET

1400 FT/SEC @ ~40 FEET

1700 FT/SEC @ ~45 FEET

Shear-Wave Velocity, ft/sec
0.0 1966.9



Appendix B – Example Slope Stability Documentation

Slope stability analysis

Input data (Construction stage 1 - Existing Conditions)

Project

Project : 23-0868.1 - Oceanside Motel - Permitting Work
 Part : Stability Analysis
 Description : Section E-E'
 Customer : Nile Hagen Longfellows Development Corporation, LLC
 Author : Rick Thrall PE GE
 Date : 5/4/2024
 Project ID : 23-0868.1 - Oceanside Motel - Permitting Work
 Project number : 23-0868.1

Settings

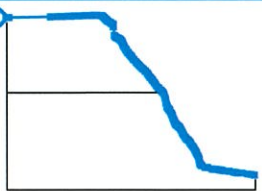
S. Shore Vista

Stability analysis

Verification methodology : Safety factors (ASD)
 Earthquake analysis : Standard

Safety factors		
Permanent design situation		
Safety factor :	$SF_s =$	1.25 [-]

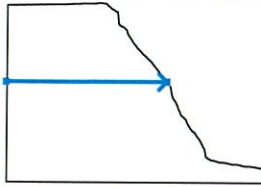
Interface

No.	Interface location	Coordinates of interface points [ft]					
		x	z	x	z	x	z
1		0.00	175.01	2.00	175.01	2.34	175.01
		2.70	175.01	2.85	175.01	3.29	175.01
		3.73	175.01	47.29	175.81	50.38	175.87
		52.67	175.91	53.48	175.92	56.57	175.97
		58.42	176.00	59.17	176.05	59.66	176.07
		62.76	176.20	63.82	176.25	65.85	176.34
		68.94	176.47	72.04	176.61	75.13	176.74
		76.81	176.81	78.22	176.85	79.03	176.87
		81.32	176.91	81.42	176.91	82.25	176.94
		84.07	176.99	84.41	176.99	87.51	177.00
		90.10	177.00	90.60	177.03	91.17	177.06
		91.28	177.07	92.94	177.25	93.35	177.28
		93.69	177.34	94.43	177.46	95.13	177.44
		95.84	177.58	96.29	177.55	96.68	177.51
		96.79	177.53	96.99	177.57	99.25	177.24
		99.88	177.13	100.18	177.07	100.67	177.06
		101.22	177.05	102.43	177.00	102.68	176.71
		102.97	176.46	103.49	176.00	104.29	175.25
		104.93	174.62	105.59	174.00	106.15	173.59
		106.84	173.00	107.40	172.28	107.70	172.00
108.13	171.66	109.10	171.00	109.30	170.83		
111.04	170.00	111.58	169.47	112.38	169.00		
113.39	168.29	114.20	168.38	114.40	168.24		

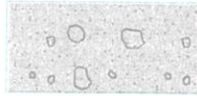

No.	Interface location	Coordinates of interface points [ft]					
		X	Z	X	Z	X	Z
		114.49	167.06	114.62	165.25	115.46	156.00
		116.12	155.16	116.28	155.00	116.50	154.77
		116.55	154.71	117.29	154.06	117.31	154.04
		117.37	154.00	117.69	153.78	117.74	153.75
		118.51	153.34	118.65	153.29	118.74	153.26
		118.94	153.13	119.08	153.10	119.39	153.07
		119.57	153.02	120.01	152.78	120.75	152.39
		121.00	152.22	121.32	152.00	121.34	152.00
		121.58	151.67	121.60	151.65	121.97	151.25
		122.27	150.90	122.45	150.70	122.55	150.58
		122.99	150.19	123.02	150.16	123.24	150.00
		123.43	149.72	123.48	149.63	123.52	149.55
		123.57	149.40	123.71	149.00	123.93	148.54
		123.97	148.43	124.00	148.35	124.03	148.28
		124.05	148.22	124.12	148.00	124.39	146.76
		124.58	146.00	124.60	145.99	124.97	145.43
		125.28	144.96	125.43	144.75	125.66	144.00
		125.98	143.53	127.08	142.00	127.52	141.39
		127.88	140.78	128.18	140.34	128.40	140.00
		129.49	138.36	129.62	138.06	129.64	138.00
		129.88	137.65	131.10	136.00	131.34	135.71
		131.69	135.35	132.87	134.09	132.92	134.03
		132.95	134.00	133.20	133.62	134.17	132.00
		135.56	130.52	136.09	130.00	137.91	128.18
		138.10	128.00	138.78	127.20	139.79	126.00
		140.92	124.82	141.72	124.00	141.99	123.76
		142.66	123.19	143.95	122.00	144.67	121.30
		145.53	120.53	146.12	120.00	147.78	118.55
		147.82	118.51	148.28	118.12	148.35	118.06
		148.41	118.00	148.45	117.97	148.47	117.95
		148.54	117.88	150.22	116.00	150.61	115.44
		151.79	114.00	152.86	112.44	153.23	112.00
		153.82	111.29	155.08	110.00	155.86	108.91
		156.06	108.67	156.36	108.30	156.58	108.00
		157.82	106.31	158.02	106.00	158.44	105.36
		159.33	104.00	159.68	103.53	160.69	102.00
		160.75	101.95	160.77	101.93	160.82	101.88
		160.88	101.83	161.02	101.70	162.36	100.42
		162.78	100.00	163.30	99.51	163.36	99.45
		164.81	98.00	165.56	97.31	165.58	97.29
		166.15	96.81	166.88	96.15	167.04	96.00
		167.47	95.39	168.46	94.00	169.12	92.05
		169.13	92.01	169.14	91.99	169.68	90.00
		170.08	88.41	170.16	88.16	170.20	88.00
		170.45	86.07	170.46	86.00	170.48	85.82
		170.69	83.99	170.71	83.96	170.79	83.74
		171.33	82.00	171.84	80.60	171.97	80.34
		172.03	80.23	172.18	79.99	172.19	79.97

No.	Interface location	Coordinates of interface points [ft]					
		X	Z	X	Z	X	Z
		172.73	78.98	172.90	78.69	173.41	78.00
		173.76	77.63	174.17	76.97	174.19	76.93
		174.59	76.36	174.81	76.00	174.99	75.70
		175.83	74.00	176.00	73.67	176.02	73.63
		176.04	73.59	176.10	73.49	176.17	73.36
		176.29	73.13	176.53	72.65	176.80	72.16
		176.88	72.00	177.10	71.32	177.21	70.97
		177.50	70.00	177.78	69.15	178.16	68.00
		179.01	66.26	179.13	66.00	179.27	65.61
		179.58	64.76	179.87	64.00	180.35	62.85
		180.45	62.65	180.64	62.20	180.73	62.00
		180.88	61.88	181.06	61.72	181.21	61.59
		181.46	61.40	181.63	61.26	181.77	61.15
		181.88	61.05	181.98	60.97	182.54	60.51
		182.60	60.46	182.65	60.42	182.70	60.39
		182.73	60.36	182.75	60.34	182.79	60.31
		183.18	60.00	183.71	59.44	184.01	59.22
		184.18	59.08	184.48	58.80	184.83	58.44
		185.08	58.22	185.25	58.00	186.16	56.41
		186.39	56.00	186.42	55.92	187.29	54.00
		187.43	53.76	187.79	53.01	188.04	52.52
		188.06	52.50	188.18	52.27	188.30	52.00
		188.78	51.22	188.98	50.98	189.52	50.00
		190.68	48.15	190.70	48.12	190.76	48.00
		191.13	47.54	192.24	46.18	192.39	46.00
		192.41	45.98	193.11	45.47	193.35	45.28
		193.59	45.12	194.00	44.82	195.09	44.00
		195.60	43.16	195.80	42.85	195.85	42.79
		195.90	42.71	196.37	42.03	196.40	42.00
		196.47	41.91	196.56	41.77	196.95	41.09
		197.69	40.00	198.81	38.58	199.23	38.00
		199.71	37.27	200.54	36.00	201.51	34.48
		201.77	34.00	202.31	32.76	202.54	32.40
		202.66	32.14	202.74	32.00	203.03	31.25
		203.46	30.32	203.49	30.24	203.54	30.12
		203.57	30.06	203.60	30.00	203.73	29.76
		204.73	28.00	205.30	26.50	205.45	26.00
		205.80	24.64	205.94	24.26	206.02	24.00
		206.10	23.44	206.19	22.93	206.34	22.00
		206.45	21.14	206.53	20.48	206.57	20.19
		206.60	20.00	206.64	19.99	206.87	19.78
		206.91	19.74	206.97	19.68	207.00	19.64
		207.25	19.34	207.63	18.91	207.83	18.70
		208.32	18.00	208.84	17.75	212.43	16.00
		212.51	16.00	212.67	16.00	212.71	16.00
		212.81	16.00	212.89	16.00	212.93	16.00
		213.31	15.99	213.67	15.99	214.05	15.99
		214.08	15.99	214.14	15.99	215.25	15.65

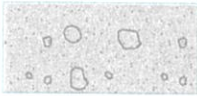

No.	Interface location	Coordinates of interface points [ft]					
		X	Z	X	Z	X	Z
		219.65	14.30	219.69	14.29	219.73	14.28
		219.83	14.27	219.92	14.26	219.97	14.25
		220.02	14.24	220.65	14.08	220.73	14.06
		221.07	14.00	221.25	14.00	221.29	14.00
		221.45	14.00	221.47	14.00	221.49	14.00
		221.53	14.00	221.62	14.00	221.77	14.00
		222.01	14.00	222.06	13.99	222.11	13.99
		222.32	13.99	222.40	13.99	222.49	13.99
		222.77	13.99	223.01	13.99	223.43	13.99
		223.48	13.99	223.64	13.99	223.68	13.99
		223.72	13.99	223.83	13.99	225.41	13.72
		225.45	13.71	225.78	13.68	226.20	13.64
		226.22	13.64	226.29	13.62	226.52	13.57
		226.74	13.53	227.10	13.46	227.42	13.39
		227.84	13.29	228.04	13.24	228.46	13.15
		228.70	13.09	228.92	13.04	229.10	12.99
		229.26	12.95	231.04	12.56	233.43	12.01
		233.54	12.01	233.65	12.00	233.74	12.00
		234.22	12.00	234.53	12.00	234.75	12.00
		234.77	12.00	234.80	12.00	234.97	12.00
		234.99	12.00	235.06	12.00	235.29	12.00
		235.53	12.00	235.68	12.00	236.01	12.00
		236.03	12.00	236.05	12.00	236.36	12.00
		236.40	12.00	236.57	12.00	236.59	12.00
		236.65	12.00	236.70	12.00	236.72	12.00
		237.03	12.00	237.07	12.00	237.28	12.00
		237.47	12.00	237.53	12.00	237.70	12.00
		237.85	12.00	237.94	12.00	237.99	12.00
		238.18	11.96	243.03	10.78	244.63	10.43
		245.60	10.32	245.66	10.31	247.46	10.01
		247.54	10.01	247.57	10.01	248.01	10.01
		248.22	10.00	248.26	10.00	248.30	10.00
		248.36	10.00	248.42	10.00	248.47	10.00
		248.49	10.00	248.61	10.00	248.81	10.00
		248.83	10.00	248.86	10.00	248.94	10.00
		248.98	10.00	249.00	10.00	249.09	10.00
		249.18	10.00	249.27	10.00	249.41	10.00
		249.55	10.00	249.59	9.99	249.67	9.99
		249.72	9.99	249.75	9.99	249.77	9.99
		249.93	9.99	250.01	9.99	250.61	9.98
		250.80	9.98	251.16	9.98	251.97	9.99
		252.00	9.99	252.03	9.99	252.10	9.98
		257.76	8.98	257.86	8.97	261.67	8.34
		265.00	7.79				

No.	Interface location	Coordinates of interface points [ft]			
		x	z	x	z
2		0.00	95.65	166.88	96.15

Soil parameters - effective stress state

No.	Name	Pattern	Φ_{ef} [°]	C_{ef} [psf]	γ [pcf]
1	Weathered Rock		40.00	1000.0	150.0
2	Decomposed Rock		32.00	100.0	130.0

Soil parameters - uplift

No.	Name	Pattern	γ_{sat} [pcf]	γ_s [pcf]	n [-]
1	Weathered Rock		150.0		
2	Decomposed Rock		150.0		

Soil parameters

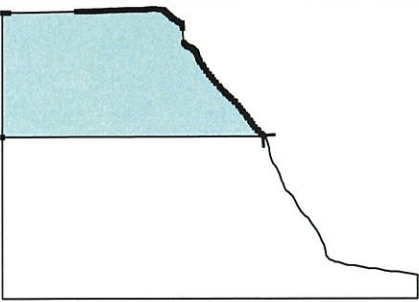
Weathered Rock

Unit weight : $\gamma = 150.0$ pcf
 Stress-state : effective
 Shear strength : Mohr-Coulomb
 Angle of internal friction : $\Phi_{ef} = 40.00^\circ$
 Cohesion of soil : $C_{ef} = 1000.0$ psf
 Saturated unit weight : $\gamma_{sat} = 150.0$ pcf

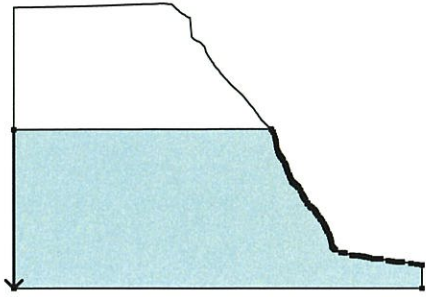
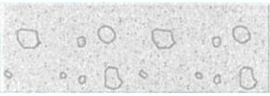
Decomposed Rock

Unit weight : $\gamma = 130.0$ pcf
 Stress-state : effective
 Shear strength : Mohr-Coulomb
 Angle of internal friction : $\Phi_{ef} = 32.00^\circ$
 Cohesion of soil : $C_{ef} = 100.0$ psf
 Saturated unit weight : $\gamma_{sat} = 150.0$ pcf

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
131.10	136.00	129.88	137.65			
129.64	138.00	129.62	138.06			
129.49	138.36	128.40	140.00			
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			
123.02	150.16	122.99	150.19			
122.55	150.58	122.45	150.70			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	
		2.85	175.01	2.70	175.01	
		2.34	175.01	2.00	175.01	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
2		0.00	175.01	0.00	95.65	Weathered Rock 
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
		237.47	12.00	237.28	12.00	
		237.07	12.00	237.03	12.00	
		236.72	12.00	236.70	12.00	
		236.65	12.00	236.59	12.00	
		236.57	12.00	236.40	12.00	
		236.36	12.00	236.05	12.00	
		236.03	12.00	236.01	12.00	
235.68	12.00	235.53	12.00			
235.29	12.00	235.06	12.00			
234.99	12.00	234.97	12.00			
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			
227.84	13.29	227.42	13.39			
227.10	13.46	226.74	13.53			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Earthquake not included.

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 1 - Existing Conditions)

Analysis 1 (stage 1)

Polygonal slip surface

Coordinates of slip surface points [ft]									
x	z	x	z	x	z	x	z	x	z
69.36	176.49	126.85	100.23	191.48	26.13	208.98	17.68		
The slip surface after optimization.									

Total weight of soil above the slip surface: 608479.3 lbf/ft

Slope stability verification (Sarua)

Factor of safety = 0.97 < 1.25

Slope stability NOT ACCEPTABLE

Input data (Construction stage 2 - Groundwater)

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
		131.10	136.00	129.88	137.65	
		129.64	138.00	129.62	138.06	
129.49	138.36	128.40	140.00			
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		X	Z	X	Z	
		123.02	150.16	122.99	150.19	
		122.55	150.58	122.45	150.70	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
2		2.85	175.01	2.70	175.01	Weathered Rock
		2.34	175.01	2.00	175.01	
		0.00	175.01	0.00	95.65	
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
		237.47	12.00	237.28	12.00	
		237.07	12.00	237.03	12.00	
		236.72	12.00	236.70	12.00	
		236.65	12.00	236.59	12.00	
		236.57	12.00	236.40	12.00	
		236.36	12.00	236.05	12.00	
		236.03	12.00	236.01	12.00	
		235.68	12.00	235.53	12.00	
		235.29	12.00	235.06	12.00	
		234.99	12.00	234.97	12.00	
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			

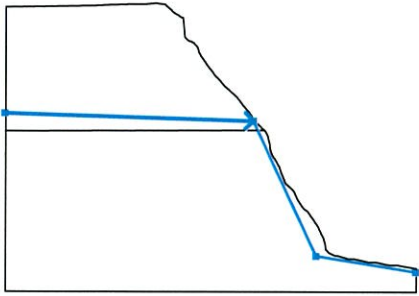
No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		227.84	13.29	227.42	13.39	
		227.10	13.46	226.74	13.53	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Water

Water type : GWT

No.	GWT location	Coordinates of GWT points [ft]					
		x	z	x	z	x	z
1		0.00	106.74	160.34	101.78	200.88	15.31
		265.00	5.17				

Tensile crack

Tensile crack not input.

Earthquake

Earthquake not included.

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 2 - Groundwater)

Analysis 1 (stage 2)

Polygonal slip surface

Coordinates of slip surface points [ft]									
x	z	x	z	x	z	x	z	x	z
69.36	176.49	126.85	90.15	191.48	26.13	208.97	17.68		
The slip surface after optimization.									

Total weight of soil above the slip surface: 700238.5 lbf/ft

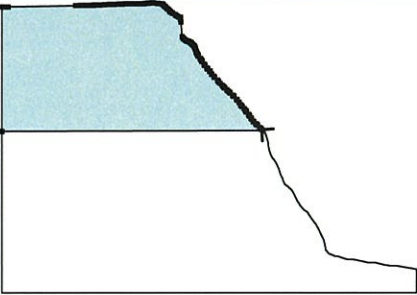
Slope stability verification (Sarman)

Factor of safety = 0.84 < 1.25

Slope stability NOT ACCEPTABLE

Input data (Construction stage 3 - Seismic 1/2 PGA)

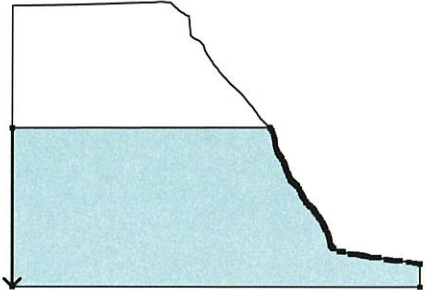
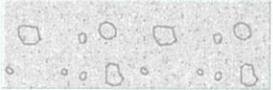
Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
		131.10	136.00	129.88	137.65	
		129.64	138.00	129.62	138.06	
129.49	138.36	128.40	140.00			
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		123.02	150.16	122.99	150.19	
		122.55	150.58	122.45	150.70	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
2		2.85	175.01	2.70	175.01	Weathered Rock 
		2.34	175.01	2.00	175.01	
		0.00	175.01	0.00	95.65	
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
237.47	12.00	237.28	12.00			
237.07	12.00	237.03	12.00			
236.72	12.00	236.70	12.00			
236.65	12.00	236.59	12.00			
236.57	12.00	236.40	12.00			
236.36	12.00	236.05	12.00			
236.03	12.00	236.01	12.00			
235.68	12.00	235.53	12.00			
235.29	12.00	235.06	12.00			
234.99	12.00	234.97	12.00			
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		X	Z	X	Z	
		227.84	13.29	227.42	13.39	
		227.10	13.46	226.74	13.53	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Horizontal seismic coefficient : $K_h = 0.4400$

Vertical seismic coefficient : $K_v = 0.0000$

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 3 - Seismic 1/2 PGA)

Analysis 1 (stage 3)

Polygonal slip surface

Coordinates of slip surface points [ft]									
x	z	x	z	x	z	x	z	x	z
26.25	175.42	122.44	90.15	191.48	26.13	208.97	17.69		
Analysis of the slip surface without optimization.									

Total weight of soil above the slip surface: 986044.6 lbf/ft

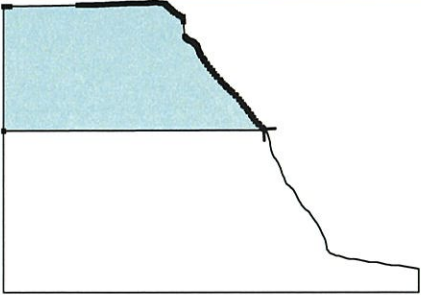
Slope stability verification (Janbu)

Factor of safety = $0.56 < 1.25$

Slope stability NOT ACCEPTABLE

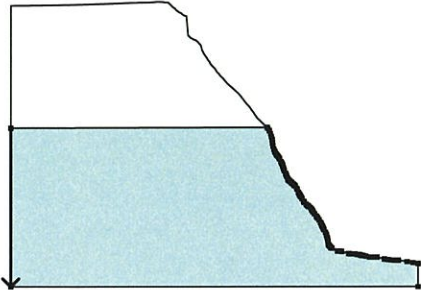
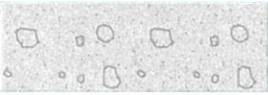
Input data (Construction stage 4 - Upper Section Existing)

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
131.10	136.00	129.88	137.65			
129.64	138.00	129.62	138.06			
129.49	138.36	128.40	140.00			
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			

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No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		123.02	150.16	122.99	150.19	
		122.55	150.58	122.45	150.70	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
2		2.85	175.01	2.70	175.01	Weathered Rock 
		2.34	175.01	2.00	175.01	
		0.00	175.01	0.00	95.65	
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
237.47	12.00	237.28	12.00			
237.07	12.00	237.03	12.00			
236.72	12.00	236.70	12.00			
236.65	12.00	236.59	12.00			
236.57	12.00	236.40	12.00			
236.36	12.00	236.05	12.00			
236.03	12.00	236.01	12.00			
235.68	12.00	235.53	12.00			
235.29	12.00	235.06	12.00			
234.99	12.00	234.97	12.00			
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			

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No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		227.84	13.29	227.42	13.39	
		227.10	13.46	226.74	13.53	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Anti-Slide piles

No.	Anti-Slide pile new	Point		Length l [ft]	Construction type	Depth of beam h [ft]	Length of beam l _b [ft]	Pile spacing	
		x [ft]	z [ft]					b _f [ft]	b/b _b [ft]
1	Yes	70.00	176.52	60.00	standard wall				3.00

No.	Cross-section [ft]	Distribution along the pile	Pile bearing capacity		
			Max. bearing capacity V _u [lbf]	Gradient K [-]	Passive force direction
1	d = 2.00	linear	2000.0	0.50	perpendicular to pile

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Horizontal seismic coefficient : K_h = 0.4400
 Vertical seismic coefficient : K_v = 0.0000

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 4 - Upper Section Existing)

Analysis 1 (stage 4)

Polygonal slip surface

Coordinates of slip surface points [ft]									
x	z	x	z	x	z	x	z	x	z
26.25	175.42	122.44	90.15	191.48	26.13	208.97	17.69		
Analysis of the slip surface without optimization.									

Total weight of soil above the slip surface: 986044.6 lbf/ft

The forces acting on the pile

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Anti-Slide Pile No. 1 (70.00; 176.52 [ft])

Horizontal active force: 75510.5 lbf/ft
Horizontal passive force: 0.0 lbf/ft The slope in front of anti-slide pile is not satisfactory.
Depth of slip surface: 39.88 ft
The length of pile below terrain: 60.00 ft

Slope stability verification (Janbu)

Factor of safety = 0.57 < 1.25

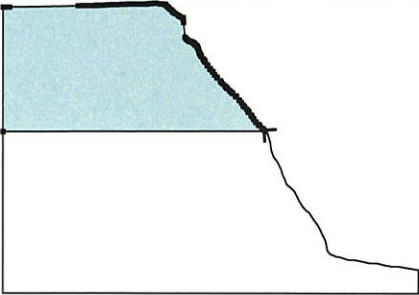
Slope stability NOT ACCEPTABLE

Piles verification 1 (stage 4)

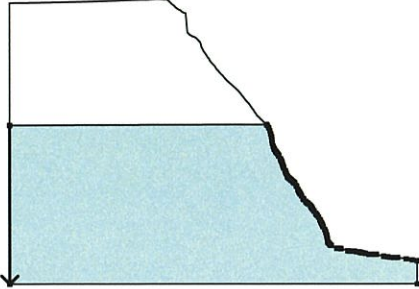

Anti-Slide pile : Anti-Slide Pile No. 1 (70.00; 176.52 [ft])
Analysis : Calculation 1 (slip surface polygonal)
Method : Janbu

Input data (Construction stage 5 - Upper Section Soil Nails)

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
131.10	136.00	129.88	137.65			
129.64	138.00	129.62	138.06			
129.49	138.36	128.40	140.00			
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		X	Z	X	Z	
		123.02	150.16	122.99	150.19	
		122.55	150.58	122.45	150.70	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
2		2.85	175.01	2.70	175.01	Weathered Rock 
		2.34	175.01	2.00	175.01	
		0.00	175.01	0.00	95.65	
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
237.47	12.00	237.28	12.00			
237.07	12.00	237.03	12.00			
236.72	12.00	236.70	12.00			
236.65	12.00	236.59	12.00			
236.57	12.00	236.40	12.00			
236.36	12.00	236.05	12.00			
236.03	12.00	236.01	12.00			
235.68	12.00	235.53	12.00			
235.29	12.00	235.06	12.00			
234.99	12.00	234.97	12.00			
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		227.84	13.29	227.42	13.39	
		227.10	13.46	226.74	13.53	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Earthquake not included.

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 5 - Upper Section Soil Nails)**Analysis 1 (stage 5)****Circular slip surface**

Slip surface parameters					
Center :	x =	266.22 [ft]	Angles :	$\alpha_1 =$	-56.90 [°]
	z =	285.69 [ft]		$\alpha_2 =$	-49.36 [°]
Radius :	R =	198.72 [ft]			
Analysis of the slip surface without optimization.					

Total weight of soil above the slip surface: 12068.9 lbf/ft

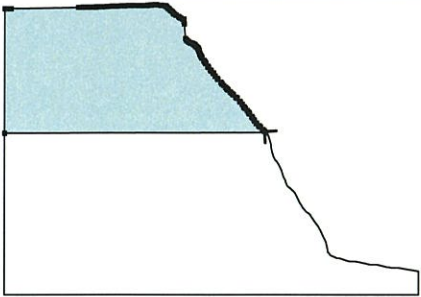
Slope stability verification (Bishop)Sum of active forces : $F_a = 9533.2$ lbf/ftSum of passive forces : $F_p = 7202.0$ lbf/ftSliding moment : $M_a = 1894452.1$ lbfft/ftResisting moment : $M_p = 1431185.4$ lbfft/ft

Factor of safety = 0.76 < 1.25

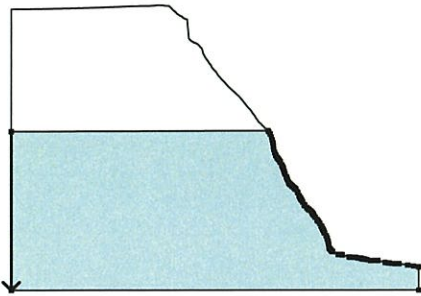

Slope stability NOT ACCEPTABLE

Input data (Construction stage 6)

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
		131.10	136.00	129.88	137.65	
		129.64	138.00	129.62	138.06	
		129.49	138.36	128.40	140.00	
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		123.02	150.16	122.99	150.19	
		122.55	150.58	122.45	150.70	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
2		2.85	175.01	2.70	175.01	Weathered Rock 
		2.34	175.01	2.00	175.01	
		0.00	175.01	0.00	95.65	
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
237.47	12.00	237.28	12.00			
237.07	12.00	237.03	12.00			
236.72	12.00	236.70	12.00			
236.65	12.00	236.59	12.00			
236.57	12.00	236.40	12.00			
236.36	12.00	236.05	12.00			
236.03	12.00	236.01	12.00			
235.68	12.00	235.53	12.00			
235.29	12.00	235.06	12.00			
234.99	12.00	234.97	12.00			
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		227.84	13.29	227.42	13.39	
		227.10	13.46	226.74	13.53	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	

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No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Nails

No.	Nail new	Start pt.		Length l [ft]	Inclination α [°]	Spacing b [ft]	Tension strength	Pull out resistance	Nail head strength
		x [ft]	z [ft]						
1	Yes	104.65	174.90	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf
2	Yes	109.08	171.01	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf
3	Yes	113.92	168.35	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf
4	Yes	114.88	162.35	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf

No.	Nail new	Start pt. x [ft] z [ft]		Length l [ft]	Inclination α [°]	Spacing b [ft]	Tension strength	Pull out resistance	Nail head strength
5	Yes	115.78	155.60	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, $g_s = 2000.0$ psf	$R_f = 25000.0$ lbf

Water

Water type : No water

Tensile crack

Tensile crack not input.

EarthquakeHorizontal seismic coefficient : $K_h = 0.4400$ Vertical seismic coefficient : $K_v = 0.0000$ **Settings of the stage of construction**

Design situation : permanent

Results (Construction stage 6)**Analysis 1 (stage 6)****Circular slip surface**

Slip surface parameters			
Center :	x =	266.22 [ft]	Angles :
	z =	285.69 [ft]	$\alpha_1 =$ -56.90 [°]
Radius :	R =	198.72 [ft]	$\alpha_2 =$ -49.36 [°]
Analysis of the slip surface without optimization.			

Total weight of soil above the slip surface: 12061.2 lbf/ft

Nails bearing capacity

Nail Bearing capacity [lbf/ft]

1	6770.8
2	7644.8
3	9091.7
4	7219.6
5	0.0

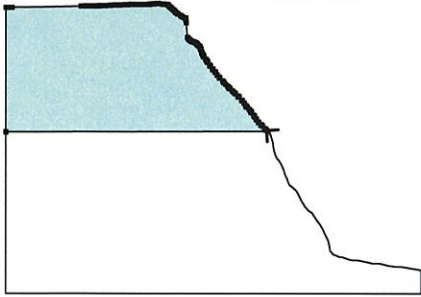
Slope stability verification (Bishop)Sum of active forces : $F_a = 12682.0$ lbf/ftSum of passive forces : $F_p = 20113.0$ lbf/ftSliding moment : $M_a = 2520158.9$ lbfft/ftResisting moment : $M_p = 3996849.6$ lbfft/ft

Factor of safety = 1.59 > 1.25

Slope stability ACCEPTABLE

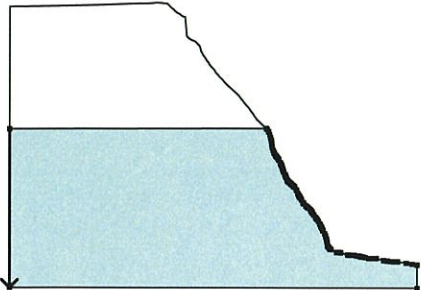

Input data (Construction stage 7)

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		166.88	96.15	166.15	96.81	Decomposed Rock
		165.58	97.29	165.56	97.31	
		164.81	98.00	163.36	99.45	
		163.30	99.51	162.78	100.00	
		162.36	100.42	161.02	101.70	
		160.88	101.83	160.82	101.88	
		160.77	101.93	160.75	101.95	
		160.69	102.00	159.68	103.53	
		159.33	104.00	158.44	105.36	
		158.02	106.00	157.82	106.31	
		156.58	108.00	156.36	108.30	
		156.06	108.67	155.86	108.91	
		155.08	110.00	153.82	111.29	
		153.23	112.00	152.86	112.44	
		151.79	114.00	150.61	115.44	
		150.22	116.00	148.54	117.88	
		148.47	117.95	148.45	117.97	
		148.41	118.00	148.35	118.06	
		148.28	118.12	147.82	118.51	
		147.78	118.55	146.12	120.00	
		145.53	120.53	144.67	121.30	
		143.95	122.00	142.66	123.19	
		141.99	123.76	141.72	124.00	
		140.92	124.82	139.79	126.00	
		138.78	127.20	138.10	128.00	
		137.91	128.18	136.09	130.00	
		135.56	130.52	134.17	132.00	
		133.20	133.62	132.95	134.00	
		132.92	134.03	132.87	134.09	
		131.69	135.35	131.34	135.71	
131.10	136.00	129.88	137.65			
129.64	138.00	129.62	138.06			
129.49	138.36	128.40	140.00			
128.18	140.34	127.88	140.78			
127.52	141.39	127.08	142.00			
125.98	143.53	125.66	144.00			
125.43	144.75	125.28	144.96			
124.97	145.43	124.60	145.99			
124.58	146.00	124.39	146.76			
124.12	148.00	124.05	148.22			
124.03	148.28	124.00	148.35			
123.97	148.43	123.93	148.54			
123.71	149.00	123.57	149.40			
123.52	149.55	123.48	149.63			
123.43	149.72	123.24	150.00			

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		123.02	150.16	122.99	150.19	
		122.55	150.58	122.45	150.70	
		122.27	150.90	121.97	151.25	
		121.60	151.65	121.58	151.67	
		121.34	152.00	121.32	152.00	
		121.00	152.22	120.75	152.39	
		120.01	152.78	119.57	153.02	
		119.39	153.07	119.08	153.10	
		118.94	153.13	118.74	153.26	
		118.65	153.29	118.51	153.34	
		117.74	153.75	117.69	153.78	
		117.37	154.00	117.31	154.04	
		117.29	154.06	116.55	154.71	
		116.50	154.77	116.28	155.00	
		116.12	155.16	115.46	156.00	
		114.62	165.25	114.49	167.06	
		114.40	168.24	114.20	168.38	
		113.39	168.29	112.38	169.00	
		111.58	169.47	111.04	170.00	
		109.30	170.83	109.10	171.00	
		108.13	171.66	107.70	172.00	
		107.40	172.28	106.84	173.00	
		106.15	173.59	105.59	174.00	
		104.93	174.62	104.29	175.25	
		103.49	176.00	102.97	176.46	
		102.68	176.71	102.43	177.00	
		101.22	177.05	100.67	177.06	
		100.18	177.07	99.88	177.13	
		99.25	177.24	96.99	177.57	
		96.79	177.53	96.68	177.51	
		96.29	177.55	95.84	177.58	
		95.13	177.44	94.43	177.46	
		93.69	177.34	93.35	177.28	
		92.94	177.25	91.28	177.07	
		91.17	177.06	90.60	177.03	
		90.10	177.00	87.51	177.00	
		84.41	176.99	84.07	176.99	
		82.25	176.94	81.42	176.91	
		81.32	176.91	79.03	176.87	
		78.22	176.85	76.81	176.81	
		75.13	176.74	72.04	176.61	
		68.94	176.47	65.85	176.34	
		63.82	176.25	62.76	176.20	
		59.66	176.07	59.17	176.05	
		58.42	176.00	56.57	175.97	
		53.48	175.92	52.67	175.91	
		50.38	175.87	47.29	175.81	
		3.73	175.01	3.29	175.01	

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		X	Z	X	Z	
2		2.85	175.01	2.70	175.01	Weathered Rock 
		2.34	175.01	2.00	175.01	
		0.00	175.01	0.00	95.65	
		0.00	95.65	0.00	-7.21	
		265.00	-7.21	265.00	7.79	
		261.67	8.34	257.86	8.97	
		257.76	8.98	252.10	9.98	
		252.03	9.99	252.00	9.99	
		251.97	9.99	251.16	9.98	
		250.80	9.98	250.61	9.98	
		250.01	9.99	249.93	9.99	
		249.77	9.99	249.75	9.99	
		249.72	9.99	249.67	9.99	
		249.59	9.99	249.55	10.00	
		249.41	10.00	249.27	10.00	
		249.18	10.00	249.09	10.00	
		249.00	10.00	248.98	10.00	
		248.94	10.00	248.86	10.00	
		248.83	10.00	248.81	10.00	
		248.61	10.00	248.49	10.00	
		248.47	10.00	248.42	10.00	
		248.36	10.00	248.30	10.00	
		248.26	10.00	248.22	10.00	
		248.01	10.01	247.57	10.01	
		247.54	10.01	247.46	10.01	
		245.66	10.31	245.60	10.32	
		244.63	10.43	243.03	10.78	
		238.18	11.96	237.99	12.00	
		237.94	12.00	237.85	12.00	
		237.70	12.00	237.53	12.00	
237.47	12.00	237.28	12.00			
237.07	12.00	237.03	12.00			
236.72	12.00	236.70	12.00			
236.65	12.00	236.59	12.00			
236.57	12.00	236.40	12.00			
236.36	12.00	236.05	12.00			
236.03	12.00	236.01	12.00			
235.68	12.00	235.53	12.00			
235.29	12.00	235.06	12.00			
234.99	12.00	234.97	12.00			
234.80	12.00	234.77	12.00			
234.75	12.00	234.53	12.00			
234.22	12.00	233.74	12.00			
233.65	12.00	233.54	12.01			
233.43	12.01	231.04	12.56			
229.26	12.95	229.10	12.99			
228.92	13.04	228.70	13.09			
228.46	13.15	228.04	13.24			

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		227.84	13.29	227.42	13.39	
		227.10	13.46	226.74	13.53	
		226.52	13.57	226.29	13.62	
		226.22	13.64	226.20	13.64	
		225.78	13.68	225.45	13.71	
		225.41	13.72	223.83	13.99	
		223.72	13.99	223.68	13.99	
		223.64	13.99	223.48	13.99	
		223.43	13.99	223.01	13.99	
		222.77	13.99	222.49	13.99	
		222.40	13.99	222.32	13.99	
		222.11	13.99	222.06	13.99	
		222.01	14.00	221.77	14.00	
		221.62	14.00	221.53	14.00	
		221.49	14.00	221.47	14.00	
		221.45	14.00	221.29	14.00	
		221.25	14.00	221.07	14.00	
		220.73	14.06	220.65	14.08	
		220.02	14.24	219.97	14.25	
		219.92	14.26	219.83	14.27	
		219.73	14.28	219.69	14.29	
		219.65	14.30	215.25	15.65	
		214.14	15.99	214.08	15.99	
		214.05	15.99	213.67	15.99	
		213.31	15.99	212.93	16.00	
		212.89	16.00	212.81	16.00	
		212.71	16.00	212.67	16.00	
		212.51	16.00	212.43	16.00	
		208.84	17.75	208.32	18.00	
		207.83	18.70	207.63	18.91	
		207.25	19.34	207.00	19.64	
		206.97	19.68	206.91	19.74	
		206.87	19.78	206.64	19.99	
		206.60	20.00	206.57	20.19	
		206.53	20.48	206.45	21.14	
		206.34	22.00	206.19	22.93	
		206.10	23.44	206.02	24.00	
		205.94	24.26	205.80	24.64	
		205.45	26.00	205.30	26.50	
		204.73	28.00	203.73	29.76	
		203.60	30.00	203.57	30.06	
		203.54	30.12	203.49	30.24	
		203.46	30.32	203.03	31.25	
		202.74	32.00	202.66	32.14	
		202.54	32.40	202.31	32.76	
		201.77	34.00	201.51	34.48	
		200.54	36.00	199.71	37.27	
		199.23	38.00	198.81	38.58	

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		197.69	40.00	196.95	41.09	
		196.56	41.77	196.47	41.91	
		196.40	42.00	196.37	42.03	
		195.90	42.71	195.85	42.79	
		195.80	42.85	195.60	43.16	
		195.09	44.00	194.00	44.82	
		193.59	45.12	193.35	45.28	
		193.11	45.47	192.41	45.98	
		192.39	46.00	192.24	46.18	
		191.13	47.54	190.76	48.00	
		190.70	48.12	190.68	48.15	
		189.52	50.00	188.98	50.98	
		188.78	51.22	188.30	52.00	
		188.18	52.27	188.06	52.50	
		188.04	52.52	187.79	53.01	
		187.43	53.76	187.29	54.00	
		186.42	55.92	186.39	56.00	
		186.16	56.41	185.25	58.00	
		185.08	58.22	184.83	58.44	
		184.48	58.80	184.18	59.08	
		184.01	59.22	183.71	59.44	
		183.18	60.00	182.79	60.31	
		182.75	60.34	182.73	60.36	
		182.70	60.39	182.65	60.42	
		182.60	60.46	182.54	60.51	
		181.98	60.97	181.88	61.05	
		181.77	61.15	181.63	61.26	
		181.46	61.40	181.21	61.59	
		181.06	61.72	180.88	61.88	
		180.73	62.00	180.64	62.20	
		180.45	62.65	180.35	62.85	
		179.87	64.00	179.58	64.76	
		179.27	65.61	179.13	66.00	
		179.01	66.26	178.16	68.00	
		177.78	69.15	177.50	70.00	
		177.21	70.97	177.10	71.32	
		176.88	72.00	176.80	72.16	
		176.53	72.65	176.29	73.13	
		176.17	73.36	176.10	73.49	
		176.04	73.59	176.02	73.63	
		176.00	73.67	175.83	74.00	
		174.99	75.70	174.81	76.00	
		174.59	76.36	174.19	76.93	
		174.17	76.97	173.76	77.63	
		173.41	78.00	172.90	78.69	
		172.73	78.98	172.19	79.97	
		172.18	79.99	172.03	80.23	
		171.97	80.34	171.84	80.60	

Rick Thrall PE GE

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
		171.33	82.00	170.79	83.74	
		170.71	83.96	170.69	83.99	
		170.48	85.82	170.46	86.00	
		170.45	86.07	170.20	88.00	
		170.16	88.16	170.08	88.41	
		169.68	90.00	169.14	91.99	
		169.13	92.01	169.12	92.05	
		168.46	94.00	167.47	95.39	
		167.04	96.00	166.88	96.15	

Nails

No.	Nail new	Start pt.		Length l [ft]	Inclination α [°]	Spacing b [ft]	Tension strength	Pull out resistance	Nail head strength
		x [ft]	z [ft]						
1	No	104.65	174.90	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf
2	No	109.08	171.01	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf
3	No	113.92	168.35	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf
4	No	114.88	162.35	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, g_s = 2000.0 psf	$R_f = 25000.0$ lbf

Rick Thrall PE GE

No.	Nail new	Start pt. x [ft] z [ft]		Length l [ft]	Inclination α [°]	Spacing b [ft]	Tension strength	Pull out resistance	Nail head strength
5	No	115.78	155.60	25.00	150.00	5.00	150000.0 lbf	calculate from bond strength, d = 6.000 in, $g_s = 2000.0$ psf	$R_f = 25000.0$ lbf

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Horizontal seismic coefficient : $K_h = 0.4400$

Vertical seismic coefficient : $K_v = 0.0000$

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 7)

Analysis 1 (stage 7)

Circular slip surface

Slip surface parameters					
Center :	x =	266.22 [ft]	Angles :	$\alpha_1 =$	-56.90 [°]
	z =	285.69 [ft]		$\alpha_2 =$	-49.36 [°]
Radius :	R =	198.72 [ft]			
Specified slip surface.					

Slope stability verification (Bishop)

Analysis has not been performed.

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- Adams, J. B., & Hurlbert, A. H. (2024) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **105**, 1197–1206.
- Adams, J. B., & Hurlbert, A. H. (2025) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **106**, 1197–1206.
- Adams, J. B., & Hurlbert, A. H. (2026) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **107**, 1197–1206.
- Adams, J. B., & Hurlbert, A. H. (2027) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **108**, 1197–1206.
- Adams, J. B., & Hurlbert, A. H. (2028) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **109**, 1197–1206.
- Adams, J. B., & Hurlbert, A. H. (2029) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **110**, 1197–1206.
- Adams, J. B., & Hurlbert, A. H. (2030) The effects of habitat heterogeneity on the diversity of insectivorous birds. *Ecology*, **111**, 1197–1206.



Counter Drop off

REVISION
AUG 0 2 2024
BY: DD Mon

PROJECT SCOPE:

THE PROJECT SCOPE IS TO INCLUDE: NEW HOTEL w/RESTAURANT

GENERAL NOTES:

THE BUILDER SHALL VERIFY THAT SITE CONDITIONS ARE CONSISTENT WITH THESE PLANS BEFORE STARTING WORK. WORK NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED TO THE SAME QUALITY AS SIMILAR WORK THAT IS DETAILED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH INTERNATIONAL BUILDING CODES AND LOCAL CODES.

WRITTEN DIMENSIONS AND SPECIFIC NOTES SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND GENERAL NOTES. THE ENGINEER/DESIGNER SHALL BE CONSULTED FOR CLARIFICATION IF SITE CONDITIONS ARE ENCOUNTERED THAT ARE DIFFERENT THAN SHOWN, IF DISCREPANCIES ARE FOUND IN THE PLANS OR NOTES, OR IF A QUESTION ARISES OVER THE INTENT OF THE PLANS OR NOTES. CONTRACTOR SHALL VERIFY AND IS RESPONSIBLE FOR ALL DIMENSIONS (INCLUDING ROUGH OPENINGS).

PLEASE SEE ADDITIONAL NOTES CALLED OUT ON OTHER SHEETS.

BUILDING PERFORMANCE:

HEAT LOSS CALCULATIONS SHALL COMPLY WITH THE REQUIREMENTS OF REGIONAL AND LOCAL CODES. SEE CALCULATIONS. PORCHES, DECKS, FOUNDATION, FIREPLACE ENCLOSURES, AND GARAGE AREAS NOT INCLUDED IN LIVING AREA. ALL EXHAUST FANS TO BE VENTED DIRECTLY TO THE EXTERIOR. ALL PENETRATIONS OF THE BUILDING ENVELOPE SHALL BE SEALED WITH CAULK OR FOAM.

STRUCTURAL ENGINEER: TBD
DESIGNER: BLACKSHEEP DESIGN
BUILDER: TBD

INDEX:

- A100 COVER PAGE
- A101 ORIGINAL SITE PLAN & ORIGINAL BUILDING UTILITIES
- A102 NEW SITE PLAN
- A200 FLOOR PLAN BUILDING 1
- A201 FLOOR PLAN BUILDING 1
- A202 ELEVATIONS BUILDING 1
- A203 ELEVATIONS BUILDING 1
- A300 FLOOR PLAN BUILDING 2
- A301 FLOOR PLAN BUILDING 2
- A302 ELEVATIONS BUILDING 2
- A303 ELEVATIONS BUILDING 2
- A400 FIRST FLOOR BUILDING 3
- A401 SECOND FLOOR BUILDING 3
- A402 THIRD FLOOR BUILDING 3
- A403 BASEMENT 1 BUILDING 3
- A404 BASEMENT 2 BUILDING 3
- A405 ELEVATIONS BUILDING 3
- A406 ELEVATIONS BUILDING 3
- A407 ELEVATIONS BUILDING 3

GENERAL INFORMATION:

SITE ADDRESS: 1816 MAXWELL MOUNTAIN RD
OCEANSIDE, OR
TAX LOTS: 2200, 2400, & 6600
PROPERTY TYPE: MOTEL
LEGAL DESCRIPTION: 63,902 S.F.
ZONING: ROS/R3
NO EASEMENT ON THIS PROPERTY

GRADING NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
2. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING.
3. CONTRACTOR TO PROVIDE A BACK DRAG OF ALL EXCAVATED AREAS.

EROSION CONTROL NOTES:

1. INSTALL SILT FENCE PRIOR TO ANY EXCAVATION OR CONSTRUCTION.
2. MINIMIZE SITE DISTURBANCE BY TIGHT CONTROL OF EXCAVATION LIMITS.
3. ALL OPEN PILES OF SOIL SHALL BE COVERED WITH TARPS OR STRAW TO MINIMIZE SOIL EROSION. NO SOIL SHALL BE LEFT IN AN EXPOSED CONDITION.



Black Sheep Design Team LLC
3717 SE Roethe Road
Portland, OR 97267

1816 MAXWELL MOUNTAIN RD.
OCEANSIDE, OR

COVER PAGE

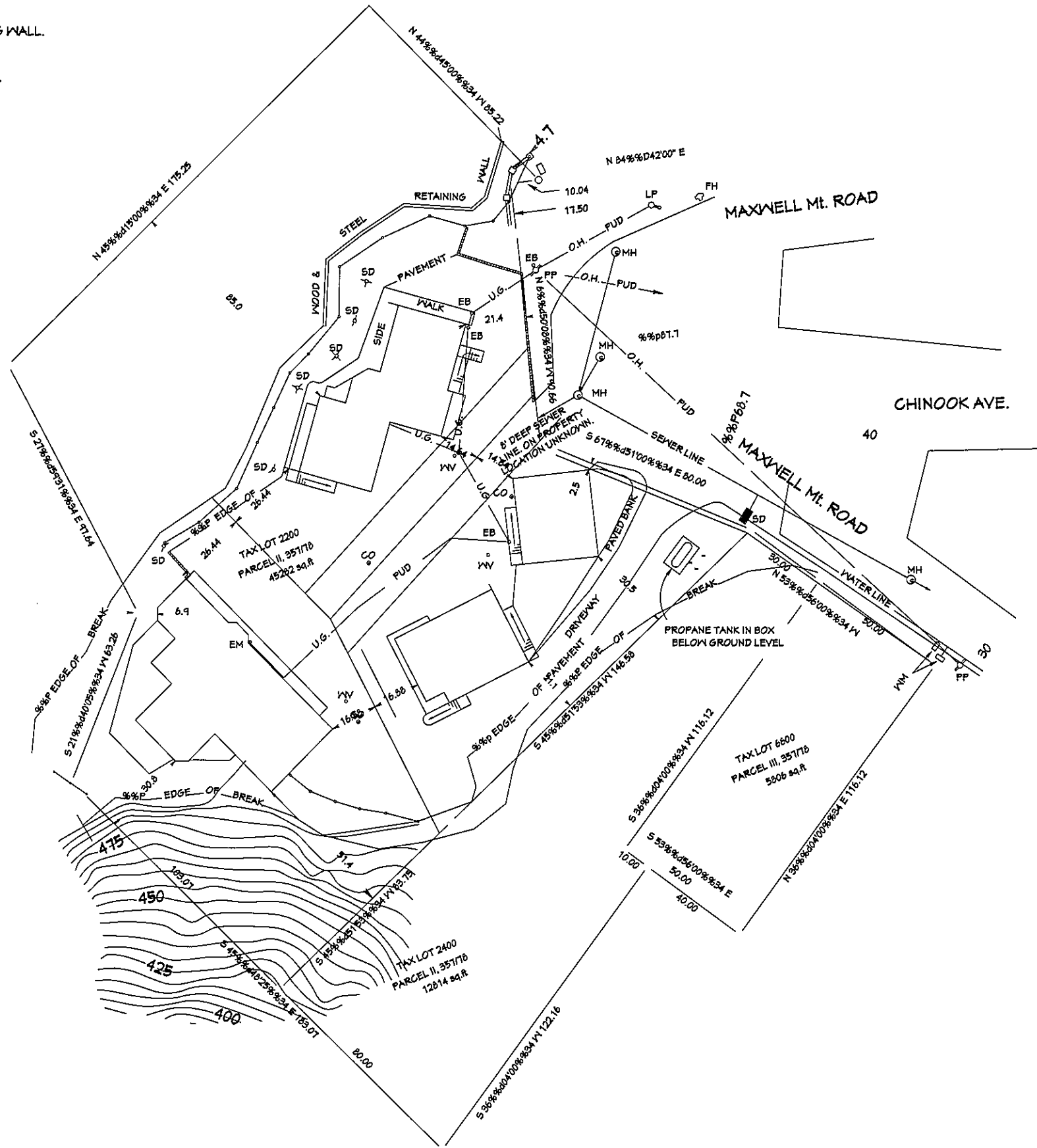
3/31/24

A100



LEGEND

- CO = SEWER CLEANOUT.
- CONCRETE RETAINING WALL.
- EB = ELECTRICAL BOX.
- EM = ELECTRICAL METER.
- = FENCES.
- ⊕ FH = FIRE HYDRANT.
- ⊕ LP = LIGHT POLE.
- ⊕ MH = SEWER MAN HOLE.
- OH = OVER HEAD.
- ⊕ PP = POWER POLE.
- = PROPANE TANK.
- PUD = ELECTRICAL LINES.
- ⊕ SD = STORM DRAIN.
- UG = UNDER GROUND.
- ⊕ WM = WATER METER.
- ⊕ WV = WATER VALVE.



ORIGINAL SITE PLAN
SCALE: 1/4" = 5'

Black Sheep Design Team LLC
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1816 MAXWELL MOUNTAIN RD.
OCEANSIDE, OR

ORIGINAL SITE PLAN

3/31/24

A101



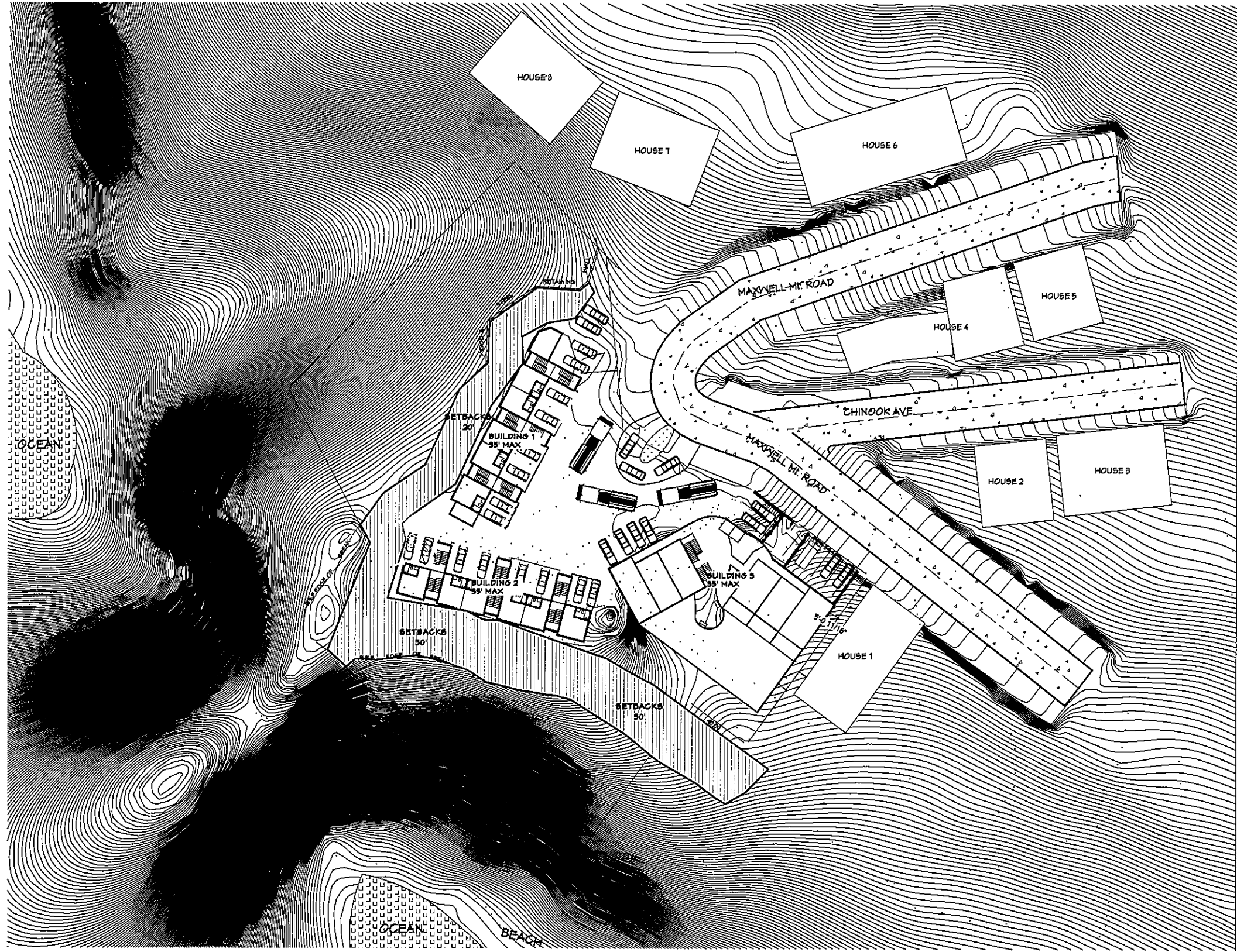
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1816 MAXWELL MOUNTAIN RD.
OCEANSIDE, OR

NEW SITE PLAN

4/9/24

A102



BUILDING 1
AVERAGE MAX BUILDING HEIGHT

- E1 27'6"
- E2 27'6"
- E3 27'6"
- E4 27'6"

AVERAGE= 27'6"

BUILDING 2
AVERAGE MAX BUILDING HEIGHT

- E1 27'6"
- E2 27'6"
- E3 27'6"
- E4 27'6"

AVERAGE= 27'6"

BUILDING 3
AVERAGE MAX BUILDING HEIGHT

- E1 38'5"
- E2 27'3"
- E3 27'3"
- E4 19'2"
- E5 19'2"
- E6 41'9"

AVERAGE= 28'9"



NEW SITE PLAN
SCALE: 1/4" = 7'



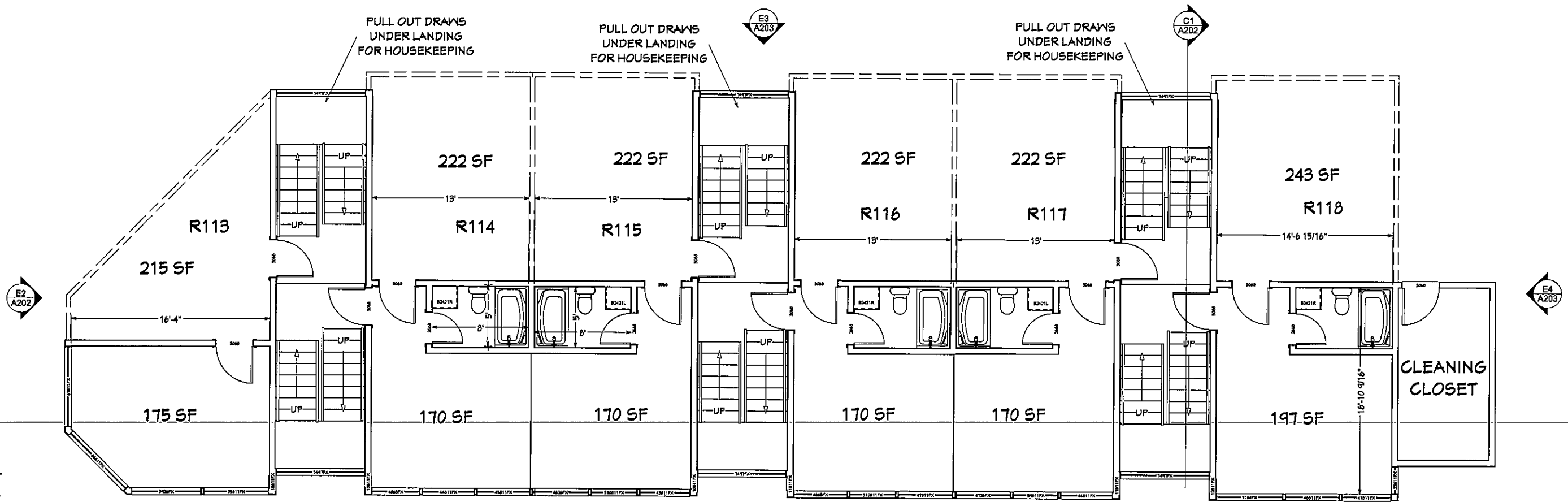
Black Sheep Design Team LLC
 3717 SE Roethe Road
 Portland, OR 97267

1816 Maxwell Mountain Rd.
 Oceanside, OR 97134

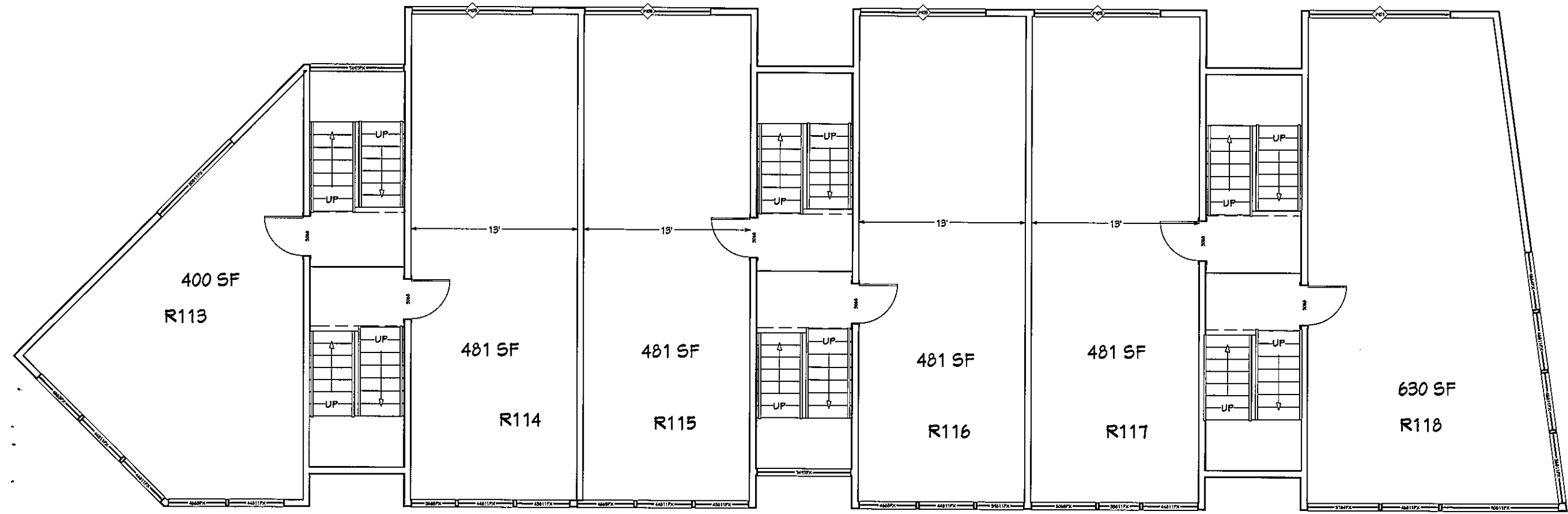
FLOOR PLAN
 BUILDING 1

4/9/24

A200



FLOOR PLAN BLD1 FIRST FLOOR
 SCALE 1/4" = 1'



FLOOR PLAN BLD 1 SECOND FLOOR
 SCALE 1/4" = 1'



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Oceanside, OR 97134

FLOOR PLAN
BUILDING 1

4/9/24

A201

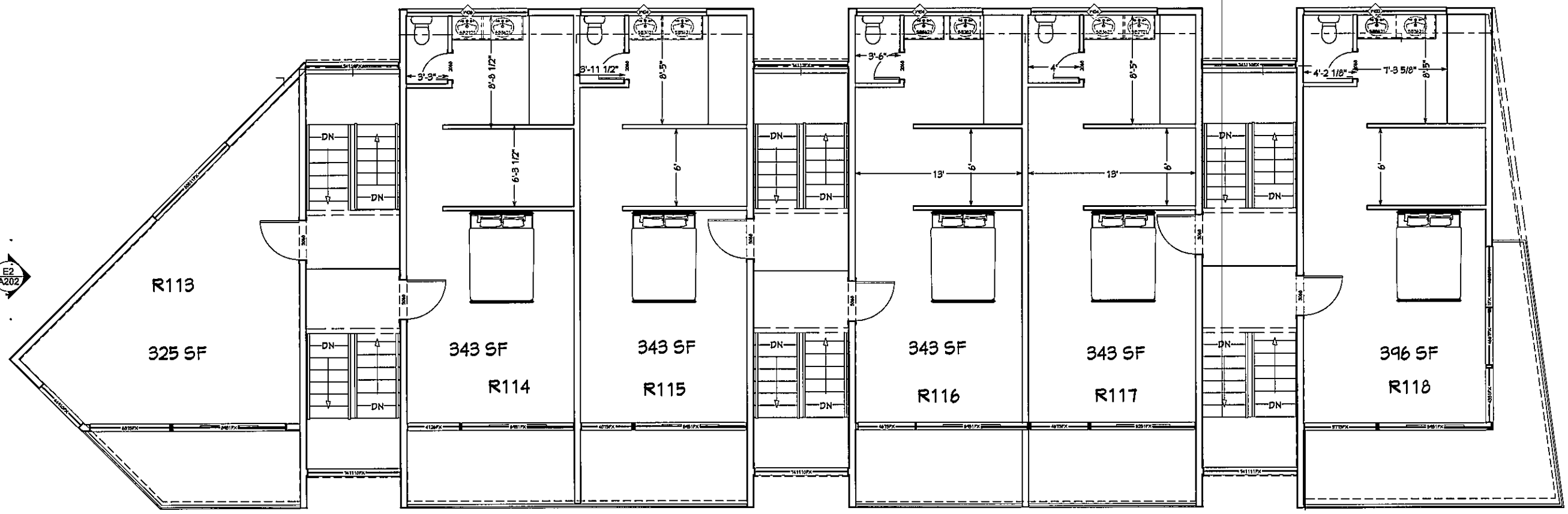
E3
A203

C1
A202

E1
A202

E4
A203

E2
A202

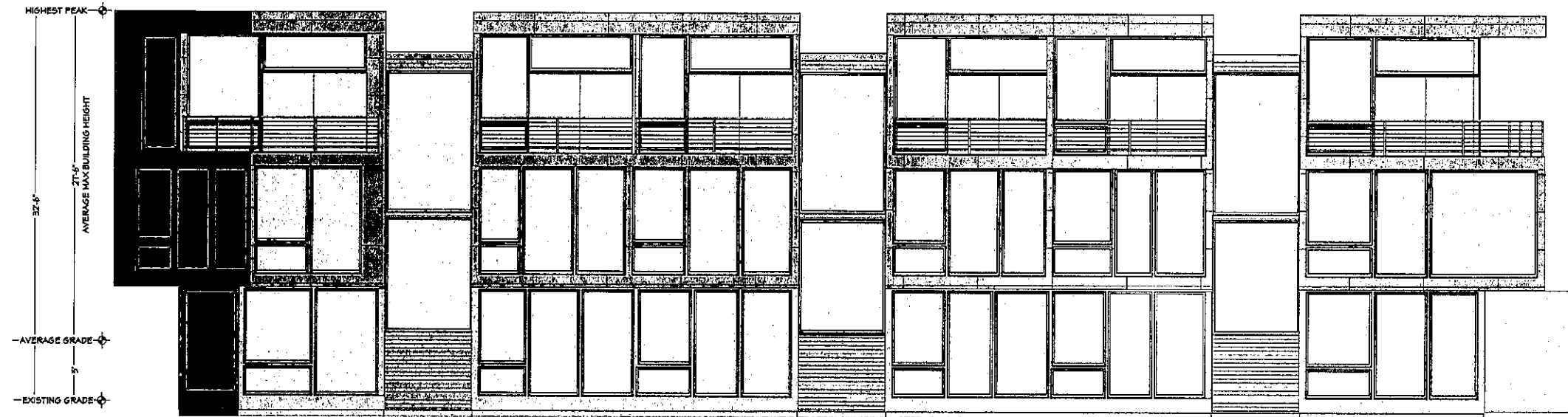


FLOOR PLAN BLDG 1 THIRD FLOOR
SCALE 1/4" = 1'

AVERAGE MAX BUILDING HEIGHT

- E1 27'6"
- E2 27'6"
- E3 27'6"
- E4 27'6"

AVERAGE= 27'6"



ELEVATION 1 BLDG 1
SCALE 3/16" = 1'



ELEVATION 2 BLDG 1
SCALE 3/16" = 1'



CROSS SECTION 1 BLDG 1
SCALE 3/16" = 1'

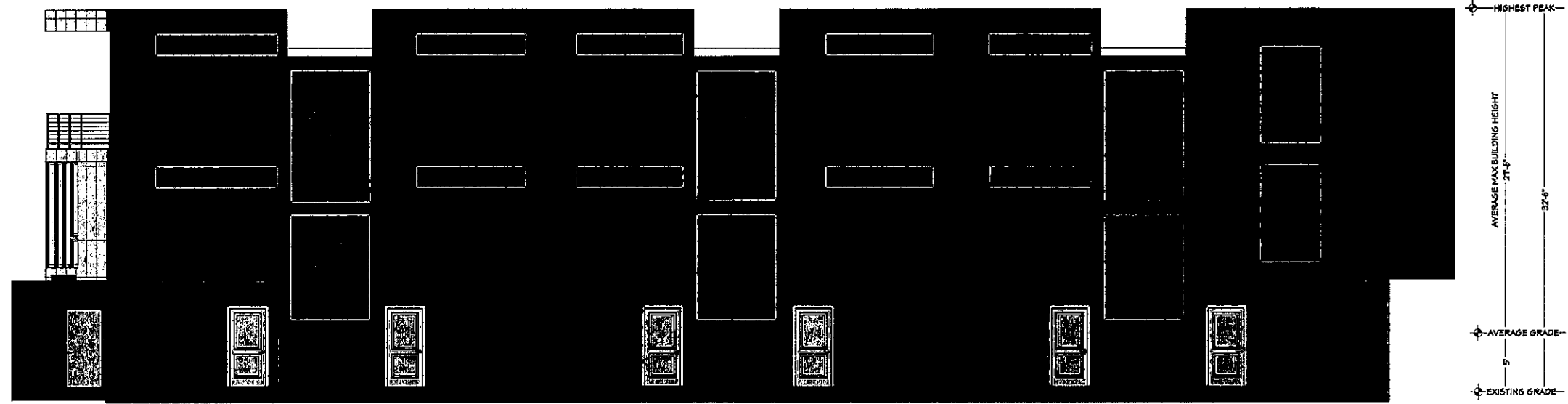
Black Sheep Design Team LLC
3717 SE Roethe Road
Portland, OR 97267

1816 Maxwell Mountain Rd.
Oceanside, OR 97134

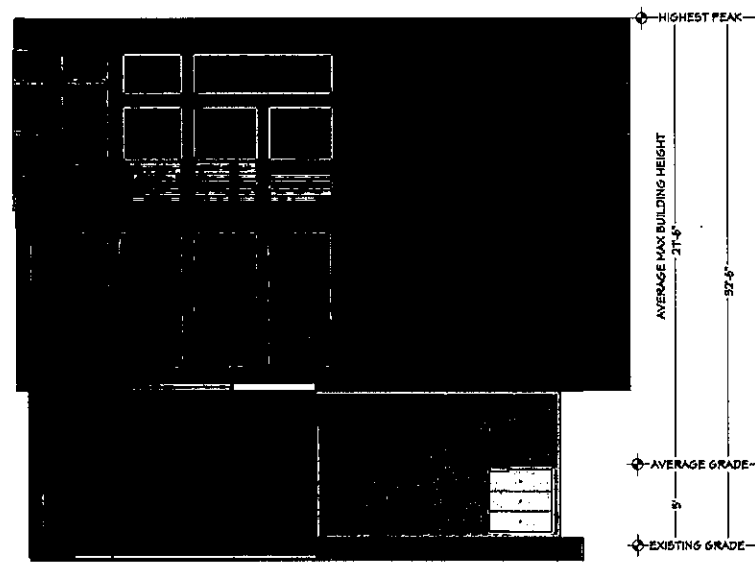
FLOOR PLAN
BUILDING 1 ELEVATIONS

4/9/24

A202



ELEVATION 3 BLDG 1
SCALE 3/16" = 1'



ELEVATION 4 BLDG 1
SCALE 3/16" = 1'

AVERAGE MAX BUILDING HEIGHT

- E1 27'6"
- E2 27'6"
- E3 27'6"
- E4 27'6"

AVERAGE= 27'6"



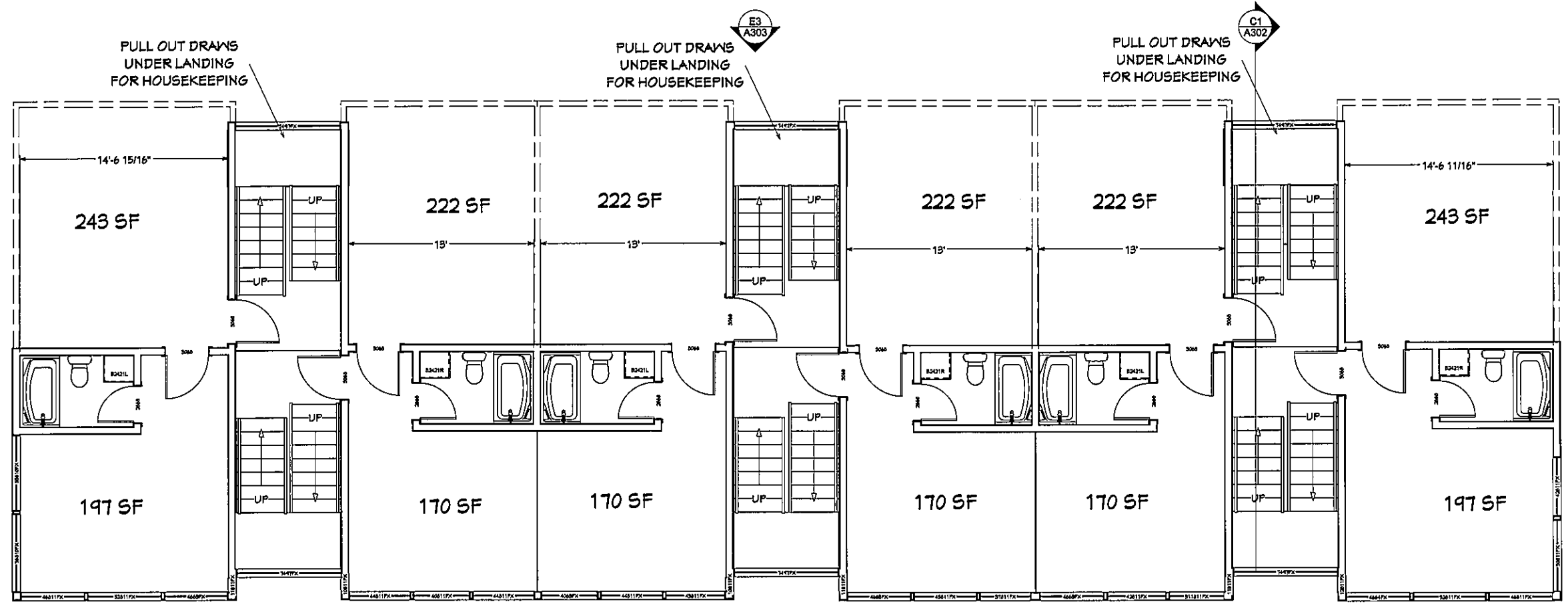
Black Sheep Design Team LLC
 3717 SE Roethe Road
 Portland, OR 97267

1816 Maxwell Mountain Rd.
 Oceanside, OR 97134

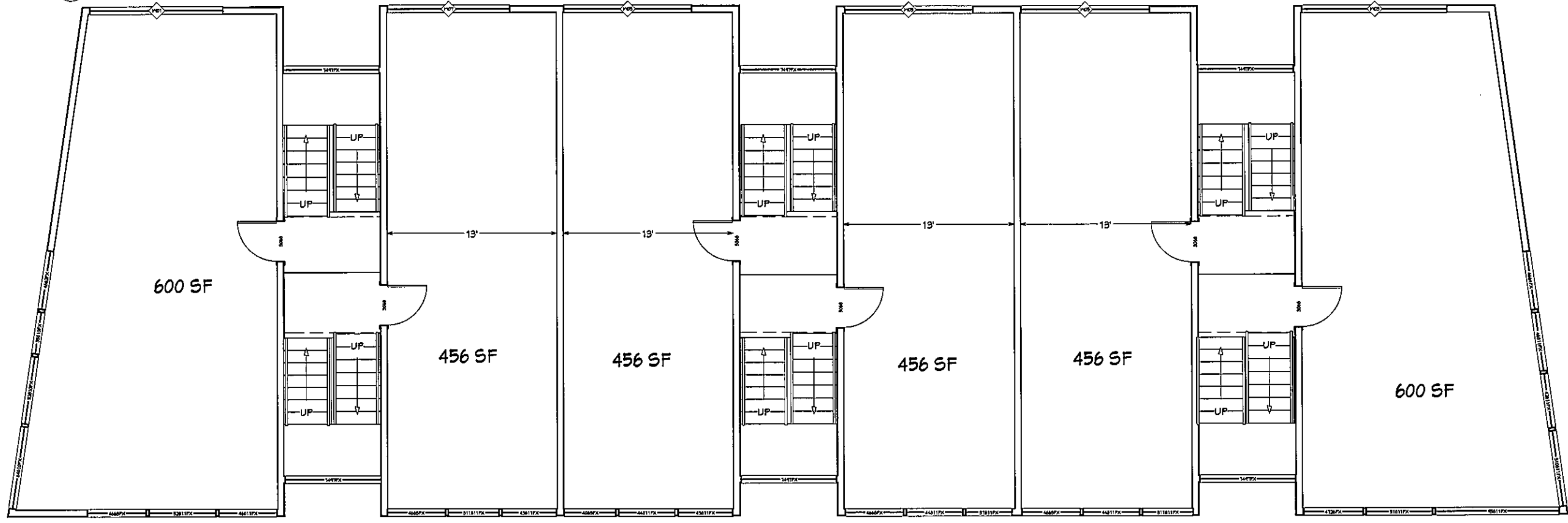
FLOOR PLAN
 BUILDING 2

4/9/24

A300



FLOOR PLAN BLD2 FIRST FLOOR
 SCALE 1/4" = 1'



FLOOR PLAN BLD 2 SECOND FLOOR
 SCALE 1/4" = 1'



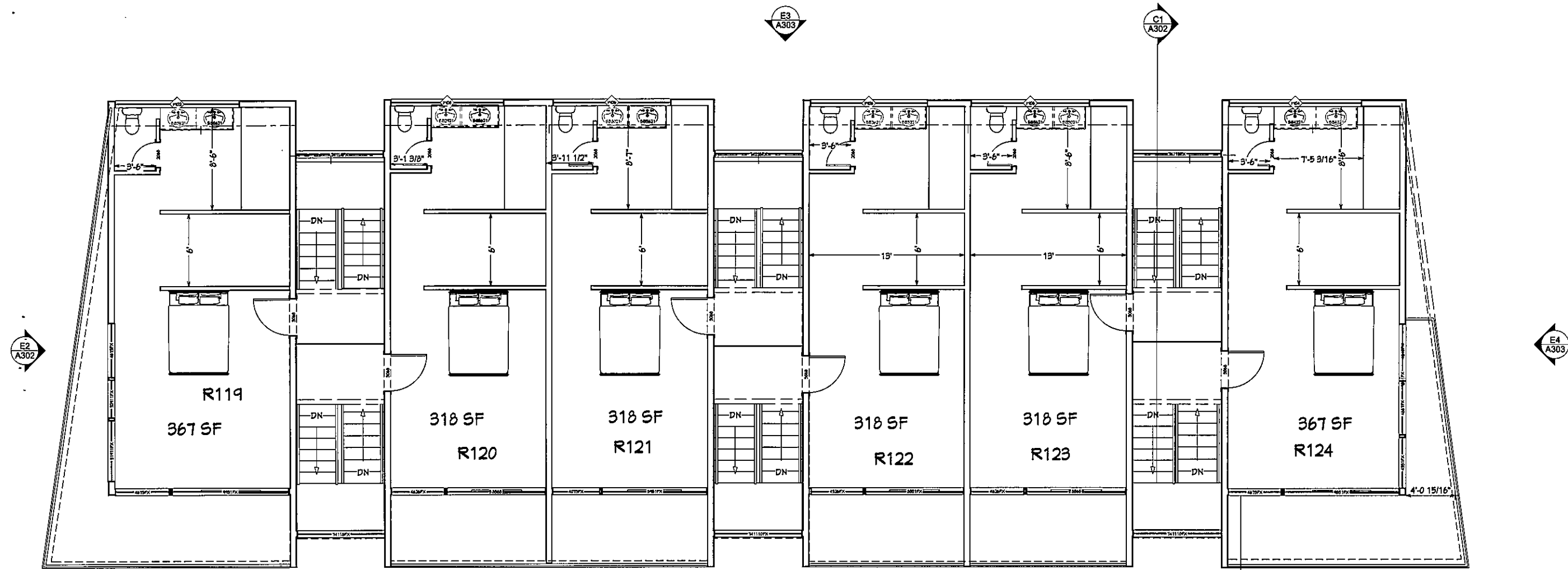
Black Sheep Design Team LLC
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Portland, OR 97267

1816 Maxwell Mountain Rd.
Oceanside, OR 97134

FLOOR PLAN
BUILDING 2

4/9/24

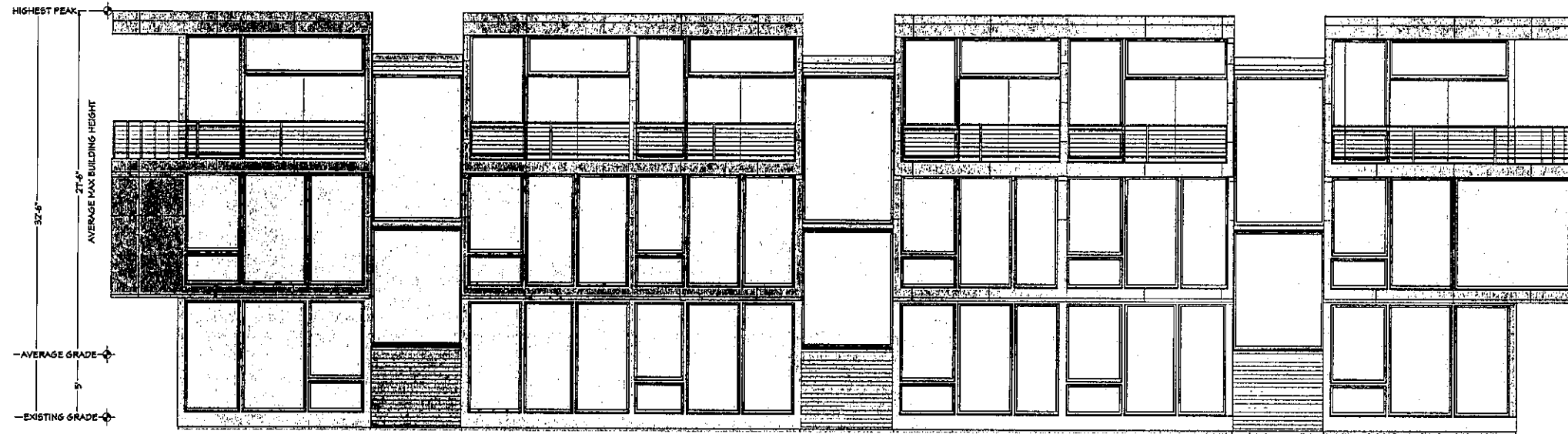
A301



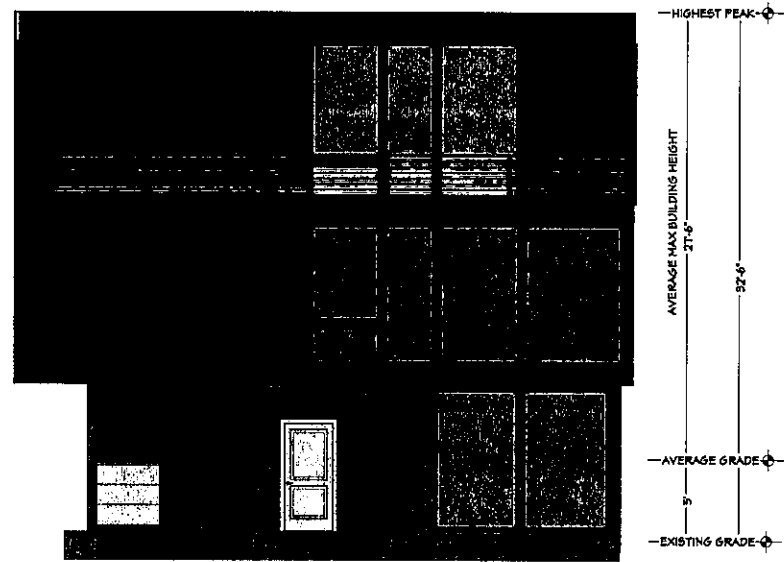
FLOOR PLAN BLDG 2 THIRD FLOOR
SCALE 1/4" = 1'



AVERAGE MAX BUILDING HEIGHT
 E1 27'6"
 E2 27'6"
 E3 27'6"
 E4 27'6"
 AVERAGE= 27'6"



ELEVATION 1 BLDG 2
 SCALE 3/16" = 1'



ELEVATION 2 BLDG 2
 SCALE 3/16" = 1'



CROSS SECTION 1 BLDG 2
 SCALE 3/16" = 1'

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FLOOR PLAN
 BUILDING 2 ELEVATIONS

4/9/24

A302



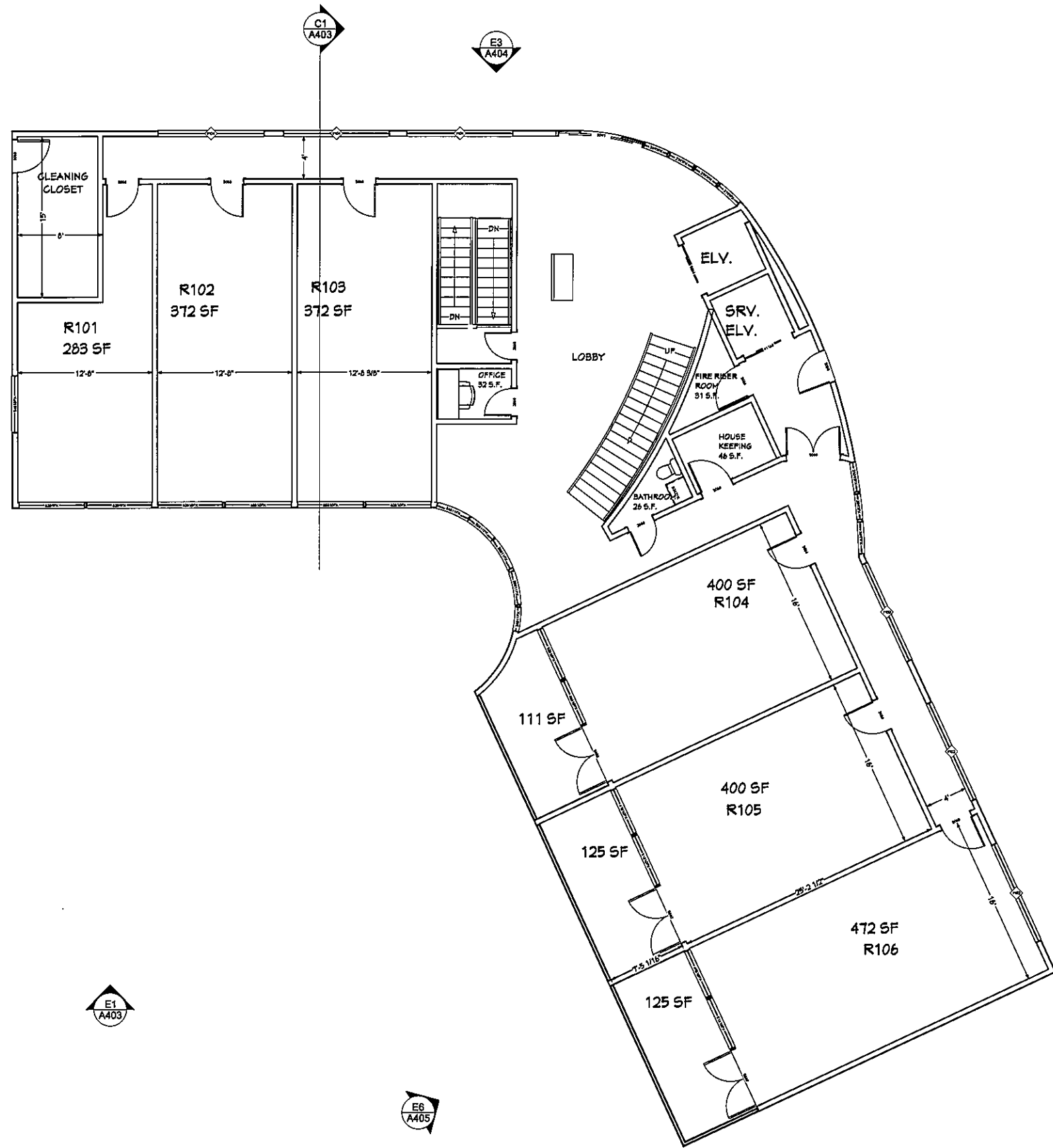
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Oceanside, OR 97134

FIRST FLOOR GROUND LEVEL
BUILDING 3

4/9/24

A400



FLOOR PLAN BLD 3 FIRST FLOOR GROUND LEVEL
SCALE 3/16" = 1'





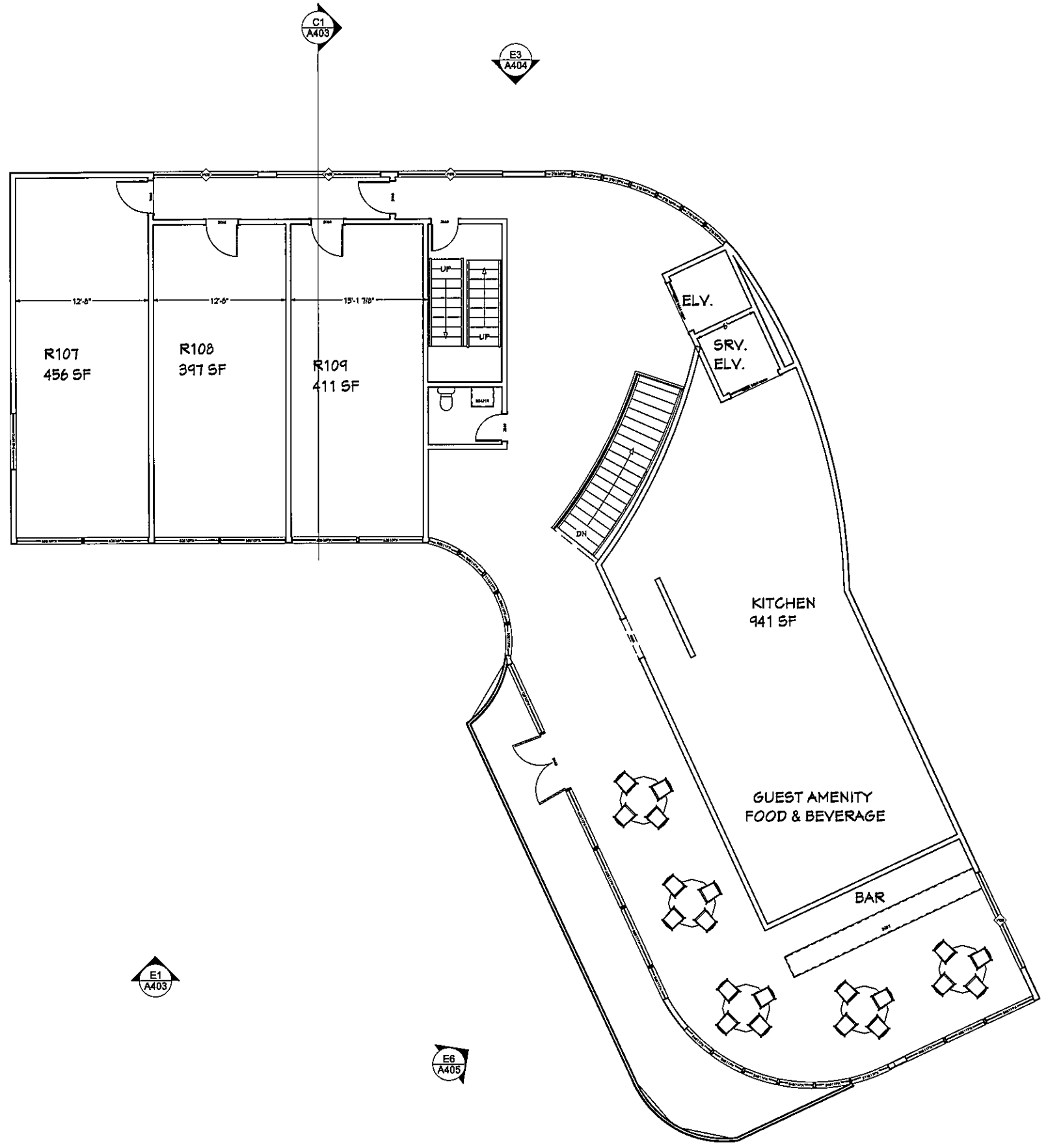
Black Sheep Design Team LLC
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SECOND FLOOR PLAN
 BUILDING 3

4/9/24

A401



FLOOR PLAN BLD 3 SECOND FLOOR
 SCALE: 3/16" = 1'



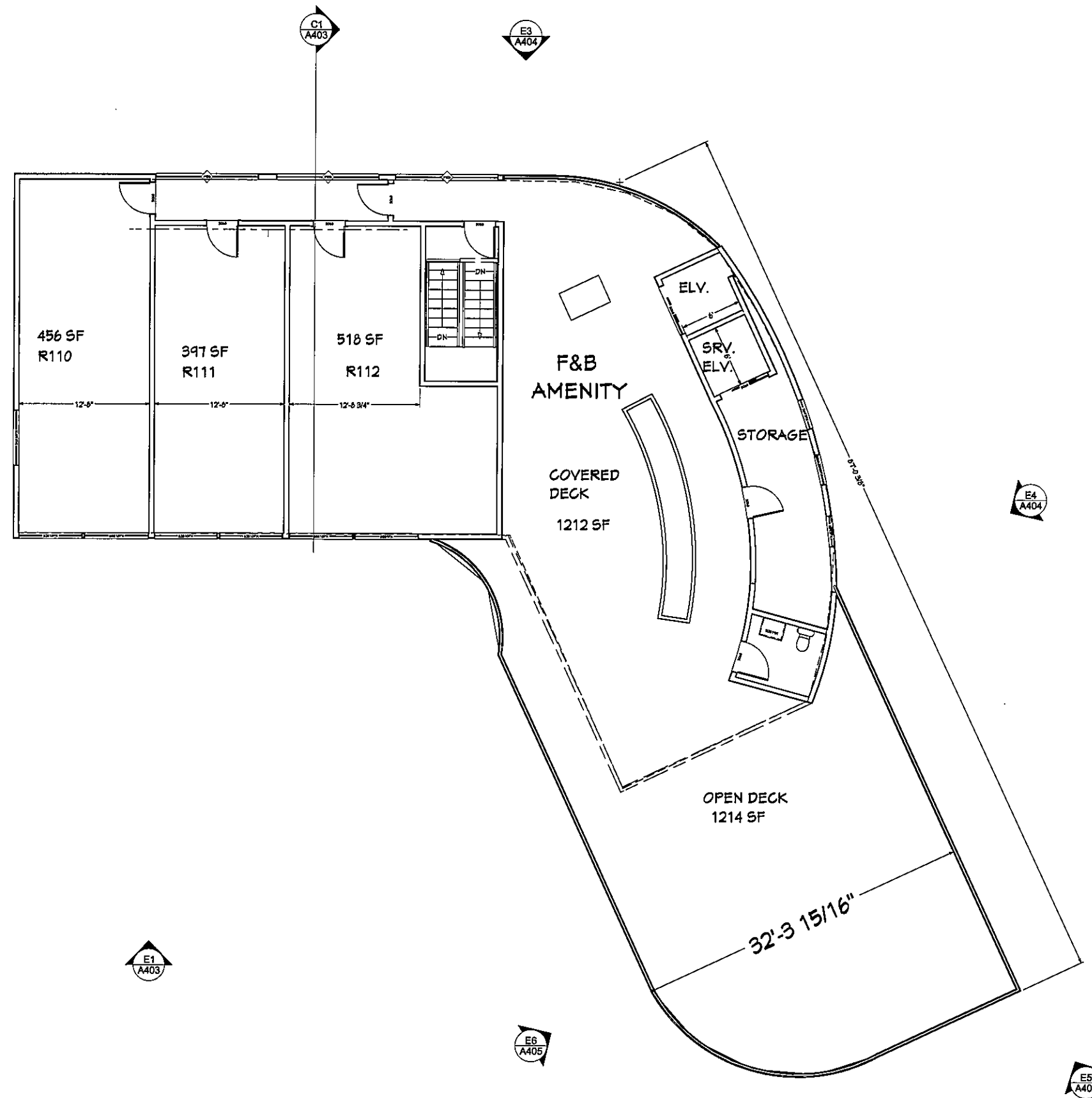
Black Sheep Design Team LLC
3717 SE Roethe Road
Portland, OR 97267

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Oceanside, OR 97134

THIRD FLOOR PLAN
BUILDING 3

4/9/24

A402



FLOOR PLAN BLD 3 THIRD FLOOR
SCALE 3/16" = 1'





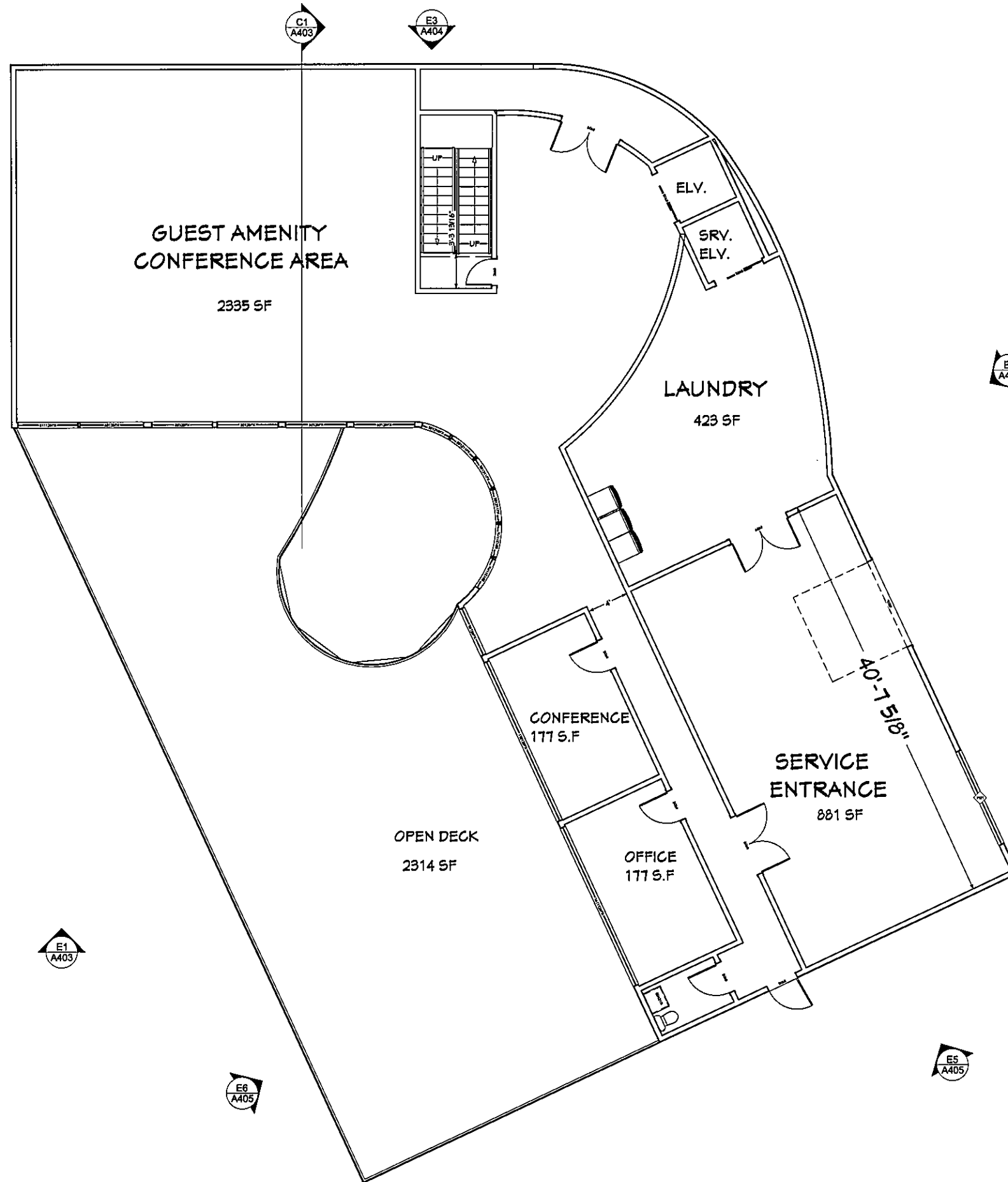
Black Sheep Design Team LLC
 3717 SE Roethe Road
 Portland, OR 97267

1816 Maxwell Mountain Rd.
 Oceanside, OR 97134

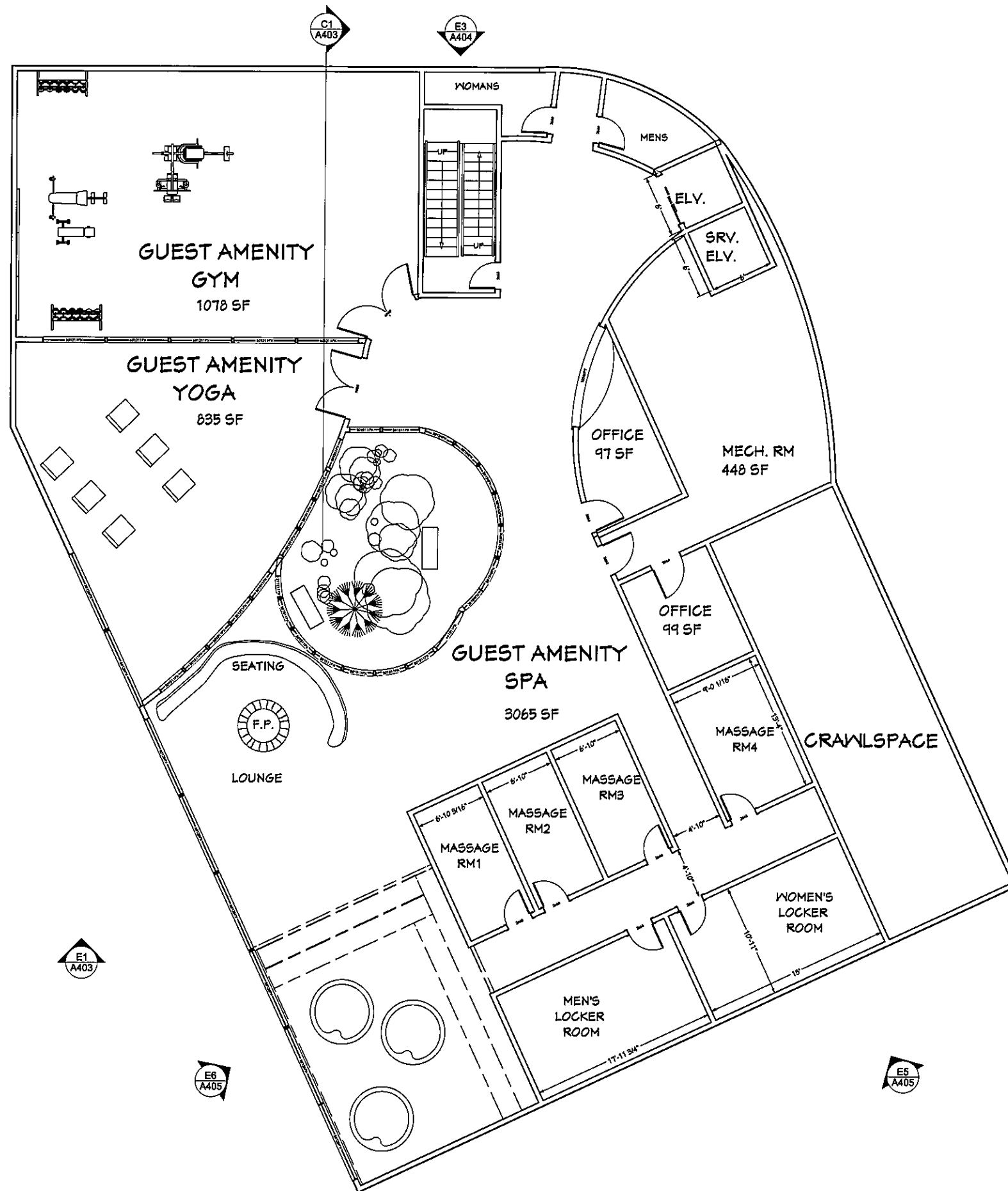
BASEMENT 1 FLOOR PLAN
 BUILDING 3

4/9/24

A403



FLOOR PLAN BLD 3 THIRD FLOOR
 SCALE 3/16" = 1'



FLOOR PLAN BLD 3 THIRD FLOOR
SCALE 3/16" = 1'

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1816 Maxwell Mountain Rd.
Oceanside, OR 97134

BASEMENT 2 FLOOR PLAN
BUILDING 3

4/9/24

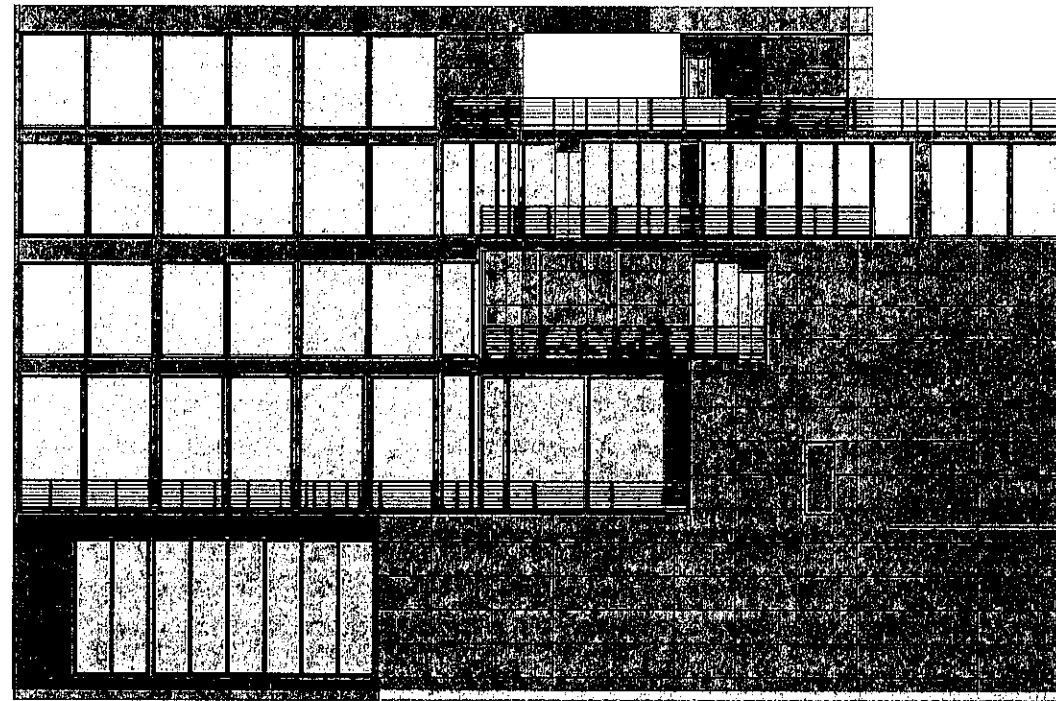
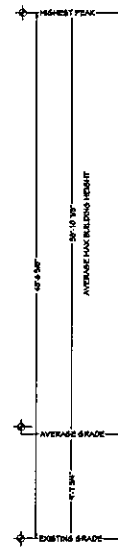
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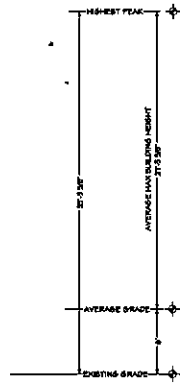
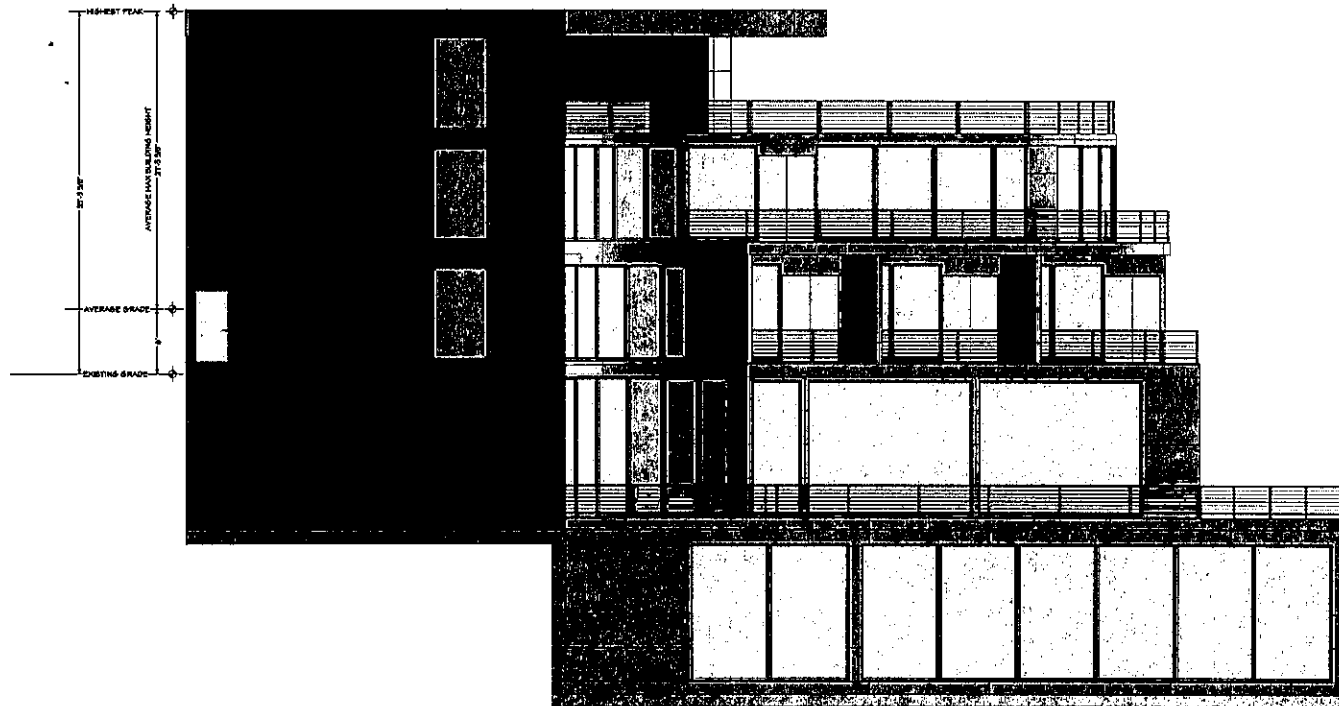
AVERAGE MAX BUILDING HEIGHT

- E1 38'10"
- E2 27'6"
- E3 28'10"
- E4 40'4"
- E5 41'10"
- E6 56'

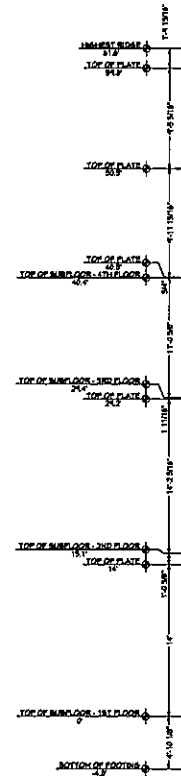
AVERAGE= 38'6"



ELEVATION 1 BLDG 3
SCALE 1/8" = 1'



ELEVATION 2, BLDG 3
SCALE 1/8" = 1'



CROSS SECTION 1 BLDG 3
SCALE 1/8" = 1'

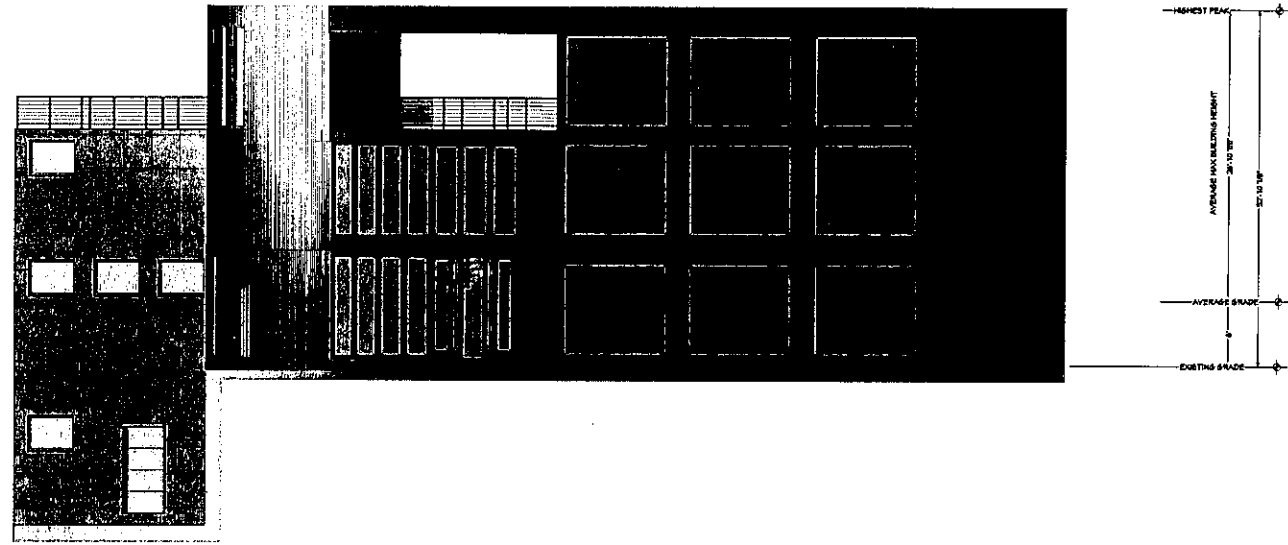
Black Sheep Design Team LLC
3717 SE Roethe Road
Portland, OR 97267

1816 Maxwell Mountain Rd.
OceanSide, OR 97134

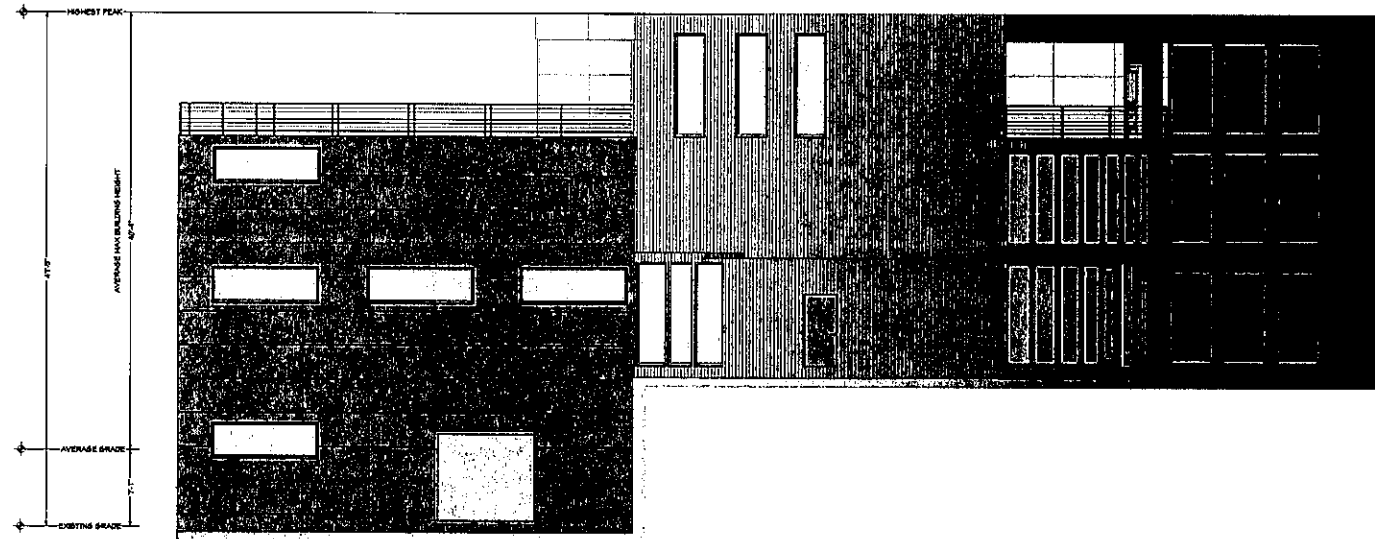
FLOOR PLAN
BUILDING 1 ELEVATIONS

4/9/24

A405



ELEVATION 3 BLDG 3
SCALE 1/8" = 1'



ELEVATION 4 BLDG 3
SCALE 1/8" = 1'

Black Sheep Design Team LLC
3717 SE Roethe Road
Portland, OR 97267

1816 Maxwell Mountain Rd.
Oceanside, OR 97134

FLOOR PLAN
BUILDING 1 ELEVATIONS

4/9/24

A406



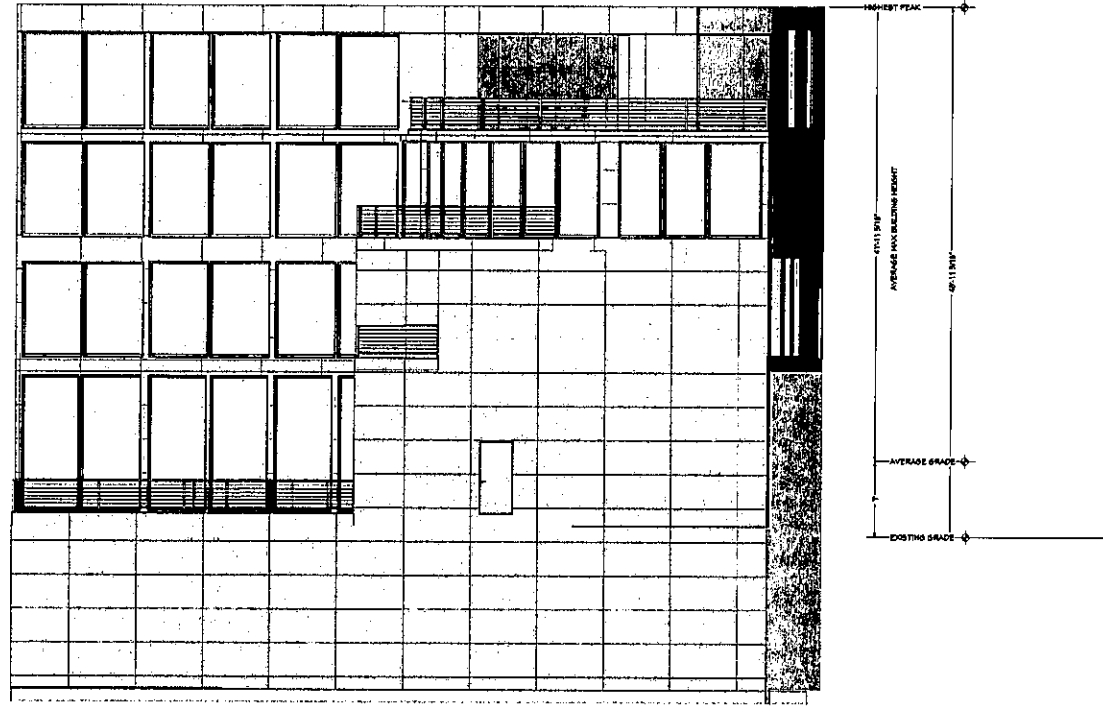
Black Sheep Design Team LLC
3717 SE Roethe Road
Portland, OR 97267

1816 Maxwell Mountain Rd.
Oceanside, OR 97134

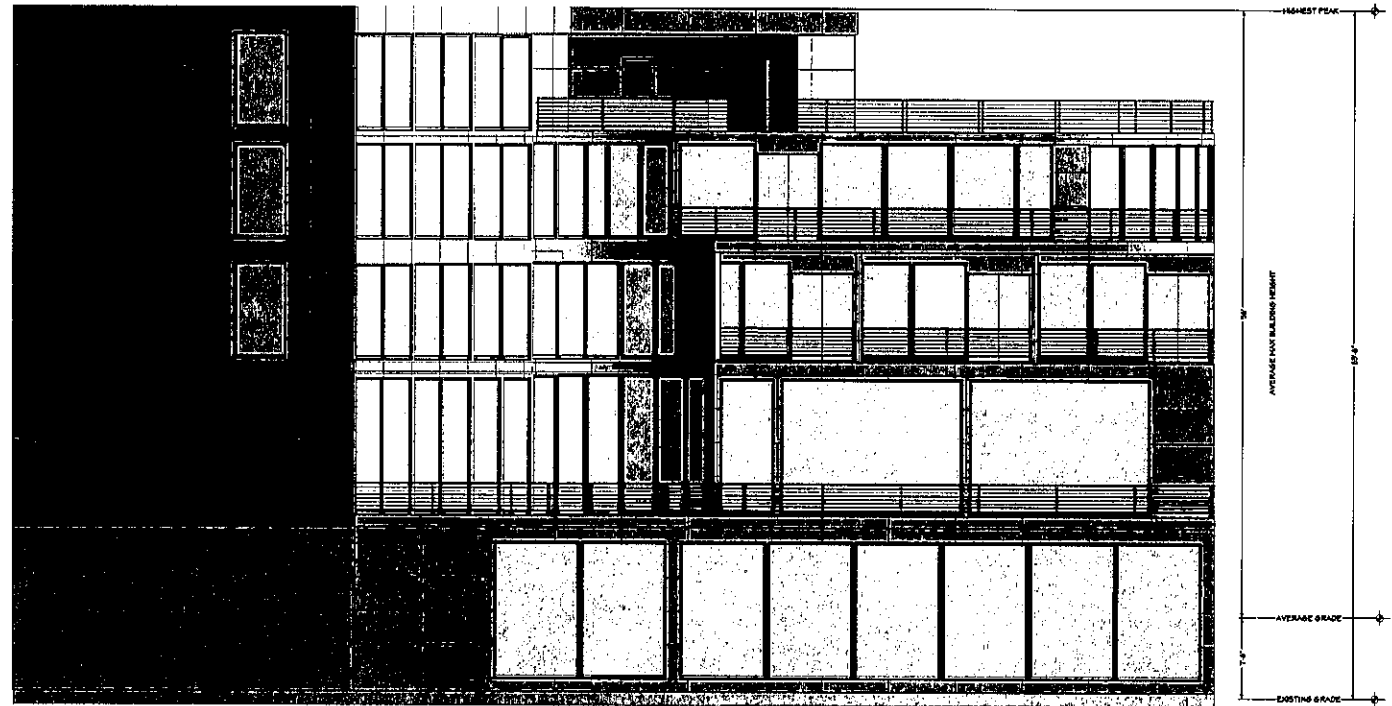
FLOOR PLAN
BUILDING 1 ELEVATIONS

4/9/24

A407



ELEVATION 5 BLDG 3
SCALE 1/8" = 1'



ELEVATION 6 BLDG 3
SCALE 1/8" = 1'



1816 MAXWELL MOUNTAIN RD.
OCEANSIDE, OR 97134

REVISIONS

SCALE

1/16" = 1' - 0"



DATE

04.22.2024

LANDSCAPE PLAN











lancaster
mobley

1816 Maxwell Mountain Road Hotel Redevelopment

Transportation Impact
Study

Oceanside, Oregon

Date:

June 4, 2024

Prepared for:

Nile Hagan

Prepared by:

Myla Cross

Todd Mobley, PE

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Project Description	3
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Location Description	3
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Buildout Conditions	11
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List of Appendices

- Appendix A – Site Information
- Appendix B – Volumes
- Appendix C - Safety
- Appendix D - Operations



Executive Summary

1. The property located at 1816 Maxwell Mountain Road is proposed for redevelopment. The site is currently developed with buildings that formerly accommodated a 12-room hotel. As part of the proposed project, the existing structures would be removed, and the site would be redeveloped with a boutique 24-room hotel. The project would include a spa and restaurant, but these facilities would be limited to the use of guests staying at the hotel and would otherwise not be open to the public.
2. During the Saturday peak hour the proposed development is anticipated to generate 24 total peak hour trips, with 10 trips entering the site and 14 exiting the site.
3. No study intersection had reported crashes during the analysis period, whereby no significant trends or crash patterns were identified at the study intersection that are indicative of safety concerns. Accordingly, no safety mitigation is recommended per the crash data analysis.
4. Due to insufficient traffic volumes, left-turn lane warrants are not projected to be met at any of the study intersections under buildout conditions.
5. Due to insufficient traffic volumes, traffic signal warrants are not projected to be met at any of the study intersections under buildout conditions.
6. Based on the turning movement analysis, the design supply vehicle was found to have no issues entering the project site from the southeast along NE Maxwell Mountain Road and exiting the site to the northeast and making a right-turn onto Chinook Avenue.
7. While the proposed project will add some vehicular traffic to Maxwell Mountain Road, it is not anticipated to create any new barriers to pedestrian travel modes, and safe circulation routes will remain available within the site vicinity following approval of the proposed use.
8. All study intersections are currently operating acceptably per jurisdictional standards and are projected to continue operating acceptably through the 2026 buildout year, regardless of the potential increase in site trip generation upon development of the site. No operational mitigation is necessary or recommended at these intersections.
9. Based on the parking demand rates reported in the *ITE Parking Generation Manual*, 22 parking spaces are projected to be utilized at average parking demand during the Saturday peak hour. The proposed development will include the construction of 29 off-street parking spaces. Therefore, it is expected that the proposed development will have sufficient off-street parking spaces to accommodate the parking demands of the site.



Project Description

Introduction

The property located at 1816 Maxwell Mountain Road is proposed for redevelopment. The site is currently developed with buildings that formerly accommodated a 12-room hotel. As part of the proposed project, the existing structures would be removed, and the site would be redeveloped with a boutique 24-room hotel. The project would include a spa and restaurant, but these facilities would be limited to the use of guests staying at the hotel and would otherwise not be open to the public.

This report addresses the impacts of the proposed hotel redevelopment on the nearby street system. Based on correspondence with Tillamook County, the report conducts safety and capacity/level of service analyses at the following intersections:

1. Netarts Oceanside Highway (OR-131) & Cape Meares Loop
2. Netarts Oceanside Highway (OR-131)/Pacific Avenue & Maxwell Mountain Road
3. Maxwell Mountain Road & Tillamook Avenue
4. Maxwell Mountain Road & Site Access
5. Maxwell Mountain Road & Chinook Avenue
6. Chinook Avenue & Cape Meares Loop

The purpose of this study is to provide an analysis of potential traffic impacts of the hotel on the surrounding transportation system and to recommend any required mitigative measures. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations are included in the appendix to this report.

Location Description

The project site is located southwest of the intersection of Maxwell Mountain Road & Chinook Avenue in Oceanside, Oregon. The project site (Map No 1S1125AA Tax Lots 2200, 2400, & 6600) is located at 1816 Maxwell Mountain Road and encompasses approximately 1.49 acres. The proposed development will take access along Maxwell Mountain Road. The project site is shown in Figure 1.

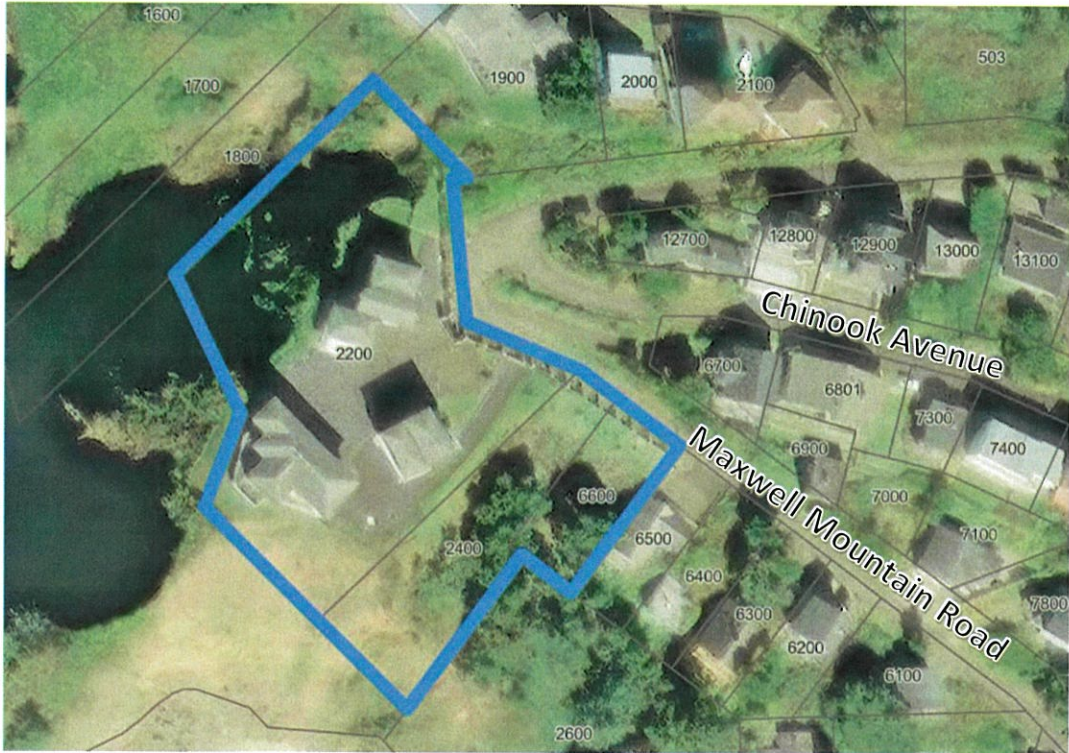


Figure 1: Project Location (image from Tillamook County Maps)

Vicinity Streets

The proposed development is expected to impact six roadways near the site. Table 1 provides a description of each of the vicinity roadways.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Cross-Section	Speed (MPH)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
Netarts Oceanside Highway (OR-131)	ODOT	District Highway	2-3 Lanes	35 Posted	None	Not Permitted	None
Cape Meares Loop	Tillamook County	Rural Major Collector	2 Lanes	25 Posted	None	Not Permitted	None
Pacific Avenue	Tillamook County	Local Road	2 Lanes	25 Posted	None	Not Permitted	None
Maxwell Mountain Road	Tillamook County	Local Road	2 Lanes	25 Statutory	None	Not Permitted	None
Tillamook Avenue	Tillamook County	Local Road	2 Lanes	25 Statutory	None	Not Permitted	None
Chinook Avenue	Tillamook County	Local Road	2 Lanes	25 Posted	None	Not Permitted	None

Table Notes: Functional Classification provided by the Oregon Transportation Map¹ for Tillamook County and Oregon Highway Plan

Study Intersections

Based on coordination with Tillamook County staff, six intersections were identified for analysis. A summarized description of the study intersections is provided in Table 2.

¹ Oregon Department of Transportation Geographic Information Services. *Tillamook County*. Map. 2011 <https://digital.osl.state.or.us/islandora/object/osl%3A69512>



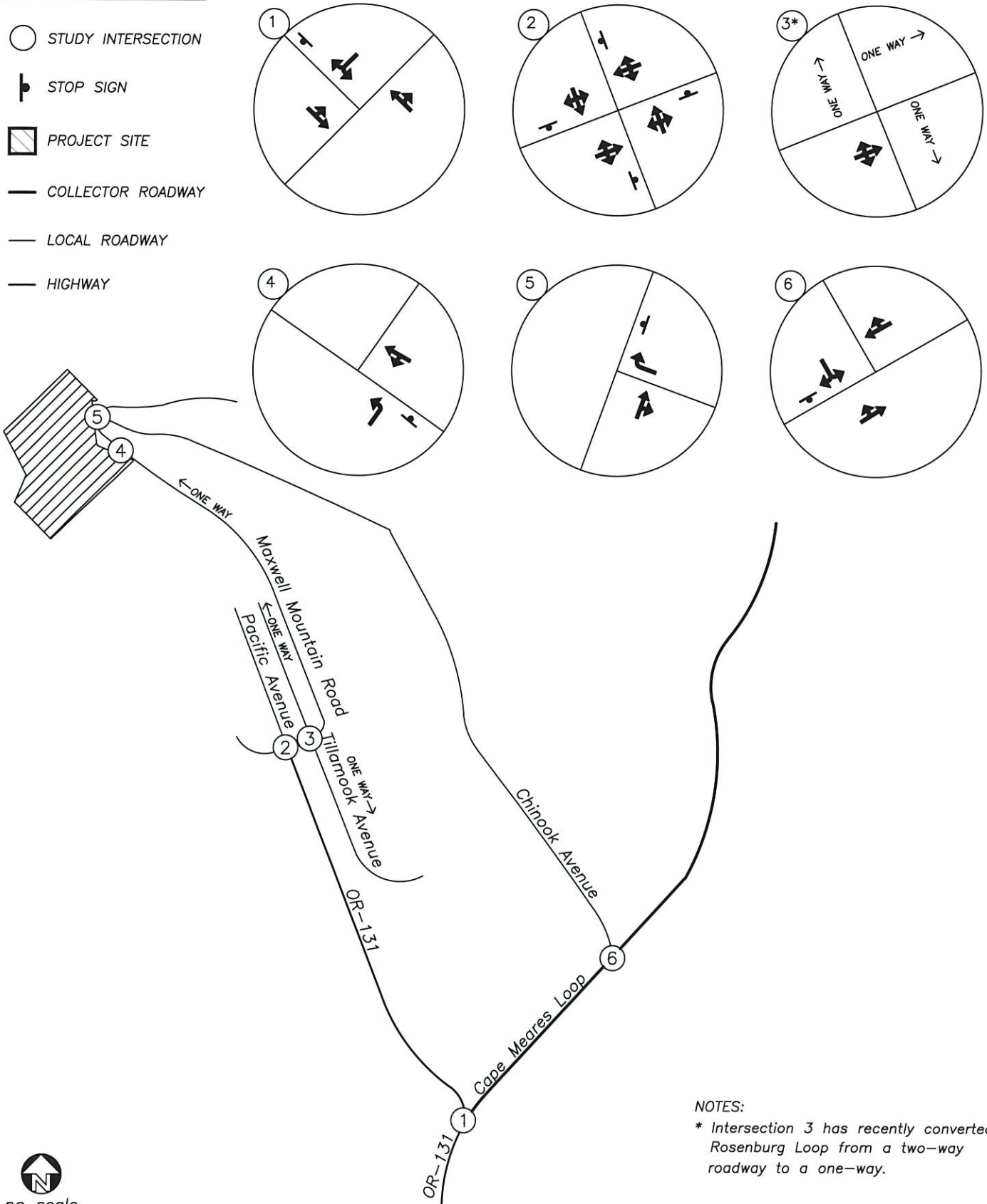
Table 2: Study Intersection Descriptions

	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Netarts Oceanside Highway (OR-131) & Cape Meares Loop	Three-Legged	Stop Controlled	WB Stop-Controlled
2	Netarts Oceanside Highway (OR-131)/Pacific Avenue & Maxwell Mountain Road	Four-Legged	Stop Controlled	NB/EB/SB/WB Stop-Controlled
3	Maxwell Mountain Road & Tillamook Avenue	Four-Legged	Stop Controlled	EB Stop-Controlled
4	Maxwell Mountain Road & Site Access	Three-Legged	Stop Controlled	EB Stop-Controlled
5	Maxwell Mountain Road & Chinook Avenue	Three-Legged	Stop Controlled	WB Stop-Controlled
6	Maxwell Mountain Road & Cape Meares Loop	Three-Legged	Stop Controlled	SB Stop-Controlled

A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.

LEGEND

- STUDY INTERSECTION
- ⊥ STOP SIGN
- ▨ PROJECT SITE
- COLLECTOR ROADWAY
- LOCAL ROADWAY
- HIGHWAY



NOTES:
 * Intersection 3 has recently converted Rosenberg Loop from a two-way roadway to a one-way.



Site Trips

Trip Generation

The proposed hotel is unique in that it is very small compared to the available sample data in the ITE Trip Generation Manual. In addition, not having the on-site restaurant and amenities available to outside patrons differs from the standard data and trip rates available. For this reason, custom trip generation rates were assembled based on the anticipated operation of the facility and the expected number of employees, deliveries, and guests.

Guest check-out is scheduled for 12:00PM, and check-in is scheduled for 4:00 PM. Based on conversations with the client, the majority of guest arrivals are anticipated to occur Friday afternoon and will stay throughout the weekend with departures occurring on Sunday. The proposed hotel will have an on-site restaurant and spa for guests, therefore, it is anticipated that most guest activities will occur at the hotel rather than at other locations within the Oceanside area or south towards Netarts. Approximately, 15% of guests were estimated to enter/exit the site for off-site activities each hour. 8-10 employees maximum are expected to be onsite during the weekends, shifts were estimated to occur 12-8 AM, 8AM-4PM, and 4PM-12AM. Food deliveries are anticipated to happen during the weekends. Based on the size of the hotel & restaurant, just 1 food delivery during the Saturday afternoon peak hour.

The resulting trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in Appendix A.

Table 3: Trip Generation Summary

Time	Guest Check-In/Out		Guest Activities (Beach, Town)		Employee Trips		Deliveries		Hourly Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	Total
12:00PM	0	3	4	4	0	0	1	1	5	8	13
1:00 PM	0	0	4	4	0	0	0	0	4	4	8
2:00 PM	0	0	4	4	0	0	0	0	4	4	8
3:00 PM	0	0	4	4	10	0	0	0	14	4	18
4:00 PM	6	0	4	4	0	10	0	0	10	14	24

As shown above, during the Saturday peak hour the proposed development is anticipated to generate 24 total peak hour trips, with 10 trips entering the site and 14 exiting the site.



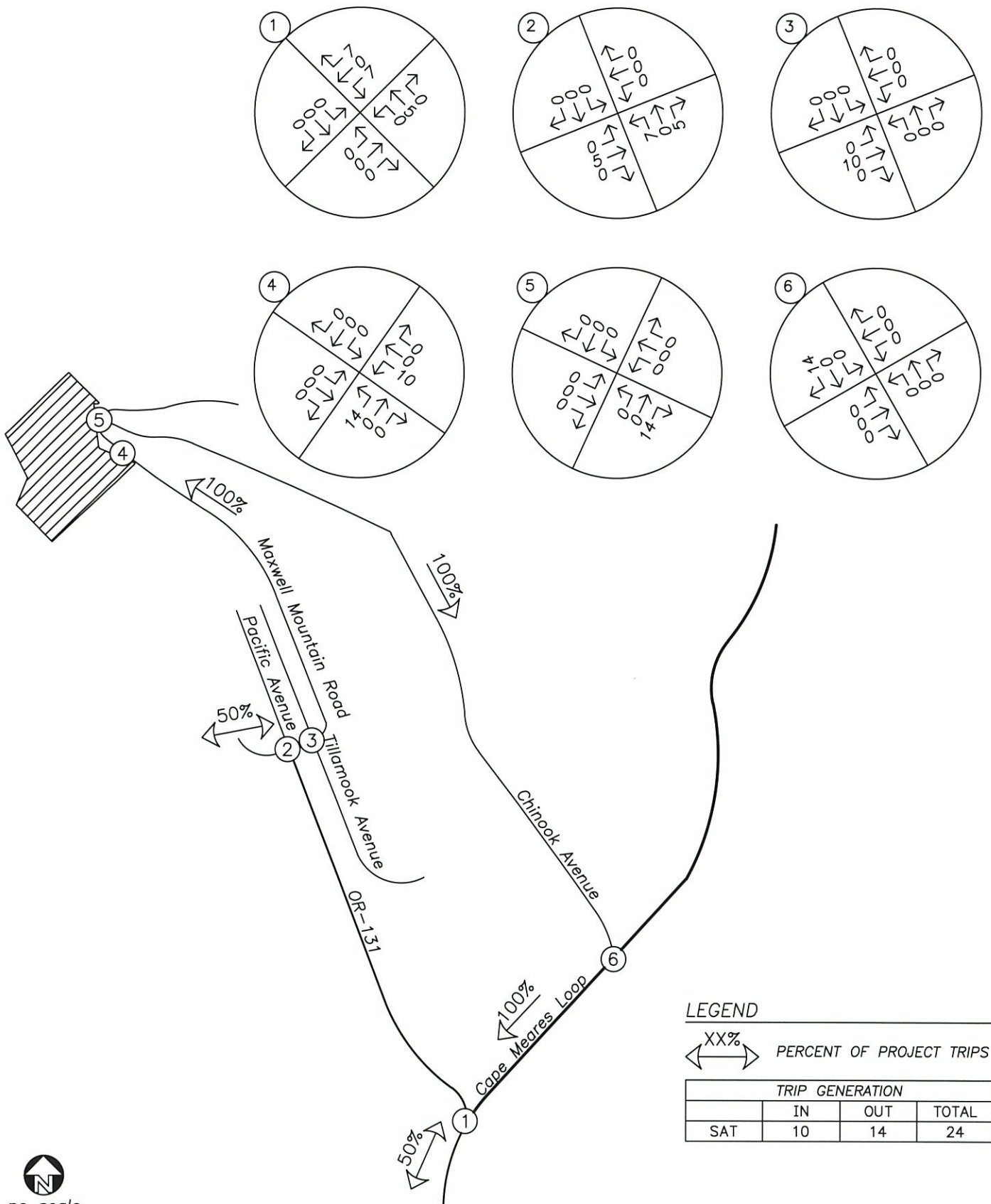
Trip Distribution

The directional distribution of site trips to and from the proposed site was estimated based on the locations of likely trip origins and destinations during the Saturday afternoon peak hour, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. The following trip distribution was estimated and used for analysis:

- Approximately 50 percent of site trips will travel to/from the south along Netarts Oceanside Highway (OR-131); and
- Approximately 50 percent of site trips will be captured at sites within Oceanside.

It is important to understand that this represents trip patterns during the Saturday afternoon peak hour, which is the critical period for analysis as required by Tillamook County. The trip distribution and assignment for the total site trips generated during the morning and evening peak hours is shown in Figure 3.





no scale

Traffic Volumes

Existing Conditions

Traffic counts were conducted at the study intersections on Saturday March 9, 2024 between 1:00 PM to 5:00 PM. Each intersection's respective peak hours were used for analysis.

Since Netarts Oceanside Highway (OR-131) is under the jurisdiction of ODOT, procedures described in ODOT's *Analysis Procedures Manual*² (APM) were used to seasonally adjust existing traffic volumes to reflect the 30th-highest hour in a typical year. Using a map of seasonal trends, this portion of OR-131 was determined to show a Coastal Destination Route trend. A seasonal adjustment factor (SAF) of 1.23492 was subsequently calculated and applied to all traffic volumes.

Figure 4 shows the existing traffic volumes at the study intersections during the morning and evening peak hours.

Background Conditions

To provide analysis of the impact of the proposed development, an estimate of future traffic volumes is required. A growth rate must be applied to existing traffic counts to calculate year 2026 background volumes.

Growth rates for through traffic on Netarts Oceanside Highway (OR-131) OR-131 were derived using ODOT's 2042 Future Volume Table. Data corresponding to Milepost 0.26 (ODOT Highway 131) was used for the intersections of Netarts Oceanside Highway (OR-131) & Cape Meares Loop, and Netarts Oceanside Highway (OR-131)/Pacific Avenue & Maxwell Mountain Road. A growth factor of 1.0026 was applied to Netarts Oceanside Highway (OR-131) through volumes over a two-year period to determine year 2026 background volumes.

For non-ODOT facilities, a growth rate of one-half percent per year was applied to the existing traffic volumes over a two-year period to determine year 2026 background volumes.

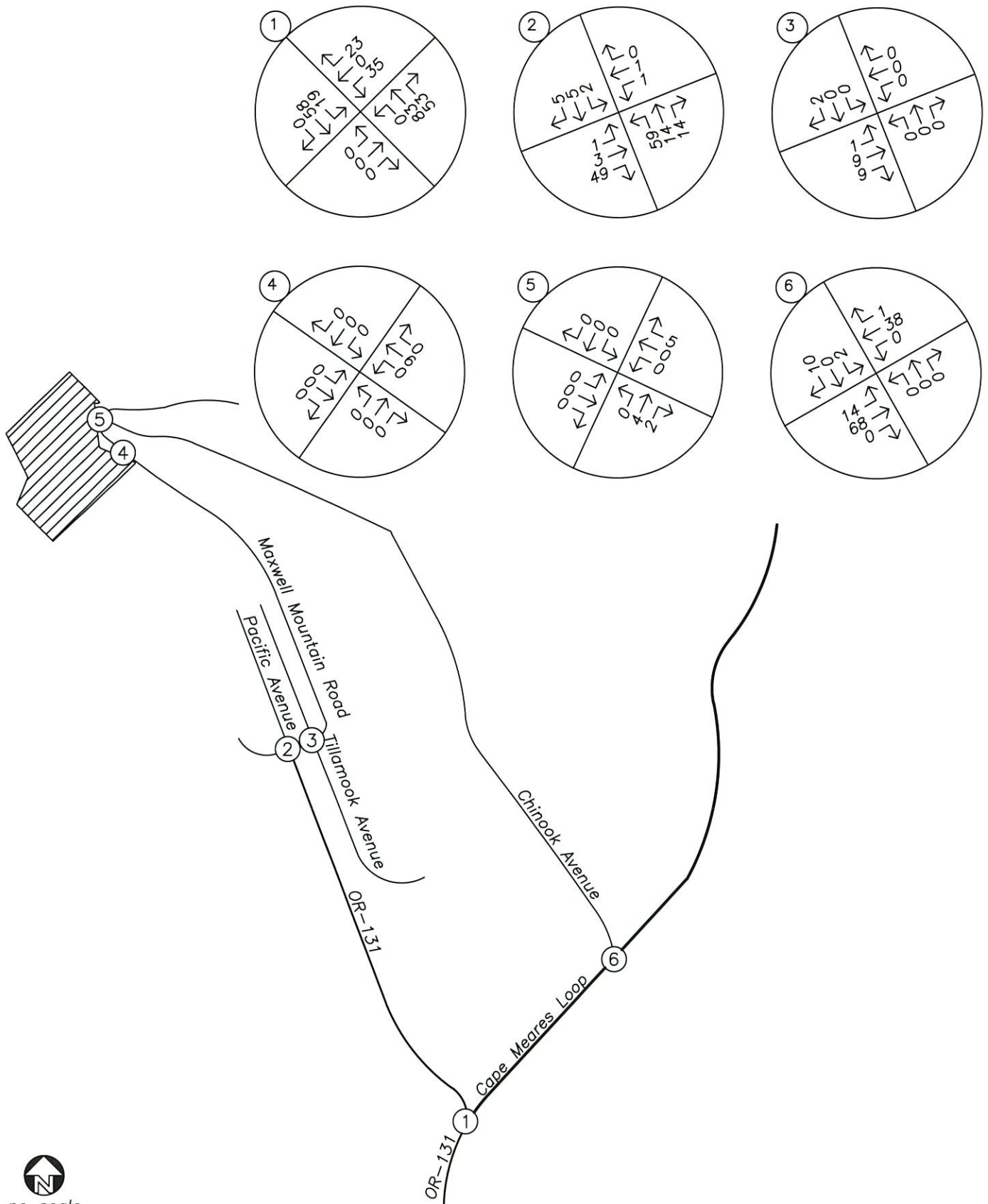
Figure 5 shows the projected year 2026 background traffic volumes at the study intersections during the morning and evening peak hours.

Buildout Conditions

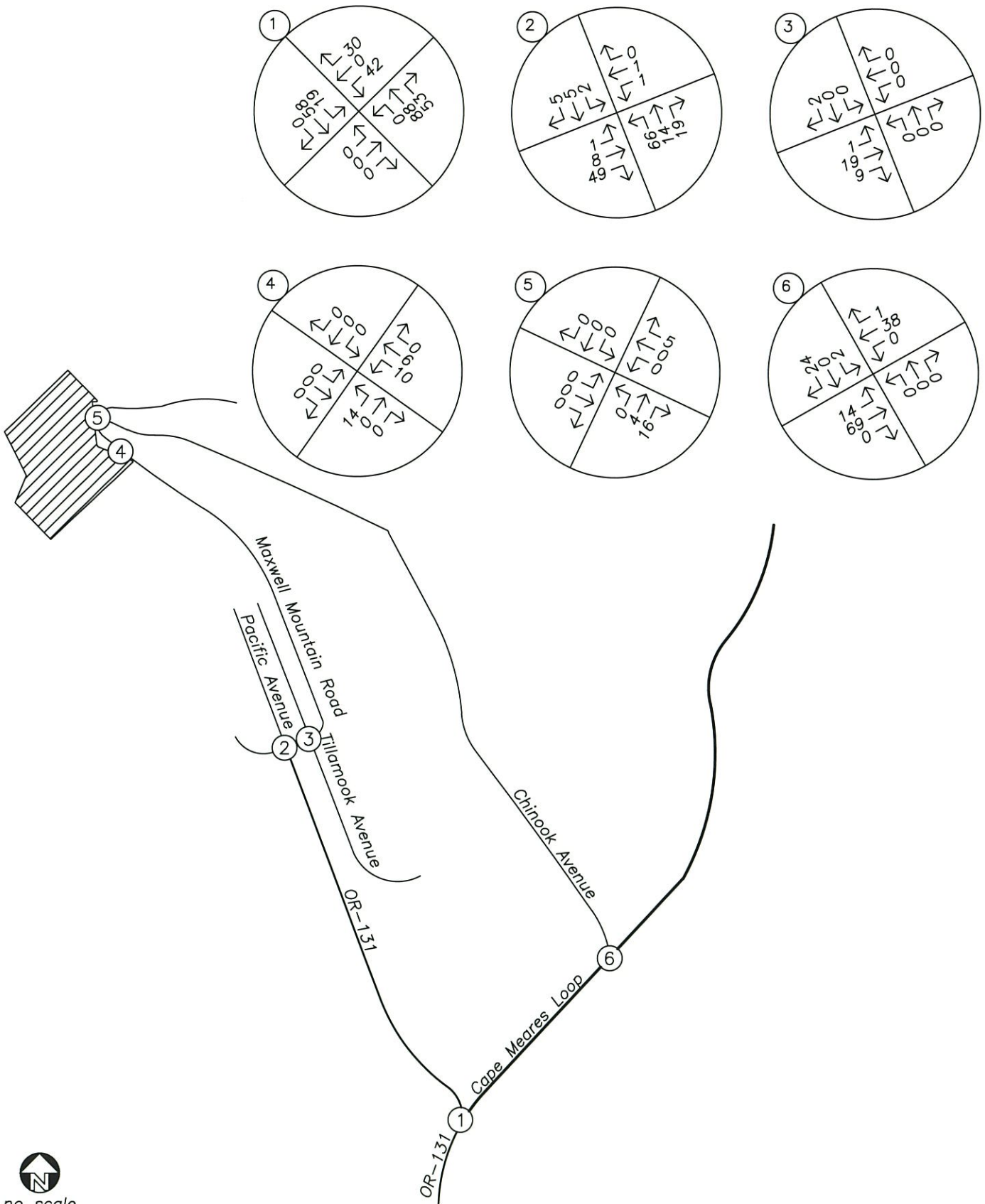
Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2026 background traffic volumes to obtain the expected year 2026 site buildout volumes.

Figure 6 shows year 2026 buildout traffic volumes at the study intersections during the morning and evening peak house.

² Oregon Department of Transportation, *Analysis Procedures Manual Version 2*, December 2019.



no scale



no scale

Safety Analysis

Crash History Review

Using data obtained from ODOT’s Crash Data System, a review of approximately five years of the most recent available crash history (January 2017 through December 2021) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions.

No study intersection had reported crashes during the analysis period, whereby no significant trends or crash patterns were identified at the study intersection that are indicative of safety concerns. Accordingly, no safety mitigation is recommended per the crash data analysis.

Warrant Analysis

Left-turn lane warrants, and preliminary traffic signal warrants were examined at the study intersections where applicable.

Left-Turn Lane Warrants

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants were examined using methodologies provided in the ODOT’s *Analysis Procedures Manual* (APM). Left-turn lane warrants were evaluated based on the number of advancing and opposing vehicles, number of turning vehicles, travel speed, and the number of through lanes.

Due to insufficient traffic volumes, left-turn lane warrants are not projected to be met at any of the study intersections under buildout conditions.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for at the study intersections to determine whether the installation of a new traffic signal will be warranted upon site buildout. Methodologies were based on the *Manual on Uniform Traffic Control Devices*³ (MUTCD). Warrant 1, Eight-Hour Vehicular Volumes, was evaluated based on the common assumption that traffic counted during the evening peak hour represents 10 percent of the average daily traffic (ADT) and that the 8th highest hour is 5.65 percent of the daily volume.

Due to insufficient traffic volumes, traffic signal warrants are not projected to be met at any of the study intersections under buildout conditions.

Turning Movement Analysis

At the request of Tillamook County staff, a turning movement analysis was conducted depicting a supply truck, which are expected to enter and exit the site for deliveries, turning from Maxwell Mountain Road and then exiting onto Chinook Avenue. The intent of the analysis is to determine if these types of vehicles can conduct these turning maneuvers without traveling over unpaved areas of the intersection. The turning movement

³ Federal Highway Administration, *Manual on Uniform Traffic Control Devices*, 11th Edition, 2023

analysis was conducted using AutoTURN software and referencing an AASHTO “SU-30” design vehicle. At a length of approximately 30 feet, the “SU-30” design vehicle is one of the larger vehicles expected to travel to/from the proposed hotel. A diagram depicting this analysis scenario is included within the appendix to this report.

Based on the turning movement analysis, the design supply vehicle was found to have no issues entering the project site from the southeast along NE Maxwell Mountain Road and exiting the site to the northeast and making a right-turn onto Chinook Avenue.

Impacts on Pedestrian Safety along Maxwell Mountain Road

All site trips will travel along Maxwell Mountain Road to enter the project site, making the roadway the most impacted by the proposed project. Maxwell Mountain Road is a one-way roadway that does not currently provide any separated pedestrian facilities. The roadway serves low volumes of traffic with a statutory speed limit of 25 mph, which allows pedestrians to walk along the roadway shoulder safely and comfortably when necessary.

Under existing conditions, there were a total of six vehicles traveling northwest bound (uphill) along Maxwell Mountain Road south of the project site. The proposed hotel will add ten additional vehicles, making a total of sixteen vehicles, traveling along Maxwell Mountain Road south of the project site during the Saturday peak hour. A total of fourteen vehicles will exit the hotel during the Saturday peak hour and turn right onto Chinook Avenue. It is also important to note that the prior use of the site as a residence and as a hotel also added vehicle trips to Maxwell Mountain Road for many years.

While the proposed project will add some vehicular traffic to Maxwell Mountain Road, it is not anticipated to create any new barriers to pedestrian travel modes, and safe circulation routes will remain available within the site vicinity following approval of the proposed use.

Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*⁴. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

⁴ Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

Performance Standards

The study intersection of Netarts Oceanside Highway (OR-131) & Cape Meares Loop is under the jurisdiction of ODOT. The applicable minimum operation standard for this facility is established under the *Oregon Highway Plan*⁵ and is based on the v/c ratio of the intersection. According to the *Oregon Highway Plan*, Netarts Oceanside Highway (OR-131) is a district route located outside any urban growth boundaries and within an unincorporated community and has a maximum allowable v/c ratio of 0.80. The above-mentioned intersection along OR-131 was analyzed according to this standard.

Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 4 for the Saturday peak hour.

⁵ Oregon Department of Transportation, 1999 *Oregon Highway Plan: Including amendments November 1999 through May 2015*, 1999



Table 4: Capacity Analysis Summary

Intersection & Condition	Saturday Peak Hour		
	LOS	Delay (s)	V/C
1. Netarts Oceanside Highway (OR-131) & Cape Meares Loop			
2024 Existing Conditions	B	10	0.10
2026 Background Conditions	B	10	0.10
2026 Buildout Conditions	B	10	0.10
2. Netarts Oceanside Highway (OR-131)/Pacific Avenue & Maxwell Mountain Road			
2024 Existing Conditions	A	8	0.13
2026 Background Conditions	A	8	0.13
2026 Buildout Conditions	A	8	0.13
3. Maxwell Mountain Road & Tillamook Avenue			
2024 Existing Conditions	A	7	0.03
2026 Background Conditions	A	7	0.03
2026 Buildout Conditions	A	7	0.03
4. Maxwell Mountain Road & Site Access			
2026 Buildout Conditions	A	9	0.03
5. Maxwell Mountain Road & Chinook Avenue			
2024 Existing Conditions	A	8	0.01
2026 Background Conditions	A	8	0.01
2026 Buildout Conditions	A	8	0.01
6. Chinook Avenue & Cape Meares Loop			
2024 Existing Conditions	A	9	0.02
2026 Background Conditions	A	9	0.02
2026 Buildout Conditions	A	9	0.02

All study intersections are currently operating acceptably per jurisdictional standards and are projected to continue operating acceptably through the 2026 buildout year, regardless of the potential increase in site trip generation upon development of the site. No operational mitigation is necessary or recommended at these intersections.



Parking Analysis

The proposed hotel will include 24 units and provide 29 off-street parking spaces. Within the vicinity of the project site, there is no existing public parking available as parking is prohibited on Maxwell Mountain Road.

To estimate the parking demand that could be generated by the proposed development, parking generation rates from the *ITE Parking Generation Manual*⁶ were used. Data from the land use code 311 – All Suites Hotel is used to estimate the proposed site’s parking generation. Land use code 311 is described as a hotel that provides sleeping accommodations, a small restaurant/lounge, and small amounts of meeting space, therefore, it is determined to be appropriate to estimate the proposed hotel’s parking generation.

Parking demand estimates were based on the number of hotel rooms and are reported in Table 5.

Table 5: Saturday Parking Generation

ITE Code	Independent Variable	Average Rate	Average Parking Demand
311 – All Suites Hotel	24 Hotel Rooms	0.90	1.33

Based on the parking demand rates reported in the *ITE Parking Generation Manual*, 22 parking spaces are projected to be utilized at average parking demand during the Saturday peak hour. The proposed development will include the construction of 29 off-street parking spaces. Therefore, it is expected that the proposed development will have sufficient off-street parking spaces to accommodate the parking demands of the site.

⁶ Institute of Transportation Engineers (ITE), Parking Generation Manual, 5th Edition,

Conclusions

Key findings of this study include:

- During the Saturday peak hour the proposed development is anticipated to generate 24 total peak hour trips, with 10 trips entering the site and 14 exiting the site.
- No study intersection had reported crashes during the analysis period, whereby no significant trends or crash patterns were identified at the study intersection that are indicative of safety concerns. Accordingly, no safety mitigation is recommended per the crash data analysis.
- Due to insufficient traffic volumes, left-turn lane warrants are not projected to be met at any of the study intersections under buildout conditions.
- Due to insufficient traffic volumes, traffic signal warrants are not projected to be met at any of the study intersections under buildout conditions.
- Based on the turning movement analysis, the design supply vehicle was found to have no issues entering the project site from the southeast along NE Maxwell Mountain Road and exiting the site to the northeast and making a right-turn onto Chinook Avenue.
- While the proposed project will add some vehicular traffic to Maxwell Mountain Road, it is not anticipated to create any new barriers to pedestrian travel modes, and safe circulation routes will remain available within the site vicinity following approval of the proposed use.
- All study intersections are currently operating acceptably per jurisdictional standards and are projected to continue operating acceptably through the 2026 buildout year, regardless of the potential increase in site trip generation upon development of the site. No operational mitigation is necessary or recommended at these intersections.
- Based on the parking demand rates reported in the *ITE Parking Generation Manual*, 22 parking spaces are projected to be utilized at average parking demand during the Saturday peak hour. The proposed development will include the construction of 29 off-street parking spaces. Therefore, it is expected that the proposed development will have sufficient off-street parking spaces to accommodate the parking demands of the site.



Appendix A – Site Information

Site Plan



BUILDING
AVERAGE
HEIGHT

E1 27'
E2 27'
E3 27'
E4 27'

AVERAGE

BUILDING
AVERAGE
HEIGHT

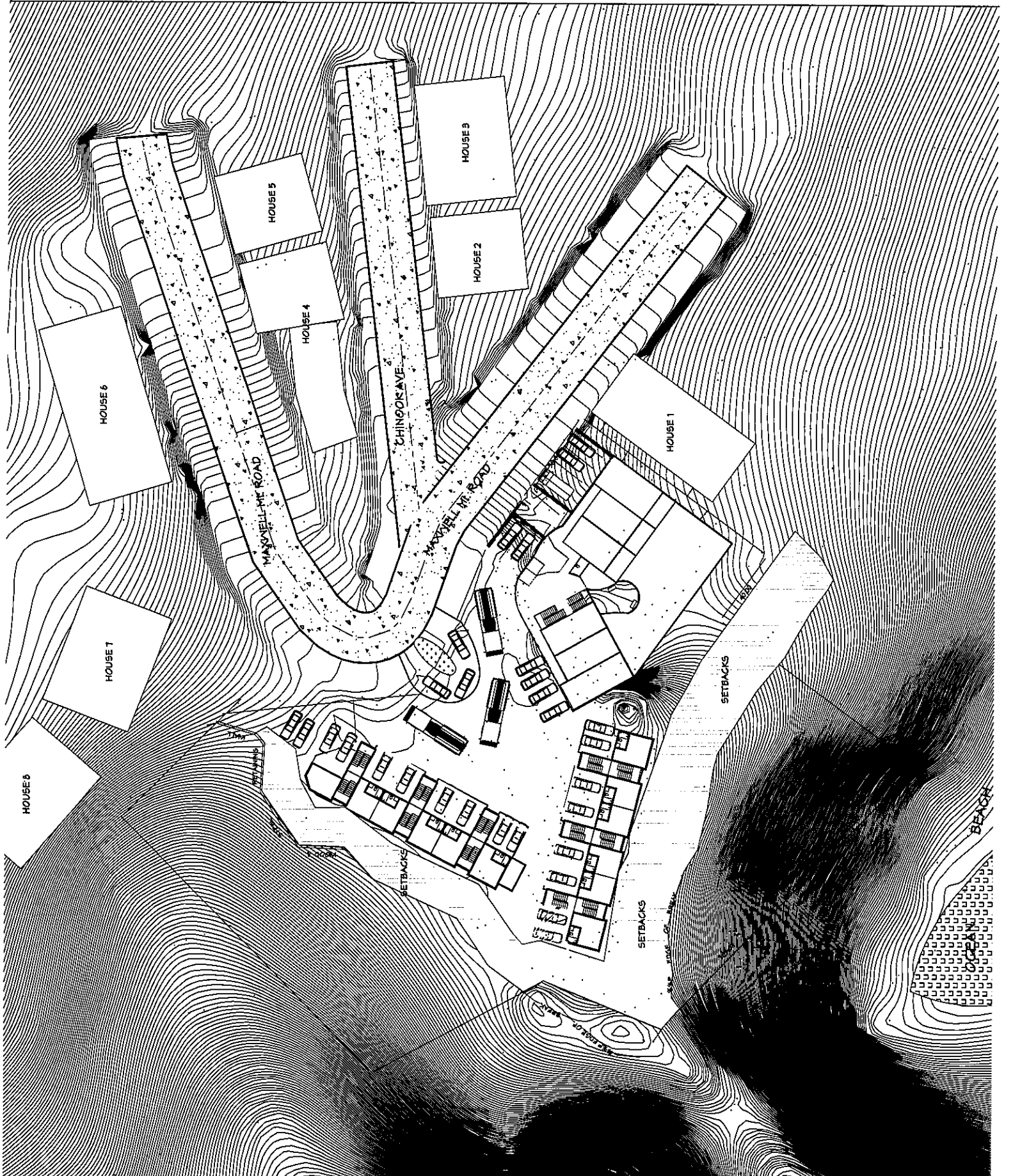
E1 27'6"
E2 27'6"
E3 27'6"
E4 27'6"

AVERAGE

BUILDING
AVERAGE
HEIGHT

E1 38'
E2 27'
E3 27'
E4 19'
E5 19'
E6 41'

AVERAGE

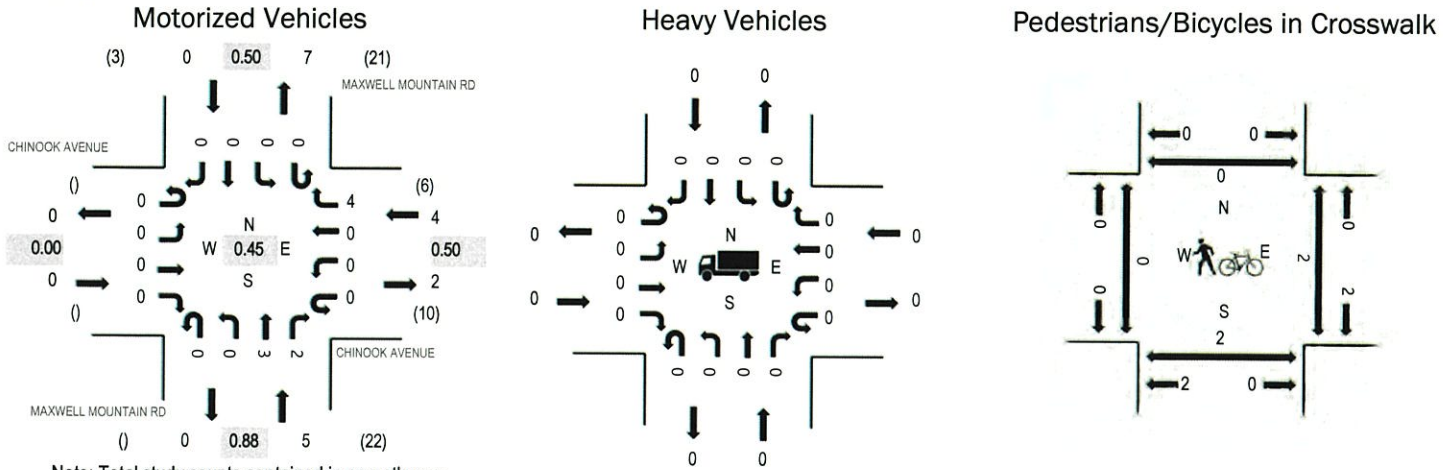


Appendix B – Volumes

Traffic Counts



Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.50
NB	0.0%	0.88
SB	0.0%	0.50
All	0.0%	0.45

Traffic Counts - Motorized Vehicles

Interval Start Time	CHINOOK AVENUE Eastbound				CHINOOK AVENUE Westbound				MAXWELL MOUNTAIN RD Northbound				MAXWELL MOUNTAIN RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
1:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	3	8
1:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	8
1:30 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	6
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:00 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	3	7
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	8
2:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	8
3:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	7
3:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	3	7
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	9
3:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	9
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	9
4:15 PM	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	5	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Count Total	0	0	0	0	0	0	0	6	0	0	15	7	0	3	0	0	31	
Peak Hour	0	0	0	0	0	0	0	4	0	0	3	2	0	0	0	0	9	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0
1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0
1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0
1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0	1:45 PM	0	1	0	0	1
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0

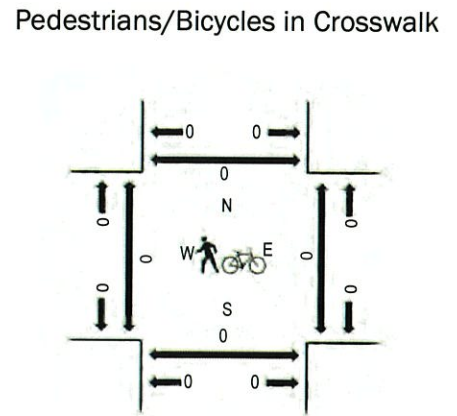
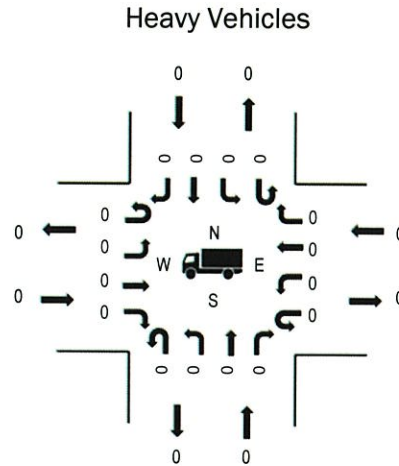
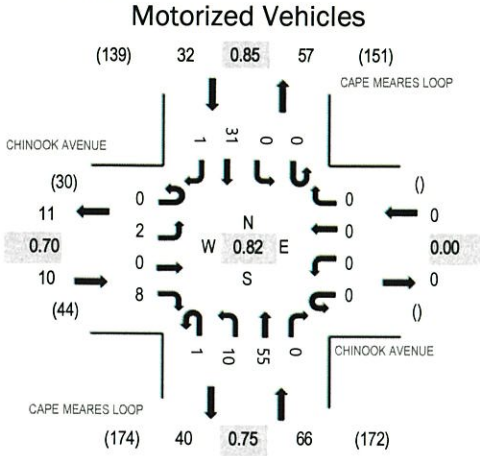
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	1	1	0	2
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	3	0	3
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	1	2	0	0	3
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	2	0	0	0	2
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	2	2	0	4
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	1	0	1
Count Total	0	0	0	0	0	Count Total	0	0	0	0	0	Count Total	4	6	7	0	17
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0	Peak Hour	0	2	2	0	4



(303) 216-2439
www.alltrafficdata.net

Location: 2 CAPE MEARES LOOP & CHINOOK AVENUE Noon
Date: Saturday, March 9, 2024
Peak Hour: 01:15 PM - 02:15 PM
Peak 15-Minutes: 01:15 PM - 01:30 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.70
WB	0.0%	0.00
NB	0.0%	0.75
SB	0.0%	0.85
All	0.0%	0.82

Traffic Counts - Motorized Vehicles

Interval Start Time	CHINOOK AVENUE Eastbound				CHINOOK AVENUE Westbound				CAPE MEARES LOOP Northbound				CAPE MEARES LOOP Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
1:00 PM	0	0	0	5	0	0	0	0	0	2	8	0	0	0	6	0	21	104
1:15 PM	0	2	0	2	0	0	0	0	1	3	18	0	0	0	7	0	33	108
1:30 PM	0	0	0	1	0	0	0	0	0	2	15	0	0	0	8	0	26	93
1:45 PM	0	0	0	3	0	0	0	0	0	3	11	0	0	0	7	0	24	93
2:00 PM	0	0	0	2	0	0	0	0	0	2	11	0	0	0	9	1	25	91
2:15 PM	0	0	0	4	0	0	0	0	0	2	6	0	0	0	6	0	18	83
2:30 PM	0	0	0	2	0	0	0	0	0	2	12	0	0	0	9	1	26	93
2:45 PM	0	0	0	5	0	0	0	0	0	3	7	0	0	0	6	1	22	85
3:00 PM	0	0	0	3	0	0	0	0	0	2	5	0	0	0	7	0	17	79
3:15 PM	0	1	0	1	0	0	0	0	0	1	13	0	0	0	12	0	28	80
3:30 PM	0	1	0	2	0	0	0	0	0	0	8	0	0	0	6	1	18	74
3:45 PM	0	0	0	0	0	0	0	0	0	1	5	0	0	0	10	0	16	82
4:00 PM	0	0	0	0	0	0	0	0	0	1	5	0	0	0	12	0	18	81
4:15 PM	0	2	0	1	0	0	0	0	0	1	5	0	0	0	13	0	22	
4:30 PM	0	0	0	4	0	0	0	0	0	1	12	0	0	0	9	0	26	
4:45 PM	0	0	0	3	0	0	0	0	0	0	4	0	0	0	8	0	15	
Count Total	0	6	0	38	0	0	0	0	1	26	145	0	0	0	135	4	355	
Peak Hour	0	2	0	8	0	0	0	0	1	10	55	0	0	0	31	1	108	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0
1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0
1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0
1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0

2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
Count Total	0	0	0	0	0	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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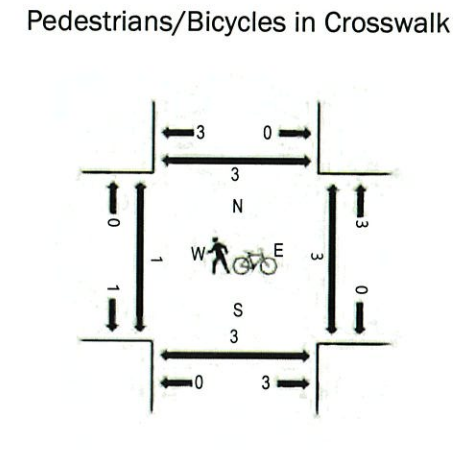
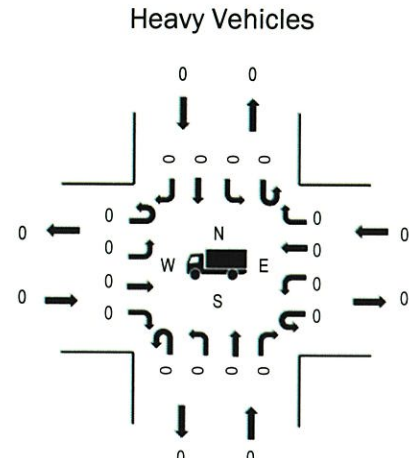
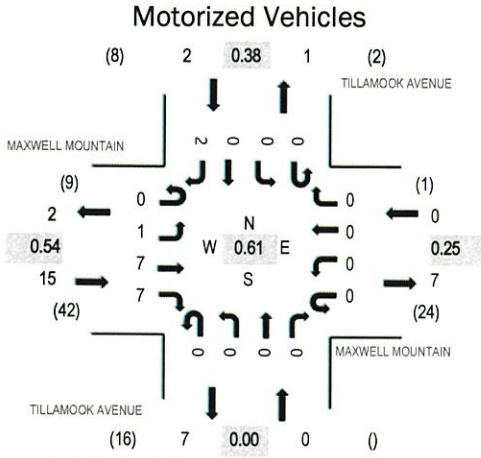
Location: 3 TILLAMOOK AVENUE & MAXWELL MOUNTAIN Noon

Date: Saturday, March 9, 2024

Peak Hour: 01:30 PM - 02:30 PM

Peak 15-Minutes: 01:30 PM - 01:45 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.54
WB	0.0%	0.25
NB	0.0%	0.00
SB	0.0%	0.38
All	0.0%	0.61

Traffic Counts - Motorized Vehicles

Interval Start Time	MAXWELL MOUNTAIN Eastbound				MAXWELL MOUNTAIN Westbound				TILLAMOOK AVENUE Northbound				TILLAMOOK AVENUE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
1:00 PM	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	4	15
1:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	16
1:30 PM	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7	17
1:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	14
2:00 PM	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	1	5	15
2:15 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	13
2:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	4	15
2:45 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	15
3:00 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13
3:15 PM	0	0	1	2	0	0	0	0	0	0	0	0	1	0	1	5	11	
3:30 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4	9	
3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	8	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	8	
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3		
4:30 PM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
Count Total	4	2	20	16	0	0	1	0	0	0	0	0	4	0	4	51		
Peak Hour	0	1	7	7	0	0	0	0	0	0	0	0	0	0	2	17		

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0
1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0
1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0
1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	1	3	3	0	7

2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	3	3
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	2	2
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	1	0	0	2	3
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	2	2
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	4	0	0	0	4
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	2	0	1	3
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	1	2
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	4	0	0	1	5
Count Total	0	0	0	0	0	Count Total	0	0	0	0	0	Count Total	11	5	3	12	31
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0	Peak Hour	1	3	3	3	10



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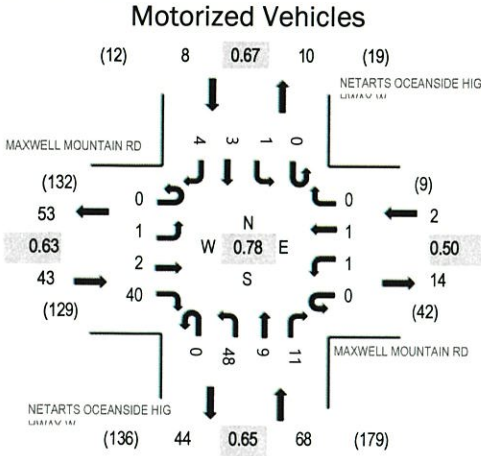
Location: 4 NETARTS OCEANSIDE HIGHWAY W & MAXWELL MOUNTAIN RD Noon

Date: Saturday, March 9, 2024

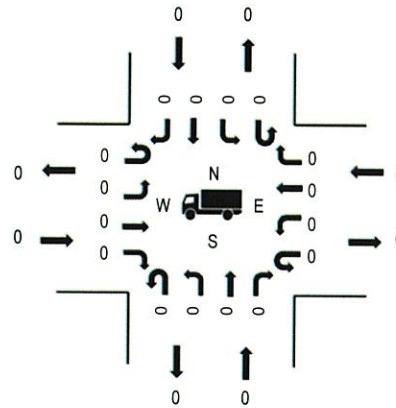
Peak Hour: 01:30 PM - 02:30 PM

Peak 15-Minutes: 02:00 PM - 02:15 PM

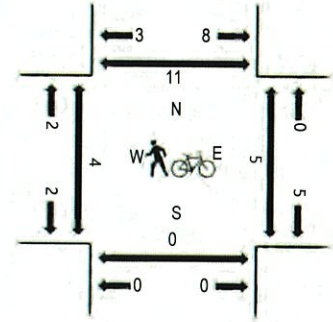
Peak Hour



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.63
WB	0.0%	0.50
NB	0.0%	0.65
SB	0.0%	0.67
All	0.0%	0.78

Traffic Counts - Motorized Vehicles

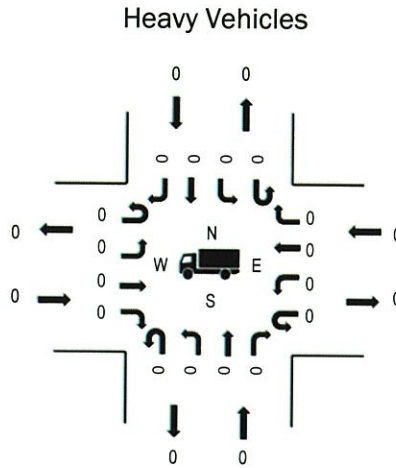
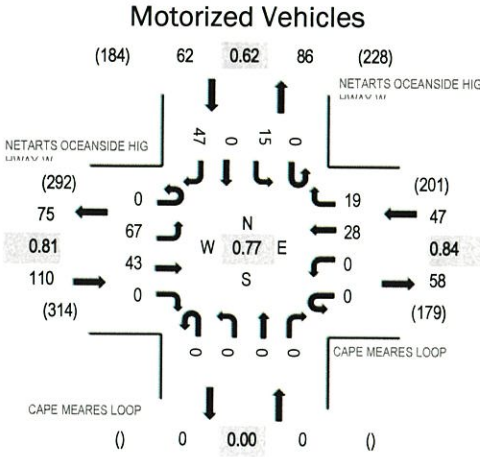
Interval Start Time	MAXWELL MOUNTAIN RD Eastbound				MAXWELL MOUNTAIN RD Westbound				NETARTS OCEANSIDE HIGHWAY Northbound				NETARTS OCEANSIDE HIGHWAY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
1:00 PM	0	0	0	2	0	1	0	0	0	10	0	4	0	0	0	0	17	92
1:15 PM	0	0	1	2	0	0	0	0	0	7	1	2	0	0	0	0	13	114
1:30 PM	0	0	2	15	0	0	0	0	0	11	1	3	0	1	1	1	35	121
1:45 PM	0	0	0	9	0	1	0	0	0	11	3	1	0	0	1	1	27	113
2:00 PM	0	1	0	9	0	0	1	0	0	19	3	4	0	0	0	2	39	106
2:15 PM	0	0	0	7	0	0	0	0	0	7	2	3	0	0	1	0	20	80
2:30 PM	0	0	1	14	0	0	2	0	0	7	0	1	0	0	2	0	27	87
2:45 PM	0	0	0	8	0	0	0	0	0	6	3	3	0	0	0	0	20	77
3:00 PM	0	0	0	2	0	0	0	0	1	6	0	3	0	0	1	0	13	74
3:15 PM	0	0	1	15	0	0	1	0	0	5	1	3	0	0	1	0	27	73
3:30 PM	0	0	0	6	0	0	0	0	0	8	0	3	0	0	0	0	17	58
3:45 PM	0	0	0	8	0	0	0	0	0	8	0	1	0	0	0	0	17	60
4:00 PM	0	0	0	7	0	0	0	0	0	5	0	0	0	0	0	0	12	57
4:15 PM	0	0	0	5	0	0	0	0	0	5	1	1	0	0	0	0	12	
4:30 PM	0	0	0	9	0	1	2	0	2	2	0	3	0	0	0	0	19	
4:45 PM	0	0	0	5	0	0	0	0	0	5	3	1	0	0	0	0	14	
Count Total	0	1	5	123	0	3	6	0	3	122	18	36	0	1	7	4	329	
Peak Hour	0	1	2	40	0	1	1	0	0	48	9	11	0	1	3	4	121	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

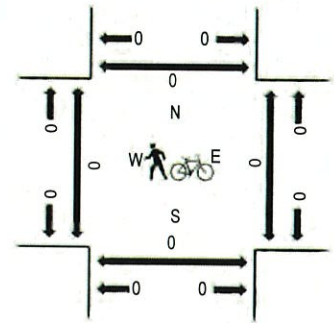
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0	1:00 PM	1	2	3	0	6
1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0
1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0	1:30 PM	0	0	2	3	5
1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	1	1
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	2	0	3	3	8

2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	2	0	0	4	6
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	1	0	2	5	8
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	4	0	5	1	10
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	1	0	1
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	2	2
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	8	0	1	4	13
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	4	4
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	2	2
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	2	0	1	3
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	3	0	0	5	8
Count Total	0	0	0	0	0	Count Total	0	0	0	0	0	Count Total	21	4	18	35	78
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0	Peak Hour	4	0	5	11	20

Peak Hour



Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.81
WB	0.0%	0.84
NB	0.0%	0.00
SB	0.0%	0.62
All	0.0%	0.77

Traffic Counts - Motorized Vehicles

Interval Start Time	NETARTS OCEANSIDE HIGHWAY Eastbound				CAPE MEARES LOOP Westbound				CAPE MEARES LOOP Northbound				NETARTS OCEANSIDE HIGHWAY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
1:00 PM	0	13	12	0	0	0	12	3	0	0	0	0	0	0	0	5	45	204
1:15 PM	0	11	14	0	0	0	7	4	0	0	0	0	0	5	0	1	42	214
1:30 PM	0	21	15	0	0	0	6	4	0	0	0	0	0	7	0	18	71	219
1:45 PM	0	13	8	0	0	0	7	4	0	0	0	0	0	4	0	10	46	198
2:00 PM	0	21	13	0	0	0	6	5	0	0	0	0	0	2	0	8	55	197
2:15 PM	0	12	7	0	0	0	9	6	0	0	0	0	0	2	0	11	47	182
2:30 PM	0	10	12	0	0	0	10	1	0	0	0	0	0	3	0	14	50	191
2:45 PM	0	8	9	0	0	0	10	5	0	0	0	0	0	1	0	12	45	176
3:00 PM	0	14	8	0	0	0	12	0	0	0	0	0	1	1	0	4	40	165
3:15 PM	0	10	9	0	1	0	12	3	0	0	0	0	0	3	0	18	56	152
3:30 PM	0	10	6	0	0	0	5	4	0	0	0	0	0	3	0	7	35	129
3:45 PM	0	5	4	0	0	0	10	3	0	0	0	0	0	2	0	10	34	135
4:00 PM	0	4	7	0	0	0	8	2	0	0	0	0	0	0	0	6	27	133
4:15 PM	0	8	3	0	0	0	9	5	0	0	0	0	0	2	0	6	33	
4:30 PM	0	7	8	0	0	0	12	0	0	0	0	0	0	4	0	10	41	
4:45 PM	0	8	4	0	0	0	13	3	0	0	0	0	0	0	0	4	32	
Count Total	0	175	139	0	1	0	148	52	0	0	0	0	1	39	0	144	699	
Peak Hour	0	67	43	0	0	0	28	19	0	0	0	0	0	15	0	47	219	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk					
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total	
1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0	1:00 PM	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0	1:15 PM	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0	1:30 PM	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0	1:45 PM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	0



Left-Turn Lane Warrant Analysis

Project: 1816 Maxwell Mountain Road Hotel Redevelopment
Intersection: OR 131 & Cape Meares Loop
Date: 6/4/2024
Scenario: 2026 Buildout Conditions Saturday Peak Hour

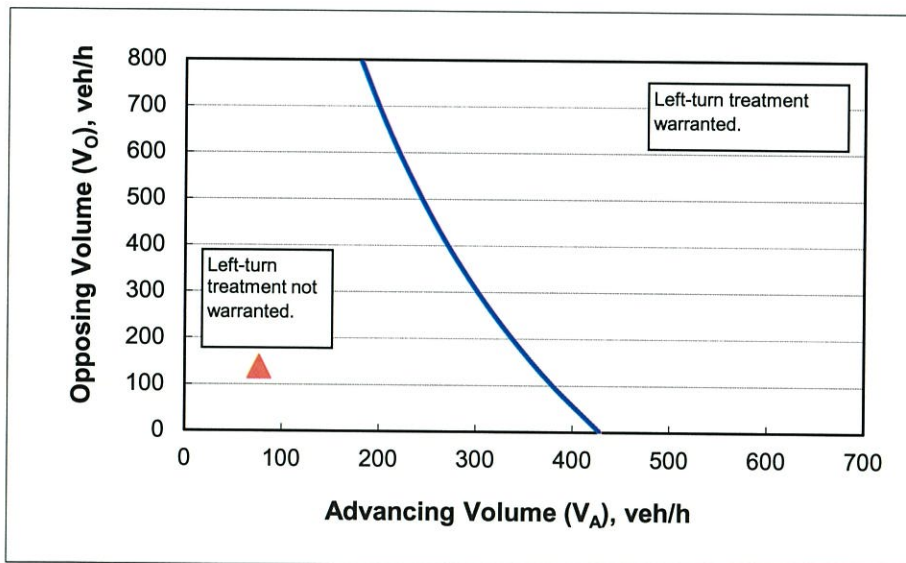
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	25%
Left turns in advancing volume (V_A), veh/h:	19
Advancing volume (V_A), veh/h:	77
Opposing volume (V_O), veh/h:	136

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	364
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Left-Turn Lane Warrant Analysis

Project: 1816 Maxwell Mountain Road Hotel Redevelopment
 Intersection: Cape Meares Loop & Chinook Avenue
 Date: 6/4/2024
 Scenario: 2026 Buildout Conditions Saturday Peak Hour

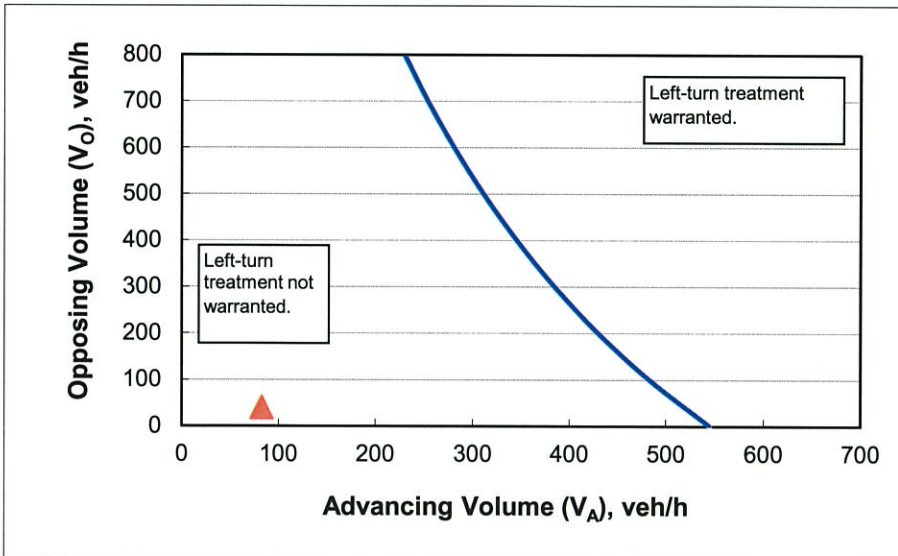
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	17%
Left turns in advancing volume (V_A), veh/h:	14
Advancing volume (V_A), veh/h:	83
Opposing volume (V_O), veh/h:	39

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	520
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Preliminary Traffic Signal Warrant Analysis

Project: 1816 Maxwell Mountain Road
 Date: 6/4/2024
 Scenario: 2026 Buildout - SAT Peak Hour

Major Street:	OR-131	Minor Street:	Cape Meares	
Number of Lanes:	1	Number of Lanes:	1	
	SAT Peak		SAT Peak	Total
Hour Volumes:	209	Hour Volumes:	72	Rights
			30	RT Discount
			50%	

Warrant Used:

	100 percent of standard warrants used
X	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	2,090	6,200	
Minor Street*	570	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	2,090	9,300	
Minor Street*	570	950	No
<i>Combination Warrant</i>			
Major Street	2,090	7,440	
Minor Street*	570	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 1816 Maxwell Mountain Road
 Date: 6/4/2024
 Scenario: 2026 Buildout - SAT Peak Hour

Major Street:	OR-131	Minor Street:	Beach Access	
Number of Lanes:	1	Number of Lanes:	1	
SAT Peak Hour Volumes:	111	SAT Peak Hour Volumes:	58	Total Rights RT Discount
			49	
			50%	

Warrant Used:

<u> </u>	100 percent of standard warrants used
<u> X </u>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	1,110	6,200	
Minor Street*	340	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	1,110	9,300	
Minor Street*	340	950	No
<i>Combination Warrant</i>			
Major Street	1,110	7,440	
Minor Street*	340	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 1816 Maxwell Mountain Road
 Date: 6/4/2024
 Scenario: 2026 Buildout - SAT Peak Hour

Major Street:	Maxwell Mountain Road	Minor Street:	Tillamook Avenue	
Number of Lanes:	1	Number of Lanes:	1	
SAT Peak Hour Volumes:	29	SAT Peak Hour Volumes:	2	Total Rights RT Discount
			2	
			50%	

Warrant Used:

	100 percent of standard warrants used
<u>X</u>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	290	6,200	
Minor Street*	10	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	290	9,300	
Minor Street*	10	950	No
<i>Combination Warrant</i>			
Major Street	290	7,440	
Minor Street*	10	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 1816 Maxwell Mountain Road
 Date: 6/4/2024
 Scenario: 2026 Buildout - SAT Peak Hour

Major Street:	Maxwell Mountain Road	Minor Street:	Site Access	
Number of Lanes:	1	Number of Lanes:	1	
SAT Peak Hour Volumes:	16	SAT Peak Hour Volumes:	14	Total Rights
			0	RT Discount
			50%	

Warrant Used:

	100 percent of standard warrants used
<u>X</u>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	160	6,200	
Minor Street*	140	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	160	9,300	
Minor Street*	140	950	No
<i>Combination Warrant</i>			
Major Street	160	7,440	
Minor Street*	140	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 1816 Maxwell Mountain Road
 Date: 6/4/2024
 Scenario: 2026 Buildout - SAT Peak Hour

Major Street:	Maxwell Mountain Road	Minor Street:	Chinook Avenue	
Number of Lanes:	1	Number of Lanes:	1	
SAT Peak Hour Volumes:	20	SAT Peak Hour Volumes:	5	Total Rights RT Discount
			5	
			50%	

Warrant Used:

	100 percent of standard warrants used
X	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	200	6,200	
Minor Street*	30	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	200	9,300	
Minor Street*	30	950	No
<i>Combination Warrant</i>			
Major Street	200	7,440	
Minor Street*	30	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: 1816 Maxwell Mountain Road
 Date: 6/4/2024
 Scenario: 2026 Buildout - SAT Peak Hour

Major Street:	Cape Meares	Minor Street:	Chinook Avenue	
Number of Lanes:	1	Number of Lanes:	1	
SAT Peak Hour Volumes:	122	SAT Peak Hour Volumes:	26	Total Rights RT Discount
			24	
			50%	

Warrant Used:

	100 percent of standard warrants used
X	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	1,220	6,200	
Minor Street*	140	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	1,220	9,300	
Minor Street*	140	950	No
<i>Combination Warrant</i>			
Major Street	1,220	7,440	
Minor Street*	140	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.

4.00 2
SU-30
Width
Track
Lock to L
Steering

Maxwell Mt. Road

Chinook Aver



Appendix D - Operations

Definitions

Synchro Reports





Level of Service Definitions

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

- *Level of service A:* Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.
- *Level of service B:* Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.
- *Level of service C:* Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.
- *Level of service D:* Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.
- *Level of service E:* Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.
- *Level of service F:* Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



Level of Service Criteria
For Signalized Intersections

Level of Service (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

Level of Service Criteria
For Unsignalized Intersections

Level of Service (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 7th TWSC

1: Netarts Oceanside Hwy/Netarts Oceanside Hwy/Pacific Avenue & Cape Meares Loop 04/29/2024

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↗			↗
Traffic Vol, veh/h	35	23	83	53	19	58
Future Vol, veh/h	35	23	83	53	19	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	30	108	69	25	75
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	267	142	0	0	177	0
Stage 1	142	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	727	911	-	-	1412	-
Stage 1	890	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	713	911	-	-	1412	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	10.1	0	1.87			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	780	444	-	
HCM Lane V/C Ratio	-	-	0.097	0.017	-	
HCM Control Delay (s/veh)	-	-	10.1	7.6	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-	

HCM 7th AWSC

2: Netarts Oceanside Hwy/Pacific Avenue & Beach Access/Maxwell Mountain Road 04/29/2024

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	49	1	1	0	59	14	14	1	5	5
Future Vol, veh/h	1	2	49	1	1	0	59	14	14	1	5	5
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	3	63	1	1	0	76	18	18	1	6	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	6.9	7.3	7.7	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	2%	50%	9%
Vol Thru, %	16%	4%	50%	45%
Vol Right, %	16%	94%	0%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	52	2	11
LT Vol	59	1	1	1
Through Vol	14	2	1	5
RT Vol	14	49	0	5
Lane Flow Rate	112	67	3	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.066	0.003	0.015
Departure Headway (Hd)	4.07	3.558	4.271	3.849
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	882	997	831	926
Service Time	2.087	1.615	2.334	1.889
HCM Lane V/C Ratio	0.127	0.067	0.004	0.015
HCM Control Delay, s/veh	7.7	6.9	7.3	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0	0

HCM 7th AWSC

3: Tillamook Avenue/Rosenburg Loop & Maxwell Mountain Road/Maxwell Mountain

04/29/2024

Intersection

Intersection Delay, s/veh 6.7

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕										↕
Traffic Vol, veh/h	1	9	9	0	0	0	0	0	0	0	0	2
Future Vol, veh/h	1	9	9	0	0	0	0	0	0	0	0	2
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	15	15	0	0	0	0	0	0	0	0	3
Number of Lanes	0	1	0	0	0	0	0	0	0	0	0	1

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay, s/veh	6.7	6.4
HCM LOS	A	A

Lane	EBLn1	SBLn1
Vol Left, %	5%	0%
Vol Thru, %	47%	0%
Vol Right, %	47%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	19	2
LT Vol	1	0
Through Vol	9	0
RT Vol	9	2
Lane Flow Rate	31	3
Geometry Grp	1	1
Degree of Util (X)	0.031	0.003
Departure Headway (Hd)	3.632	3.355
Convergence, Y/N	Yes	Yes
Cap	992	1071
Service Time	1.632	1.361
HCM Lane V/C Ratio	0.031	0.003
HCM Control Delay, s/veh	6.7	6.4
HCM Lane LOS	A	A
HCM 95th-tile Q	0.1	0

HCM 7th TWSC
 4: Maxwell Mountain & Site Access

04/29/2024

Intersection

Int Delay, s/veh 0

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↘			↗		
Traffic Vol, veh/h	0	0	0	6	0	0
Future Vol, veh/h	0	0	0	6	0	0
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	13	0	0

Major/Minor Minor2 Major1

Conflicting Flow All	13	-	0	0
Stage 1	0	-	-	-
Stage 2	13	-	-	-
Critical Hdwy	6.4	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-
Follow-up Hdwy	3.5	-	2.2	-
Pot Cap-1 Maneuver	1011	0	-	-
Stage 1	-	0	-	-
Stage 2	1015	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	1011	-	-	-
Mov Cap-2 Maneuver	1011	-	-	-
Stage 1	-	-	-	-
Stage 2	1015	-	-	-

Approach EB NB

HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt NBL NBT EBLn1

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC

5: Maxwell Mountain & Chinook Avenue

04/29/2024

Intersection

Int Delay, s/veh 3.8

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations		7	1			
Traffic Vol, veh/h	0	5	4	2	0	0
Future Vol, veh/h	0	5	4	2	0	0
Conflicting Peds, #/hr	2	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	11	9	4	0	0

Major/Minor Minor1 Major1

Conflicting Flow All	-	13	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.3	-	-
Pot Cap-1 Maneuver	0	1073	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1071	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach WB NB

HCM Control Delay, s/v	8.4	0
HCM LOS	A	

Minor Lane/Major Mvmt NBT NBRWBLn1

Capacity (veh/h)	-	-	1071
HCM Lane V/C Ratio	-	-	0.01
HCM Control Delay (s/veh)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

HCM 7th TWSC
 6: Cape Meares Loop & Chinook Avenue

04/29/2024

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	68	38	1	2	10
Future Vol, veh/h	14	68	38	1	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	83	46	1	2	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	48	0	0
Stage 1	-	-	47
Stage 2	-	-	117
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1573	-	831
Stage 1	-	-	981
Stage 2	-	-	913
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1573	-	822
Mov Cap-2 Maneuver	-	-	822
Stage 1	-	-	970
Stage 2	-	-	913

Approach	EB	WB	SB
HCM Control Delay, s/v	1.25	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	307	-	-	-	987
HCM Lane V/C Ratio	0.011	-	-	-	0.015
HCM Control Delay (s/veh)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC

1: Netarts Oceanside Hwy/Netarts Oceanside Hwy/Pacific Avenue & Cape Meares Loop 04/29/2024

Intersection

Int Delay, s/veh 2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y			Y
Traffic Vol, veh/h	35	23	83	53	19	58
Future Vol, veh/h	35	23	83	53	19	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	30	108	69	25	75

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	267	142	0 0 177 0
Stage 1	142	-	- - - -
Stage 2	125	-	- - - -
Critical Hdwy	6.4	6.2	- - 4.1 -
Critical Hdwy Stg 1	5.4	-	- - - -
Critical Hdwy Stg 2	5.4	-	- - - -
Follow-up Hdwy	3.5	3.3	- - 2.2 -
Pot Cap-1 Maneuver	727	911	- - 1412 -
Stage 1	890	-	- - - -
Stage 2	906	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	713	911	- - 1412 -
Mov Cap-2 Maneuver	713	-	- - - -
Stage 1	890	-	- - - -
Stage 2	889	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s/v	10.1	0	1.87
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	780	444
HCM Lane V/C Ratio	-	-	0.097	0.017
HCM Control Delay (s/veh)	-	-	10.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

HCM 7th AWSC

2: Netarts Oceanside Hwy/Pacific Avenue & Beach Access/Maxwell Mountain Road 04/29/2024

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	49	1	1	0	59	14	14	1	5	5
Future Vol, veh/h	1	2	49	1	1	0	59	14	14	1	5	5
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	3	63	1	1	0	76	18	18	1	6	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	6.9	7.3	7.7	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	2%	50%	9%
Vol Thru, %	16%	4%	50%	45%
Vol Right, %	16%	94%	0%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	52	2	11
LT Vol	59	1	1	1
Through Vol	14	2	1	5
RT Vol	14	49	0	5
Lane Flow Rate	112	67	3	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.066	0.003	0.015
Departure Headway (Hd)	4.07	3.558	4.271	3.849
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	882	997	831	926
Service Time	2.087	1.615	2.334	1.889
HCM Lane V/C Ratio	0.127	0.067	0.004	0.015
HCM Control Delay, s/veh	7.7	6.9	7.3	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0	0

HCM 7th AWSC

3: Tillamook Avenue/Rosenburg Loop & Maxwell Mountain Road/Maxwell Mountain

04/29/2024

Intersection

Intersection Delay, s/veh 6.7

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕										↕
Traffic Vol, veh/h	1	9	9	0	0	0	0	0	0	0	0	2
Future Vol, veh/h	1	9	9	0	0	0	0	0	0	0	0	2
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	15	15	0	0	0	0	0	0	0	0	3
Number of Lanes	0	1	0	0	0	0	0	0	0	0	0	1

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay, s/veh	6.7	6.4
HCM LOS	A	A

Lane	EBLn1	SBLn1
Vol Left, %	5%	0%
Vol Thru, %	47%	0%
Vol Right, %	47%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	19	2
LT Vol	1	0
Through Vol	9	0
RT Vol	9	2
Lane Flow Rate	31	3
Geometry Grp	1	1
Degree of Util (X)	0.031	0.003
Departure Headway (Hd)	3.632	3.355
Convergence, Y/N	Yes	Yes
Cap	992	1071
Service Time	1.632	1.361
HCM Lane V/C Ratio	0.031	0.003
HCM Control Delay, s/veh	6.7	6.4
HCM Lane LOS	A	A
HCM 95th-tile Q	0.1	0

Intersection

Int Delay, s/veh 0

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↘			↗		
Traffic Vol, veh/h	0	0	0	6	0	0
Future Vol, veh/h	0	0	0	6	0	0
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	13	0	0

Major/Minor Minor2 Major1

Conflicting Flow All	13	-	0	0
Stage 1	0	-	-	-
Stage 2	13	-	-	-
Critical Hdwy	6.4	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-
Follow-up Hdwy	3.5	-	2.2	-
Pot Cap-1 Maneuver	1011	0	-	-
Stage 1	-	0	-	-
Stage 2	1015	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	1011	-	-	-
Mov Cap-2 Maneuver	1011	-	-	-
Stage 1	-	-	-	-
Stage 2	1015	-	-	-

Approach EB NB

HCM Control Delay, s/v 0 0
 HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
 5: Maxwell Mountain & Chinook Avenue

04/29/2024

Intersection

Int Delay, s/veh 3.8

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations		7	8			
Traffic Vol, veh/h	0	5	4	2	0	0
Future Vol, veh/h	0	5	4	2	0	0
Conflicting Peds, #/hr	2	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	11	9	4	0	0

Major/Minor Minor1 Major1

Conflicting Flow All	-	13	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.3	-	-
Pot Cap-1 Maneuver	0	1073	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1071	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach WB NB

HCM Control Delay, s/v	8.4	0
HCM LOS	A	

Minor Lane/Major Mvmt NBT NBRWBLn1

Capacity (veh/h)	-	-	1071
HCM Lane V/C Ratio	-	-	0.01
HCM Control Delay (s/veh)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

HCM 7th TWSC
 6: Cape Meares Loop & Chinook Avenue

04/29/2024

Intersection

Int Delay, s/veh 1.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	69	38	1	2	10
Future Vol, veh/h	14	69	38	1	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	84	46	1	2	12

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	48	0	-	0	165	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	118	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1573	-	-	-	830	1028
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1573	-	-	-	821	1028
Mov Cap-2 Maneuver	-	-	-	-	821	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	912	-

Approach EB WB SB

HCM Control Delay, s/v	1.23	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	304	-	-	-	986
HCM Lane V/C Ratio	0.011	-	-	-	0.015
HCM Control Delay (s/veh)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC

1: Netarts Oceanside Hwy/Netarts Oceanside Hwy/Pacific Avenue & Cape Meares Loop 04/29/2024

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	35	23	83	53	19	58
Future Vol, veh/h	35	23	83	53	19	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	30	108	69	25	75

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	267	142	0	0	177
Stage 1	142	-	-	-	-
Stage 2	125	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	727	911	-	-	1412
Stage 1	890	-	-	-	-
Stage 2	906	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	713	911	-	-	1412
Mov Cap-2 Maneuver	713	-	-	-	-
Stage 1	890	-	-	-	-
Stage 2	889	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	10.1	0	1.87
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	780	444
HCM Lane V/C Ratio	-	-	0.097	0.017
HCM Control Delay (s/veh)	-	-	10.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

HCM 7th AWSC

2: Netarts Oceanside Hwy/Pacific Avenue & Beach Access/Maxwell Mountain Road 04/29/2024

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	49	1	1	0	59	14	14	1	5	5
Future Vol, veh/h	1	2	49	1	1	0	59	14	14	1	5	5
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	3	63	1	1	0	76	18	18	1	6	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	6.9	7.3	7.7	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	2%	50%	9%
Vol Thru, %	16%	4%	50%	45%
Vol Right, %	16%	94%	0%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	52	2	11
LT Vol	59	1	1	1
Through Vol	14	2	1	5
RT Vol	14	49	0	5
Lane Flow Rate	112	67	3	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.066	0.003	0.015
Departure Headway (Hd)	4.07	3.558	4.271	3.849
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	882	997	831	926
Service Time	2.087	1.615	2.334	1.889
HCM Lane V/C Ratio	0.127	0.067	0.004	0.015
HCM Control Delay, s/veh	7.7	6.9	7.3	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0	0

HCM 7th AWSC

3: Tillamook Avenue/Rosenburg Loop & Maxwell Mountain Road/Maxwell Mountain

04/29/2024

Intersection

Intersection Delay, s/veh 6.7

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕										↕
Traffic Vol, veh/h	1	9	9	0	0	0	0	0	0	0	0	2
Future Vol, veh/h	1	9	9	0	0	0	0	0	0	0	0	2
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	15	15	0	0	0	0	0	0	0	0	3
Number of Lanes	0	1	0	0	0	0	0	0	0	0	0	1

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay, s/veh	6.7	6.4
HCM LOS	A	A

Lane	EBLn1	SBLn1
Vol Left, %	5%	0%
Vol Thru, %	47%	0%
Vol Right, %	47%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	19	2
LT Vol	1	0
Through Vol	9	0
RT Vol	9	2
Lane Flow Rate	31	3
Geometry Grp	1	1
Degree of Util (X)	0.031	0.003
Departure Headway (Hd)	3.632	3.355
Convergence, Y/N	Yes	Yes
Cap	992	1071
Service Time	1.632	1.361
HCM Lane V/C Ratio	0.031	0.003
HCM Control Delay, s/veh	6.7	6.4
HCM Lane LOS	A	A
HCM 95th-tile Q	0.1	0

HCM 7th TWSC
4: Maxwell Mountain & Site Access

04/29/2024

Intersection

Int Delay, s/veh 4.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↔			↔		
Traffic Vol, veh/h	14	0	10	6	0	0
Future Vol, veh/h	14	0	10	6	0	0
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	31	0	22	13	0	0

Major/Minor Minor2 Major1

Conflicting Flow All	58	-	0	0
Stage 1	0	-	-	-
Stage 2	58	-	-	-
Critical Hdwy	6.4	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-
Follow-up Hdwy	3.5	-	2.2	-
Pot Cap-1 Maneuver	954	0	-	-
Stage 1	-	0	-	-
Stage 2	970	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	954	-	-	-
Mov Cap-2 Maneuver	954	-	-	-
Stage 1	-	-	-	-
Stage 2	970	-	-	-

Approach EB NB

HCM Control Delay, s/v 8.9
HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1

Capacity (veh/h)	-	-	954
HCM Lane V/C Ratio	-	-	0.033
HCM Control Delay (s/veh)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

HCM 7th TWSC
 5: Maxwell Mountain & Chinook Avenue

04/29/2024

Intersection

Int Delay, s/veh 3.8

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations		↔	↔			
Traffic Vol, veh/h	0	5	4	2	0	0
Future Vol, veh/h	0	5	4	2	0	0
Conflicting Peds, #/hr	2	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	11	9	4	0	0

Major/Minor Minor1 Major1

Conflicting Flow All	-	13	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.3	-	-
Pot Cap-1 Maneuver	0	1073	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1071	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach WB NB

HCM Control Delay, s/v	8.4	0
HCM LOS	A	

Minor Lane/Major Mvmt NBT NBRWBLn1

Capacity (veh/h)	-	-	1071
HCM Lane V/C Ratio	-	-	0.01
HCM Control Delay (s/veh)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

HCM 7th TWSC
6: Cape Meares Loop & Chinook Avenue

04/29/2024

Intersection

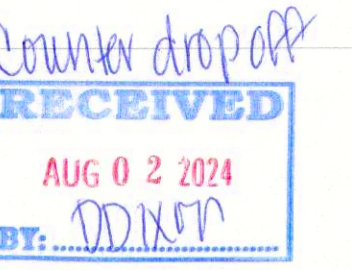
Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	68	38	1	2	10
Future Vol, veh/h	14	68	38	1	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	83	46	1	2	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	48	0	0 164 47
Stage 1	-	-	- - 47 -
Stage 2	-	-	- - 117 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1573	-	- - 831 1028
Stage 1	-	-	- - 981 -
Stage 2	-	-	- - 913 -
Platoon blocked, %	-	-	- - -
Mov Cap-1 Maneuver	1573	-	- - 822 1028
Mov Cap-2 Maneuver	-	-	- - 822 -
Stage 1	-	-	- - 970 -
Stage 2	-	-	- - 913 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.25	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	307	-	-	-	987
HCM Lane V/C Ratio	0.011	-	-	-	0.015
HCM Control Delay (s/veh)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

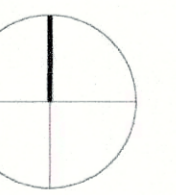


1816 MAXWELL MOUNTAIN RD.
OCEANSIDE, OR 97134

REVISIONS

SCALE

1/16" = 1' - 0"



DATE

04.22.2024

LANDSCAPE PLAN

