

## Planning Director Staff Report– Hearing on December 23, 2021

## County of Ventura · Resource Management Agency

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## O'NEIL RESIDENCE COASTAL PLANNED DEVELOPMENT PERMIT CASE NO. PL21-0042

## A. PROJECT INFORMATION

- 1. Request: The applicant requests approval of a Coastal Planned Development (PD) Permit for the demolition of an existing single-family dwelling and the construction of a single-family dwelling with an additional dwelling unit (Case No. PL21-0042)
- 2. Applicant: Leila Khodadad, Griffin Enright Architects, 12468 West Washington Boulevard., Los Angeles, CA 90066
- 3. Property Owner: Ocean Oxnard LLC, William Scott O'Neil, 302 23<sup>rd</sup> Street, Santa Monica, CA 90402
- **4. Decision-Making Authority:** Pursuant to the Ventura County Coastal Zoning Ordinance (CZO) (Section 8174-5 and Section 8181-3 et seq.), the Planning Director is the decision-maker for the requested Coastal PD Permit.
- 5. Project Site Size, Location, and Parcel Number: The 5,272-square foot project site is located at 3381 Ocean Drive, southwest of the intersection of Los Robles Street and Ocean Drive, in the community of Hollywood Beach, in the unincorporated area of Ventura County. The Tax Assessor's parcel numbers for the parcels that constitute the project site are 206-0-233-015 and 206-0-233-025 (Exhibit 2).

## 6. Project Site Land Use and Zoning Designations (Exhibit 2):

- a. <u>Countywide General Plan Land Use Map Designation</u>: Residential Beach (Existing Community)
- Coastal Area Plan Land Use Map Designation: Residential High 6.1/36 Dwelling Units Per Acre
- c. Zoning Designation: Residential Beach Harbor, RBH

7. Adjacent Zoning and Land Uses/Development (Exhibit 2):

Location in Relation to the Project Site	Zoning	Land Uses/Development
North	RBH	Los Robles Street, Vertical Public Access Easement.
East	RBH	Ocean Drive, Single Family Dwelling
South	RBH	Single Family Dwelling
West	Coastal Open Space 10 Acre Minimum Lot Size (COS-10 ac-sdf)	Pacific Ocean, Hollywood Beach

- 8. History: The subject property is part of the Hollywood Beach Tract. The project site was merged under Parcel Map Waiver No. 989 in 1999 which combined Lot 62 and Lot 63 of Block "A" of the Tract. The permit record indicates Lot 62 and Lot 63 of Block "A" had been used in conjunction with one another since as early as 1963. In 2002, the redevelopment of the subject property was permitted under Coastal Development Permit Case No. 1793 which permitted the demolition of a home built in 1950 and the construction of a 5,725 square foot single family dwelling. A variance was approved which permitted a 2 foot and 20 foot encroachments in the side and rear yard setback areas, respectively. The home is a Spanish architectural two story structure with stucco, stone cladding and terracotta roof tiles.
- 9. Project Description: The applicant requests a Coastal Planned Development (PD) Permit to authorize the demolition of an existing two-story, 5,272 square foot (sq. ft.), single-family dwelling with a 453 sq. ft. attached garage and the construction of a new three-story 6,902 sq. ft. single-family dwelling and an 857 sq. ft. attached garage. The project includes a 1,790 sq. ft. third floor deck. The single-family dwelling will have a height of 28 feet, as measured from the from the flood control datum established by the Public Works Agency. The project includes a 711.6 sq. ft. attached accessory dwelling unit (included in the 6,902 gross floor area of the principal dwelling). The ADU is accessed from Ocean Drive via a separate entrance from the principal dwelling and does not contain internal access. Site improvements also include the installation of 1,472 sq. ft. of new landscaping improvements.

Access to the project site is provided by a new private driveway which connects to Ocean Drive. Water and wastewater services will be provided by the Channel Islands Beach Community Services District.

## B. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) COMPLIANCE

Pursuant to CEQA (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (Title 14, California Code or Regulations, Division 6, Chapter 3, Section 15000 et seq.), the proposed project is subject to environmental review.

The State Legislature through the Secretary for Resources has found that certain classes of projects are exempt from CEQA environmental impact review because they do not have a significant effect on the environment. These projects are declared to be categorically exempt from the requirement for the preparation of environmental impact documents. The proposed project involves the demolition of an existing structure (one dwelling unit) and the construction of a replacement single-family dwelling and is therefore covered under the list of exempt classes of projects defined under CEQA Guidelines Section 15301 (Existing Facilities) and Section 15303 (New Construction or Conversion of Small Structures). Further, the project will not trigger any of the exceptions to the exemptions listed under CEQA Guidelines Section 15300.2. Therefore, no further environmental review is required. Therefore, this project is categorically exempt pursuant to Sections 15301 (Existing Facilities) and 15303 (New Construction or Conversion of Small Structures) of the CEQA Guidelines.

## C. CONSISTENCY WITH THE GENERAL PLAN

The 2040 Ventura County General Plan Goals, Policies and Programs (page 1-1) states:

All area plans, specific plans, subdivisions, public works projects, and zoning decisions must be consistent with the direction provided in the County's General Plan.

Finally, the Ventura County CZO (Section 8181-3.5.a) states that in order to be approved, a project must be found consistent with all applicable policies of the Ventura County Coastal Area Plan.

Evaluated below is the consistency of the proposed project with the applicable policies of the General Plan *Goals, Policies and Programs* and Coastal Area Plan.

## **Land Use and Community Character**

 General Plan Policy LU16.1 (Community Character and Quality of Life): The County shall encourage discretionary development to be designed to maintain the distinctive character of the unincorporated communities, to ensure adequate provision of public facilities and services, and to be compatible with neighboring uses.

General Plan Policy LU16.8 (Residential Design that Complements the Natural Environment): The County shall encourage discretionary development that incorporates design features that provide a harmonious relationship between adjoining uses and the natural environment.

General Plan Policy LU16.9 (Building Orientation and Landscaping): The County shall encourage discretionary development to be oriented and landscaped to enhance natural lighting, solar access, and passive heating or cooling opportunities to maximize energy efficiency.

Coastal Act Section 30250(a): New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it, or where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

Coastal Act Policy 30251 – Scenic and Visual Qualities: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of the surrounding area and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The proposed dwelling will not degrade or significantly alter the existing scenic or visual qualities of the Hollywood Beach community. The project site is zoned RBH and is located between Ocean Drive and Hollywood Beach. The purpose of the RBH zone is to provide for the development and preservation of unique beachoriented residential communities within small lot subdivision patterns. The project, a request to construct a new single-family dwelling with an attached accessory dwelling unit, would be constructed on a 70 foot by 75 foot lot. This property is larger than other lots within the Hollywood Beach Tract as it was created through the merger of two lots in 2003. The project will maintain the bulk and form of the existing structure present on the site (a multi-level building built out to setbacks), although the new building will now comply with the required 20 foot front yard setback (the previous building was granted a variance to encroach 20 feet into the front setback and 2 feet into the side yard area). The structure will utilize a minimum finished floor elevation (FFE) of 14.4 feet North American Vertical Datum of 1988 (NAVD 88) which account for sea level rise and the local flooding hazard in the Hollywood Beach community (Exhibit 5, Noble Consultants GEC, June 21, 2021). The project proposes no alterations to natural landforms or major grading. The structure, which proposes a flat roof design with a roof deck, is similar to the dwellings to the north, south, and east, all of which have a modern architectural style with flat roofs. Homes located on the west (beachside) of Ocean Drive obscure the views to the ocean with two story structures. Therefore, the proposed project is determined to be compatible with community character and will not impact the quality of life within the Hollywood Beach Community.

Based on the discussion above, the proposed project is consistent with General Plan Policies LU16.1, LU16.8, and LU16.9 and Coastal Act Sections 30250(a) and 30251.

## Circulation, Transportation, and Mobility

2. General Plan Policy CTM-1.1 (Vehicle Miles Traveled (VMT) Standards and CEQA Evaluation): The County shall require evaluation of County General Plan land use designation changes, zone changes, and discretionary development for their individual (i.e., project-specific) and cumulative transportation impacts based on Vehicle Miles Traveled (VMT) under the California Environmental Quality Act (CEQA) pursuant to the methodology and thresholds of significance criteria set forth in the County Initial Study Assessment Guidelines.

General Plan Policy CTM-1.3 (County Level of Service (LOS) Standards): The County shall maintain LOS standards for use as part of the County's transportation planning including the traffic impact mitigation fee program, and the County's review and consideration of proposed land use legislation and discretionary development. For purposes of County transportation planning and review and consideration of proposed land use legislation and discretionary development, the County shall use the following minimum acceptable Level of Service (LOS) for road segment and intersection design standards within the Regional Road Network and all other County-maintained roadways:

- a. LOS-'C' for all Federal functional classification of Minor Collector (MNC) and Local roadways (L); and
- b. LOS-'D' for all Federal functional classifications except MNC and L, and Federal and State highways in the unincorporated area, except as otherwise provided in subparagraph (c and d;
- c. LOS-'E' for State Route 33 between the northerly end of the Ojai Freeway and the city of Ojai, Santa Rosa Road, Moorpark Road north of Santa Rosa Road, State Route 34 north of the city of Camarillo, and State Route 118 between Santa Clara Avenue and the city of Moorpark:
- d. LOS 'F' for Wendy Drive between Borchard Drive to Lois Avenue; and
- e. The LOS prescribed by the applicable city for all federal highways, state highways, city thoroughfares and city-maintained local roads located within that city, if the city has formally adopted and is implementing a General Plan policy, ordinance, or a reciprocal agreement with the County regarding development in the city that is intended to improve the LOS of County-maintained local roads and federal and state highways located within the unincorporated area of the county.

f. At any intersection between two or more roads, each of which has a prescribed minimum acceptable LOS, the lower LOS of the roads shall be the minimum acceptable LOS for that intersection.

General Plan Policy CTM-1.7 (Pro Rata Share of Improvements): The County shall require discretionary development that would generate additional traffic pays its pro rata share of the cost of added vehicle trips and the costs of necessary improvements to the Regional Road Network pursuant to the County's Traffic Impact Mitigation Fee Ordinance.

CTM-2.18 Complete Streets Standard in Existing Communities: The County shall require discretionary development in designated Existing Communities to construct roadways to urban standards and Complete Streets principles, including curb, gutter, sidewalks, and bike lanes when there is a nexus for improvement. The County shall rely on the guidelines and design standards for Complete Streets design established by the California Manual on Uniform Traffic Control Devices (CAMUTCD), Caltrans in the Highway Design Manual, and Complete Streets Guidelines (pursuant to Deputy Directive-64-R2), Federal Highway Administration, American Association of State Highway and Transportation Officials (AASHTO). (RDR)

CTM-2.27 Discretionary Development and Conditions of Approval to Minimize Traffic Impacts: The County shall require that discretionary development be subject to permit conditions of approval, where feasible, to minimize traffic impacts by incorporating pedestrian and bicycle pathways, bicycle racks and lockers, ridesharing programs, transit improvements (bus turnouts, shelters, benches), and/or transit subsidies for employees or residents of the proposed development. (RDR)

**General Plan Policy CTM-2.28 (Emergency Access):** The County shall ensure that all new discretionary projects are fully evaluated for potential impacts to emergency access. Mitigation of these impacts shall be handled on a project-by project basis to guarantee continued emergency service operations and service levels.

The proposed project will connect to the existing county roadway network via a private driveway to Ocean Drive. Ventura Public Works Agency Roads and Transportation Department staff has reviewed the proposed project and determined approval of the project will not result in the degradation of LOS for any identified roadway segments or intersections within the project area. The current metric by which traffic related environmental impacts are measured is known as Vehicle Miles Traveled (or VMT). VMT refers to the amount and distance of automobile travel attributable to a project. All discretionary projects are screened to determine if additional project-specific analysis is required related to a project's potential to increase VMT. The proposed Project is consistent with General Plan Transportation Policies CTM-1.1 and 1.2 and will not generate more than 110

average daily trips therefore the proposed demolition and construction does not require project specific VMT analysis and will not generate any significant traffic-related environmental impact. As a standard requirement for development the project is subject to the payment of the County's Traffic Impact Mitigation Fee (TIMF), a program fee which address project related cumulative impacts to the County's Regional Roadway Network (Exhibit 4, Condition No. 27).

The proposed project will be subject to a condition of approval requiring the construction of sidewalk improvements adjacent to the property frontage (Exhibit 4, Condition of Approval No. 24). In accordance with Circulation, Transportation and Mobility Policy CTM-2.18, discretionary development in existing communities is required to implement Complete Street Principles which include the construction of sidewalks. The Public Works Agency, Roads and Transportation Department staff determined that Ocean Drive is subject to the implementation of Complete Streets principles to accomplish the overall goal of increased pedestrian access in the Hollywood Beach community. No new dedication will be required, nor will the existing rolled curb configuration be changed.

The project will not interrupt the continued delivery of emergency services or significantly degrade public safety service levels within the Hollywood Beach community. City of Oxnard Fire Station 6 (2601 Peninsula Road) is located 0.85 miles northeast of the project site and the Ventura County Sherriff Headquarters is located at 800 South Victoria Avenue, approximately 7.5 miles north of the project site; West Ventura County unincorporated areas are handled by the Ventura County Sheriff's Office.

Based on the discussion above, the proposed project is consistent with General Plan Policies CTM-1.1, CTM-1.3, CTM 1.7 and CTM-2.28.

### Public Facilities, Services, and Infrastructure

3. General Plan Policy PFS-1.7 (Public Facilities, Services, and Infrastructure Availability): The County shall only approve discretionary development in locations where adequate public facilities, services, and infrastructure are available and functional, under physical construction, or will be available prior to occupancy.

General Plan Policy PFS-4.1 (Wastewater Connections Requirement): The County shall require development to connect to an existing wastewater collection and treatment facility if such facilities are available to serve the development. An onsite wastewater treatment system shall only be approved in areas where connection to a wastewater collection and treatment facility is deemed unavailable.

General Plan Policy PFS-5.9 (Waste Reduction Practices for Discretionary Development): The County shall encourage applicants for discretionary development to employ practices that reduce the quantities of wastes generated

and engage in recycling activities to further reduce the volume of waste disposed of in landfills.

**General Plan Policy WR-1.11 (Adequate Water for Discretionary Development):** The County shall require all discretionary development to demonstrate an adequate long-term supply of water.

General Plan Policy WR-3.2 (Water Use Efficiency for Discretionary Development): The County shall require the use of water conservation techniques for discretionary development, as appropriate. Such techniques include low-flow plumbing fixtures in new construction that meet or exceed the California Plumbing Code, use of graywater or reclaimed water for landscaping, retention of stormwater runoff for direct use and/or groundwater recharge, and landscape water efficiency standards that meet or exceed the standards in the California Model Water Efficiency Landscape Ordinance.

Domestic water supply for the proposed project will be provided via an existing connection to Channel Islands Beach Community Services District (CIBCSD). Existing connection has been verified by a will-serve letter dated May 11, 1999. The CIBCSD is a participant in the Port Hueneme Water Agency (PHWA). PWHA is the water supplier for multiple agencies and has prepared a 2020 Urban Water Management Plan (UWMP) which includes projections of supply and demand for the member retail water suppliers. PHWA purchases imported water from the State Water Project which relies imports from Northern California surface water and also relies on water from the United Conservation District (80 percent of the PHWA supply). Water supplies are expected to meet use projections for the next five years including drought-scenario projections for the same term as stated in the UWMP Water Shortage Contingency Plan. PHWA water supply has been determined to be reliable until 2040. Sewer service will also be provided by CIBCSD which has an approved Water Availability Letter (As of December 30, 2020) on file with the Ventura County Public Works Agency. The proposed project will not have any detrimental impacts on the future provision of domestic sewage disposal and domestic water supply. The proposed project would not result in a significant generation of waste. CIBCSD will continue to provide curbside garbage and recycling pickup services to the project site.

As required by California Public Resources Code (PRC) 41701, Ventura County's Countywide Siting Element (CSE), adopted in June 2001 and updated annually, Ventura County has at least 15 years of disposal capacity available for waste generated by in-County projects. Because the County currently exceeds the minimum disposal capacity required by the state PRC, the proposed project will have less than a significant project-specific impact upon Ventura County's solid waste disposal capacity. Ventura County Ordinance 4421 requires all discretionary permit applicants whose proposed project includes construction and/or demolition activities to reuse, salvage, recycle, or compost a minimum of 65% of the solid waste generated by their project. The Integrated Waste Management Division's

(IWMD) waste diversion program (Form B Recycling Plan/Form C Report) ensures this 65% diversion goal is met prior to Building and Safety Division's issuance certificate of occupancy, consistent with the Ventura County General Plan. Conditions of approval are included which address recycling during the demolition and construction phases of the project (Exhibit 4, Condition Nos. 23 & 24).

With regard to water efficiency requirements of the Ventura County General Plan, 1,472 square feet of landscaping is proposed with the Project. The proposed landscape area is subject to the State of California Model Water Efficient Landscaping Ordinance. The applicant will be required to submit landscaping and irrigation plans for review by the Planning and the Building and Safety Divisions. The Planning Division will verify during this review that the proposed project irrigation and plant palette for the landscaped area complies with the provisions of the Coastal Zoning Ordinance (Exhibit 4, Condition No. 22). For water conservation techniques within the building and landscaped area, the project plans will be reviewed by the Building and Safety Division for compliance with the Ventura County Building Code and Title 24 California Building Standards Code.

Based on the discussion above, the proposed project is consistent with General Plan Policies PFS-1.7, PFS-4.1, PFS-5.9, WR-1.11 and WR-3.2.

**4. General Plan Policy PFS-6.5 (Stormwater Drainage Facilities):** The County shall require that stormwater drainage facilities are properly designed, sited, constructed, and maintained to efficiently capture and convey runoff for flood protection and groundwater recharge.

**General Plan Policy PFS-7.4 (Discretionary Development Utility Service Line Placement):** The County shall require discretionary development to place new utility service lines underground if feasible. If undergrounding is determined by the County to be infeasible, then new utility service lines shall be placed in parallel to existing utility rights-of-way, if they exist, or sited to minimize their visual impact.

General Plan Policy WR-1.2 (Watershed Planning): The County shall consider the location of a discretionary project within a watershed to determine whether or not it could negatively impact a water source. As part of discretionary project review, the County shall also consider local watershed management plans when considering land use development.

General Plan Policy WR-1.12 (Water Quality Protection for Discretionary Development): The County shall evaluate the potential for discretionary development to cause deposition and discharge of sediment, debris, waste and other pollutants into surface runoff, drainage systems, surface water bodies, and groundwater. The County shall require discretionary development to minimize potential deposition and discharge through point source controls, storm water treatment, runoff reduction measures, best management practices, and low impact development.

**General Plan Policy WR-2.2 (Water Quality Protection for Discretionary Development):** The County shall evaluate the potential for discretionary development to cause deposition and discharge of sediment, debris, waste, and other contaminants into surface runoff, drainage systems, surface water bodies, and groundwater. In addition, the County shall evaluate the potential for discretionary development to limit or otherwise impair later reuse or reclamation of wastewater or stormwater. The County shall require discretionary development to minimize potential deposition and discharge through point source controls, storm water treatment, runoff reduction measures, best management practices, and low impact development.

**General Plan Policy WR-3.3 (Low-Impact Development):** The County shall require discretionary development to incorporate low impact development design features and best management practices, including integration of stormwater capture facilities, consistent with County's Stormwater Permit.

As shown on Federal Emergency Management Agency (FEMA) Map Panel 06111C0911F, effective January 29, 2021, the project site is in a location identified as Zone X, the 0.2% Annual Chance Flood Hazard area. The project will not require the development of new flood facilities nor contributions to funds for the development and/or maintenance of flood control facilities, however a flood zone clearance is required (Exhibit 4, Condition No. 28). Prior to the issuance of the permits for demolition and construction, the applicant will submit the plans for construction to the Public Works Agency wherein staff will verify that the proposed development meets the minimum requirements of the Ventura County Floodplain Ordinance (i.e., the first floor elevation is above the street flowline, any structures proposed below the level are protected).

The proposed project will not individually or cumulatively degrade the quality of surface water causing it to exceed water quality objectives as contained in Chapter 3 of the Los Angeles Basin Plan, applicable for this area. Land disturbance from construction will be less than one acre. The project site is within the County Urban Unincorporated Area but not within a High-Risk Area. In accordance with the Ventura Countywide Municipal Stormwater NPDES Permit CAS004002, "Development Construction Program" Subpart 4.F, the applicant will be required to include Best Management Practices (BMPs) designed to ensure compliance and implementation of an effective combination of erosion and sediment control measures for a disturbed site area less than 1 acre (Table 6 in Subpart 4.F, SW-1). A schedule of BMPs will be implemented during the construction of the proposed Project unless determined by Ventura County to be not applicable. BMPs may include sandbag barriers, silt fencing, and material delivery and storage practices for construction materials.

The proposed project is not located adjacent to any aboveground utilities; therefore, all utilities will continue to be placed underground.

Based on the discussion above, the proposed project is consistent with General Plan Policies PFS-6.5 and PFS-7.4 and WR-1.2, WR-1.12, WR-2.2 and WR-3.3.

**5. General Plan Policy PFS-11.4 (Emergency Vehicles Access):** The County shall require all discretionary development to provide, and existing development to maintain, adequate access for emergency vehicles, including two points of access for subdivisions and multifamily developments.

General Plan Policy PFS-12.3 (Adequate Water Supply, Access, and Response Times for Firefighting Purposes): The County shall prohibit discretionary development in areas that lack and cannot provide adequate water supplies, access, and response times for firefighting purposes. (RDR)

General Plan Policy PFS-12.4 (Consistent Fire Protection Standards for New Development): The County, in coordination with local water agencies and the Fire Protection District, shall require new discretionary development to comply with applicable standards for fire flows and fire protection.

According to the Ventura County Fire Protection District (VCFPD), there is adequate water for fire suppression purposes available to serve the project and the project will meet current VCFPD access standards. Domestic water supply for the proposed project will be provided via an existing connection to Channel Islands Beach Community Services District (Water Will Serve letter dated May 11 ,1999). The proposed project will not have any project-specific or cumulative impacts to the domestic water supply. In addition, City of Oxnard Fire Station 6 is located at 2601 Peninsula Road, 0.85 miles northeast of the project site. VCFPD conditioned the project to comply with the applicable standards of the Ventura County Fire Code and VCFPD ordinances (Exhibit 4, Condition Nos. 30 through 34).

Based on the discussion above, the proposed project is consistent with General Plan Policies PFS-11.4, PFS-12.3, and PFS-12.4.

## **Conservation and Open Space**

6. General Plan Policy COS-4.4 (Discretionary Development and Tribal, Cultural, Historical, Paleontological, and Archaeological Resource Preservation): The County shall require that all discretionary development projects be assessed for potential tribal, cultural, historical, paleontological, and archaeological resources by a qualified professional and shall be designed to protect existing resources. Whenever possible, significant impacts shall be reduced to a less-than-significant level through the application of mitigation and/or extraction of maximum recoverable data. Priority shall be given to measures that avoid resources.

**Coastal Act Section 30244:** Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Coastal Area Plan - Archaeological Resources Policy 4.1.1-1: Discretionary development shall be reviewed to identify potential locations for sensitive archaeological resources.

**Coastal Area Plan – Central Coast Policy Archaeological Resources Policy 4.1.1-2:** New development shall be sited and designed to avoid adverse impacts to archaeological resources to the maximum extent feasible. If there is no feasible alternative that can eliminate all impacts to archaeological resources, then the alternative that would result in the fewest or least significant impacts to resources shall be selected. Impacts to archaeological resources that cannot be avoided through siting and design alternatives shall be mitigated. When impacts to archaeological resources cannot be avoided, mitigation shall be required and shall be designed in accordance with established federal, state and/or County standards and shall be consistent with the policies and provisions of the LCP.

**Coastal Area Plan - Archaeological Resources Policy 4.1.1-6**: Protect and preserve archaeological resources from destruction and avoid impacts to such resources where feasible.

Coastal Area Plan - Archaeological Resources Policy 4.1.1-7: The unauthorized collection of archaeological artifacts is prohibited.

Coastal Area Plan - Paleontology Policy 4.1.2-1: Discretionary development shall be reviewed to determine the geologic unit(s) to be impacted and paleontological significance of the geologic rock units containing them.

Coastal Area Plan - Paleontology Policy 4.1.2-2: New development shall be sited and designed to avoid adverse impacts to paleontological resources to the maximum extent feasible. If there is no feasible alternative that can eliminate all impacts to paleontological resources, then the alternative that would result in the fewest or least significant impacts to resources shall be selected. Impacts to paleontological resources that cannot be avoided through siting and design alternatives shall be mitigated. When impacts to paleontological resources cannot be avoided, mitigation shall be required that includes procedures for monitoring grading and handling fossil discoveries that may occur during development.

Coastal Area Plan - Paleontology Policy 4.1.2-3: Protect and preserve paleontological resources from destruction and avoid impacts to such resources where feasible.

For projects in an area (a) or (b), the applicant will have a qualified archaeologist assess the development impacts and cultural significance of the site. As may be

appropriate, the Northridge Archaeological Research Center at Cal State Northridge should be contacted for a Native American approved Monitor to observe and aide the work during excavation of auger holes, test pits, trenches or exposures (Appendix 2).

The project site is not within a sensitive area for Archaeological Resources and located in an area of undetermined risk with respect to Paleontological Resources. The project is located 1.90 miles southeast from the closest area designated as Sensitive for Archaeological Resources (Ventura County Resource Management Agency Geographic Information System (VCRMA GIS), 2021). The underlying geology is identified as alluvial sands (Pleistocene-Holocene age) (Exhibit 6, Soils Engineering Investigation). No additional assessment of paleontological importance is required for the Project as the underlying geological unit is not very likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils pursuant to CZO Section 8178-3.2.2 Table 1. Proposed development includes demolition of a structure constructed in 2004 along with the removal and compaction of surficial soils to support concrete slabs-on-grade for the proposed structure foundation. The proposed project includes the construction of conventional slab-on-grade foundations with 36 inch footings, a minimum depth of 24 inches below the existing grade. Based on the evaluation of the construction activities and the setting of the surrounding area, no impacts to archaeological and paleontological resources will occur. Nevertheless, in the unlikely event that archaeological or paleontological resources are encountered during construction, standard conditions will be imposed on the proposed project requiring construction activities to cease upon the accidental discovery of resources along with the hiring of a qualified consultant to assess the find and make a recommendation on the proper disposition of the resources, for the Planning Director's review and approval (Exhibit 4, Conditions No. 19 and 20).

Based on the discussion above, the proposed project is consistent with General Plan Conservation and Open Space Policy COS-4.4, Coastal Act Section 30244, Coastal Area Plan Policies 4.1.1-1, 4.1.1-2, 4.1.1-6, 4.1.1-7, 4.1.2-1, 4.1.2-2, and 4.1.2-3.

## **Hazards and Safety Element**

7. General Plan Policy HAZ-4.3 (Structural Design): The County shall require that all structures designed for human occupancy incorporate engineering measures to reduce the risk of and mitigate against collapse from ground shaking.

## **Coastal Act Policy Section 30253 – Minimization of Adverse Impacts:** *New development shall:*

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazards.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site of surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Coastal Area Plan - Central Coast Hazards Policy 4.3.4-1-3: New development shall be sited and designed to minimize risks to life and property in areas of high geologic, flood, and fire hazards.

Coastal Area Plan - Central Coast Hazards Policy 4.3.4-1-4: All new development will be evaluated for its impacts to, and from, geologic hazards (including seismic safety, landslides, expansive soils, subsidence, etc.), flood hazards, and fire hazards. Feasible mitigation measures shall be required where necessary.

Coastal Area Plan Central Coast Hazards Policy 4.3.4-1-5: The County may require the preparation of a geologic report at the applicant's expense. Such report shall include feasible mitigation measures which will be used in the proposed development.

The proposed project has been sited and designed to assure the stability and structural integrity of all buildings proposed, and neither creates nor contributes significantly to erosion, geologic instability, or destruction of the site or surrounding area, or will require the construction of protective devices. According to the Soil Engineering Investigation (Exhibit 5, Heathcote Geotechnical, February 2021), the site is located in an alluvial sand area with no identified faults within the vicinity of the project. The site will be subject to strong ground shaking caused by regionally active faults such as the San Andreas and Malibu Coast faults. The nearest fault is the Simi-Springville which is 6.7 miles east of the project site. Additionally, the project is located in an area subject to liquefaction (VCRMA GIS 2021). According to the Soil Engineering Investigation, the soil profile will likely be subject to liquefaction at a depth of between 6 to 7 feet and has a low probability to experience soil expansion. The proposed structure may be supported on underlying natural soils by conventional slab-on-grade foundations with 18 inch footings, a minimum depth of 24 inches below the existing grade. The Soil Engineering Investigation states that no ground stabilization is deemed necessary for the construction of the proposed structure.

As shown on FEMA FIRM Panel 06111C0911F (effective January 29, 2021) the project site is within one of FEMA's Other Areas of Flood Hazard, identified as Zone X Shaded, an area with the 0.2% Annual Chance Flood Hazard, an area with no defined base flood elevation. While the proposed project is subject to moderate flood hazard, the project will not require the development of new flood facilities. The applicant will be required to obtain final review of the project construction plans through flood zone clearance review (Exhibit 4, Condition of Approval No. 28).

Hollywood Beach has a varying width and is generally 700 feet wide. A Wave Runup with Sea Level Rise Analysis (Exhibit 6, Noble Consultants GEC, June 21, 2021) prepared for the project indicates the property is relatively protected from hydrodynamic impacts from waves due to the wide beach and the proximity of the Channel Islands Harbor inlet jetty and nearby break water. Additionally, the project site has a peak elevation of +16.6 feet above the 1988 NAVD88. The structure will utilize a minimum finished floor elevation (FFE) of 14.4 feet NAVD88 which accounts for sea level rise and the local flooding hazard in the Hollywood Beach community. The proposed project is reasonably safe from shoreline erosion, wave overtopping and wave runup with the lowest floor elevation for the structure elevated to mitigate future flood risk.

The nearest full-time fire station is City of Oxnard Fire Station 6 (2601 Peninsula Road) located 0.75 miles northeast of the project site. Given the station's proximity to the project site, there will be adequate response time to provide fire protection services. The VCFPD has conditioned the project to ensure adequate water supply, access and response time will be available for fire protection (Exhibit 4, Condition Nos. 30 through 34).

Based on the discussion above, the proposed project is consistent with General Plan Policies, HAZ-4.3, Coastal Act Policy 30253 and Coastal Area Plan Central Hazard Policies 4.3.4-1-3, 4.3.4-1-4, and 4.3.4-1-5.

- 8. **General Plan Policy HAZ-9.2 (Noise Compatibility Standards):** The County shall review discretionary development for noise compatibility with surrounding uses. The County shall determine noise based on the following standards:
  - 1. New noise sensitive uses proposed to be located near highways, truck routes, heavy industrial activities and other relatively continuous noise sources shall incorporate noise control measures so that indoor noise levels in habitable rooms do not exceed Community Noise Equivalent Level (CNEL) 45 and outdoor noise levels do not exceed CNEL 60 or Leq1H of 65 dB(A) during any hour.
  - 2. New noise sensitive uses proposed to be located near railroads shall incorporate noise control measures so that indoor noise levels in habitable rooms do not exceed Community Noise Equivalent Level (CNEL) 45 and outdoor noise levels do not exceed L10 of 60 dB(A)
  - 3. New noise sensitive uses proposed to be located near airports:
    - a. Shall be prohibited if they are in a Community Noise Equivalent Level (CNEL) 65 dB or greater, noise contour; or
    - b. Shall be permitted in the Community Noise Equivalent Level (CNEL) 60 dB to CNEL 65 dB noise contour area only if means will be taken to ensure interior noise levels of CNEL 45 dB or less.

- 4. New noise generators, proposed to be located near any noise sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:
  - a. Leq1H of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.;
  - b. Leq1H of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.; and
  - c. Leq1H of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.
- 5. Construction noise and vibration shall be evaluated and, if necessary, mitigated in accordance with the Construction Noise Threshold Criteria and Control Plan (Advanced Engineering Acoustics, November 2005).

General Plan Policy HAZ-9.5 (Site and Building Design): The County shall require discretionary development and County-initiated projects to comply with adopted noise standards through proper site and building design features, such as building location and orientation, setbacks, natural barriers and vegetation, and building construction. The County shall only consider sound walls if noise mitigation measures have been evaluated or integrated into the project and found infeasible.

The proposed single-family dwelling qualifies as a noise-sensitive land use. Noise sensitive uses include, but are not limited to, dwellings, schools, hospitals, nursing homes, churches, and libraries. The proposed project is located approximately two miles south of the designated noise contour for Harbor Boulevard, outside the CNEL 60dB(A) noise contour (RMA GIS Viewer, Noise Contour Maps, 2018). In addition, the proposed project site is not located near any active railroad tracks or the Oxnard airport (both of which are approximately 1.5 miles and 2.44 miles to the northeast, respectively). Therefore, the proposed project will not be subject to unacceptable levels of noise from the closest identified noise generators. The residential use of the property is not considered a noise generator that will adversely affect any nearby noise sensitive uses (e.g., surrounding residences). While the proposed single-family dwelling is not considered a noise generating use, construction noise will be generated during the development phase of the proposed project that has the potential to adversely affect surrounding residential uses. Pursuant to the requirements of the Ventura County Construction Noise Threshold Criteria and Control Plan, the proposed project will be subject to a condition of approval to limit noise-generating activities to the days and times when construction-generated noise is least likely to adversely affect surrounding residential uses (Exhibit 4, Condition No. 21).

Based on the discussion above, the proposed project is consistent with General Plan Policies HAZ-9.2 and HAZ-9.5.

#### Coastal Access

- 9. Coastal Area Plan Central Coast Access Policy 4.3.1-B-1 (Vertical): For all new development between the first public road and the ocean, granting of an easement to allow vertical access to the mean high tide line shall be mandatory unless:
  - a. Adequate public access is already available within a reasonable distance of the site measured along the shoreline,
  - b. Access at the site would result in unmitigable adverse impacts on areas designated as "sensitive habitats" or tidepools by the land use plan,
  - c. Findings are made, consistent with Section 30212 of the Coastal Act, that access is inconsistent with public safety, military security needs, or that agriculture would be adversely affected, or
  - d. The parcel is too narrow to allow for an adequate vertical access corridor without adversely affecting the privacy of the property owner.

Coastal Area Plan - Central Coast Access Policy 4.3.1-B-2 (Lateral): For all new development between the first public road and the ocean, granting of lateral easements to allow for public access along the shoreline shall be mandatory unless subsection (a) below is found. In coastal areas, where the bluffs exceed five feet in height, all beach seaward of the base of the bluff shall be dedicated. In coastal areas where the bluffs are less than five feet, the area to be dedicated shall be determined by the County. At a minimum, the dedicated easement shall be adequate to allow for lateral access during periods of high tide. In no case shall the dedicated easement be required to be closer than 10 feet to a residential structure. In addition, all fences, no trespassing signs, and other obstructions that may limit public lateral access shall be removed as a condition of development approval.

a. Findings are made, consistent with Section 30212 of the Coastal Act that access is inconsistent with public safety, military security needs, or that agriculture would be adversely affected.

**Coastal Act Policy Section 30211:** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Coastal Act Policy Section 30212(a): Public access from the nearest public roadway to the shoreline along the coast shall be provided in new development

projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

The proposed project will not obstruct or adversely impact access to a public recreation resource (Hollywood Beach). The nearest vertical access to the beach is located immediately north of the subject property. The proposed single-family dwelling will not extend beyond the boundaries of the subject property, such that it would impede any horizontal public access routes. There are developed parking facilities 250 feet to the east of the project site adjacent to Channel Islands Harbor along with additional parking facilities owned by the City of Oxnard located one mile to the north. Therefore, the proposed development will not interfere with the public's right of access to the sea and will not require development of new dedicated accessways to the public beach.

Based on the discussion above, the proposed project is consistent with Coastal Area Plan Central Coast Access Policies 4.3.1-B-1 and 4.3.1-B-2, and Coastal Act Policies Sections 30211 and 30212.

## D. ZONING ORDINANCE COMPLIANCE

The proposed project is subject to the requirements of the Ventura County CZO.

Pursuant to the Ventura County CZO (Section 8174-4), the proposed use is allowed in the RBH zone district with the granting of a Coastal PD Permit. Upon the granting of the Coastal PD Permit, the proposed project will comply with this requirement.

The proposed project includes the construction and use of a building that is subject to the development standards of the Ventura County CZO (Section 8175-2). Table 1 lists the applicable development standards and a description of whether the proposed project complies with the development standards.

**Table 1 – Development Standards Consistency Analysis** 

Type of Requirement	Zoning Ordinance Requirement	Complies?
Minimum Lot Area (Gross)	1,750 square feet	Yes, lot is 5,250 square feet
Maximum Percentage of Building Coverage	65%	Yes, proposed lot coverage is 59.7%
Front Setback	20 ft. first floor / 16 ft. for second and third floors	20 ft. building
Side Setback	3 ft.	3 ft.
Rear Setback	6 ft.	6 ft.
Maximum Building Height	28 ft.	28 ft.

### E. COASTAL PD PERMIT FINDINGS AND SUPPORTING EVIDENCE

The Planning Director must make certain findings in order to determine that the proposed project is consistent with the permit approval standards of the Ventura County CZO (Section 8181-3.5 et seq.). The proposed findings and supporting evidence are as follows:

1. The proposed development is consistent with the intent and provisions of the County's Certified Local Coastal Program [Section 8181-3.5.a].

Based on the information and analysis presented in Sections C and D of this staff report, the finding that the proposed development is consistent with the intent and provisions of the County's Certified Local Coastal Program can be made.

2. The proposed development is compatible with the character of surrounding development [Section 8181-3.5.b].

As discussed in Section C, items 1, 8, and 9 (above), the proposed project was determined to be compatible with the character of the surrounding residential neighborhood. The proposed single-family dwelling is similar to other dwellings in the vicinity of the proposed project in terms of architectural style, placement and form. The proposed 6,902 sq. ft. dwelling with an attached 857 sq. ft attached garage is larger than homes in the vicinity of the Project, however this is attributable to the fact that the Project site is composed of two residential lots which were merged to create on legal lot pursuant to Parcel Map Waiver No. 989. The proposed Project, which includes the addition of an attached ADU, was found to be conforming to the applicable development standards for the RB zone. Standards considered included the permissible height measurement which accounts for sea level rise in accordance with the applicable policies of the Coastal Area Plan and the General Plan.

Based on the discussion above, this finding can be made.

3. The proposed development, if a conditionally permitted use, is compatible with planned land uses in the general area where the development is to be located [Section 8181-3.5.c].

The proposed project consists of the demolition and construction of a new single-family dwelling with an attached ADU. The proposed use is not conditionally permitted; therefore, the requirement of this finding does not apply to the proposed project.

Based on the discussion above, this finding can be made.

4. The proposed development would not be obnoxious or harmful, or impair the utility of neighboring property or uses [Section 8181-3.5.d].

As discussed in Section C Items 2, 3, 4, 8 (above), the proposed Project will not be obnoxious or harmful or impair the utility of neighboring property or uses. The proposed Project has been conditioned to implement appropriate Best Management Practices, which include limiting noise generating activities to specific days and times, obtaining an encroachment permit for any work within the road right-of-way for Ocean Drive, and ensure the proper handling of waste debris (Exhibit 4, Conditions No. 21, 23, 24, 26 and 29). All construction activities will be confined to the subject property and no impacts to public access or recreational uses of the beach will occur.

Based on the discussion above, this finding can be made.

## 5. The proposed development would not be detrimental to the public interest, health, safety, convenience, or welfare [Section 8181-3.5.e].

As discussed in Section C of this staff report (above), adequate public resources and infrastructure exist to serve the proposed single-family dwelling. The CIBSD will continue to provide water, sewage and waste disposal services to the subject property. Adequate fire flow, access, and response times exist for fire protection purposes. VCFPD reviewed the project and conditioned the project to comply with the applicable standards of the Ventura County Fire Code and VCFPD ordinances (Exhibit 4, Condition Nos. 31 through 34). The Project was found to have no impact to the provision of public safety services such as Police and Fire. Furthermore, the proposed Project will not generate new traffic beyond customary vehicle trips associated with the development of a single-family dwelling. Ocean Drive and the surrounding public road network are adequate to continue serving the new singlefamily dwelling. The applicant will be required to construct sidewalks adjacent the property street frontage (Exhibit 4, Condition of Approval No. 25). The applicant designed the proposed project to comply with the standards set forth in the Coastal Commission's Sea Level Rise Policy Guidance (Exhibit 5, Nobel Consultants-GEC., Inc., June 2021). The proposed project will be subject to conditions of approval to limit the days and times of noise-generating construction activities (Exhibit 4, Condition No. 21). Therefore, the proposed project will not be detrimental to the public interest, health, safety, convenience, or welfare.

Based on the discussion above, this finding can be made.

## F. PLANNING DIRECTOR HEARING NOTICE, PUBLIC COMMENTS, AND JURISDICTIONAL COMMENTS

The Planning Division provided public notice regarding the Planning hearing in accordance with the Government Code (Section 65091), CZO Section 8181-6.2 et seq. On December 9, 2021, the Planning Division mailed notice to owners of property within 300 feet and residents within 100 feet of the property on which the project site is located. On December 13, 2021, the Planning Division placed a legal ad in the *Ventura County Star.* As of the date of this document, no comments have been received.

The project site is located within the City of Oxnard's Sphere of Influence. Therefore, on May 6, 2021, the Planning Division notified the City of Oxnard of the proposed project. On May 18, 2021 a response from the City of Oxnard indicated that the City had no specific comment on the proposed project.

#### G. RECOMMENDED ACTIONS

Based upon the analysis and information provided above, Planning Division Staff recommends that the Planning Director take the following actions:

- CERTIFY that the Planning Director has reviewed and considered this staff report and all exhibits thereto, and has considered all comments received during the public comment process;
- 2. **FIND** that this project is categorically exempt from CEQA pursuant to Sections 15301 (Existing Facilities) and 15303 (New Construction or Conversion of Small Structures) of the CEQA Guidelines.
- MAKE the required findings to grant a Coastal PD Permit pursuant to Section 8181-3.5 of the Ventura County CZO, based on the substantial evidence presented in Section E of this staff report and the entire record;
- 4. **GRANT** Coastal PD Permit Case No. PL21-0042, subject to the conditions of approval (Exhibit 4); and
- 5. **SPECIFY** that the Clerk of the Planning Division is the custodian, and 800 S. Victoria Avenue, Ventura, CA 93009 is the location, of the documents and materials that constitute the record of proceedings upon which this decision is based.

The decision of the Planning Director is final unless appealed to the Planning Commission within 10 calendar days after the permit has been approved, conditionally approved, or denied (or on the following workday if the 10<sup>th</sup> day falls on a weekend or holiday). Any aggrieved person may file an appeal of the decision with the Planning Division. The Planning Division shall then set a hearing date before the Planning Commission to review the matter at the earliest convenient date.

If you have any questions concerning the information presented above, please contact John Oquendo at (805) 654-3588 or John.Oquendo@ventura.org.

Planning Director Staff Report for Case No. PL21-0042 Planning Director Hearing on December 23, 2021 Page 22 of 22

Prepared by:

John Oquendo, Case Planner Residential Permits Section Ventura County Planning Division Reviewed by:

Jennifer Trunk, Manager Residential Permits Section

Ventura County Planning Division

### **EXHIBITS**

Exhibit 2 Maps Exhibit 3 Plans

Exhibit 4 Conditions of Approval

Exhibit 5 Wave Runup with Sea Level Rise Analysis (Nobel Consultants-G.E.C., Inc., June 2021)

Exhibit 6 Soils Engineering Investigation (Heathcote Geotechnical, February 2021)

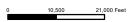




Ventura County, California Resource Management Agency GIS Development & Mapping Services Map created on 10-25-2021

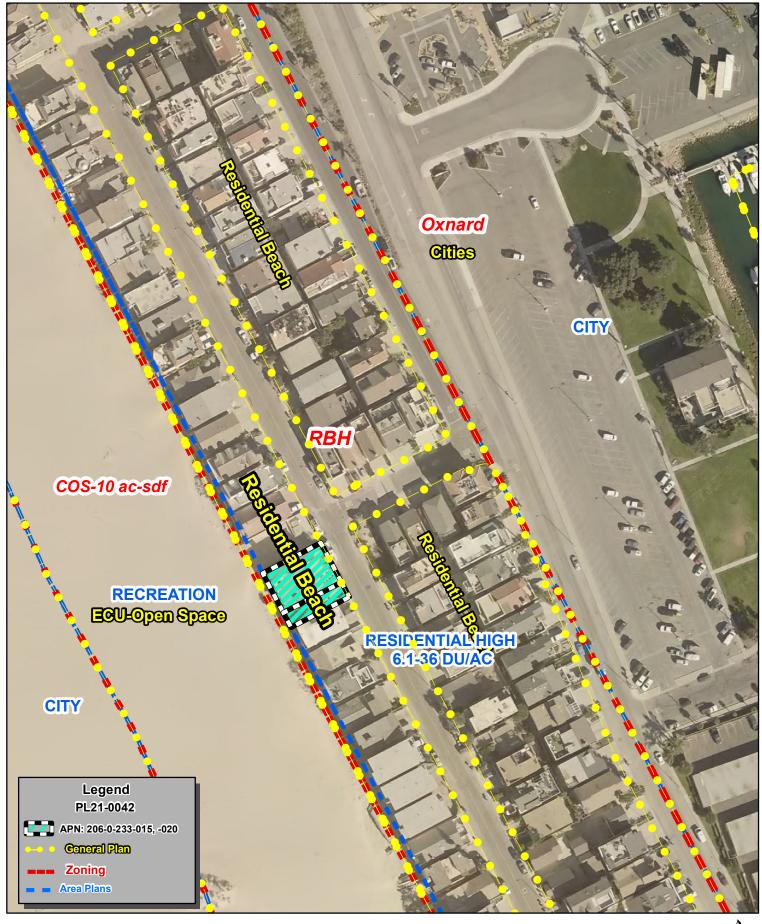


County of Ventura
Planning Director Hearing
Case No. PL21-0042
Exhibit 2 - Maps



Disclaimer: This Map was created by the Ventura County Resource Management Agency, Mapping Services - GIS which is designed and operated sobly for the convenience of the County and related public agencies. The County does no twarrant the accuracy of this mapand no decision involving a risk of economic loss or physical injury should be made in reliance thereon.







Ventura County, California Resource Management Agency IS Development & Mapping Services Map Created on 10-25-2021 This aerial imagery is under the copyrights of Pictometry Source: Pictometry, 2019



County of Ventura
Planning Director Hearing
PL21-0042
General Plan & Zoning Map



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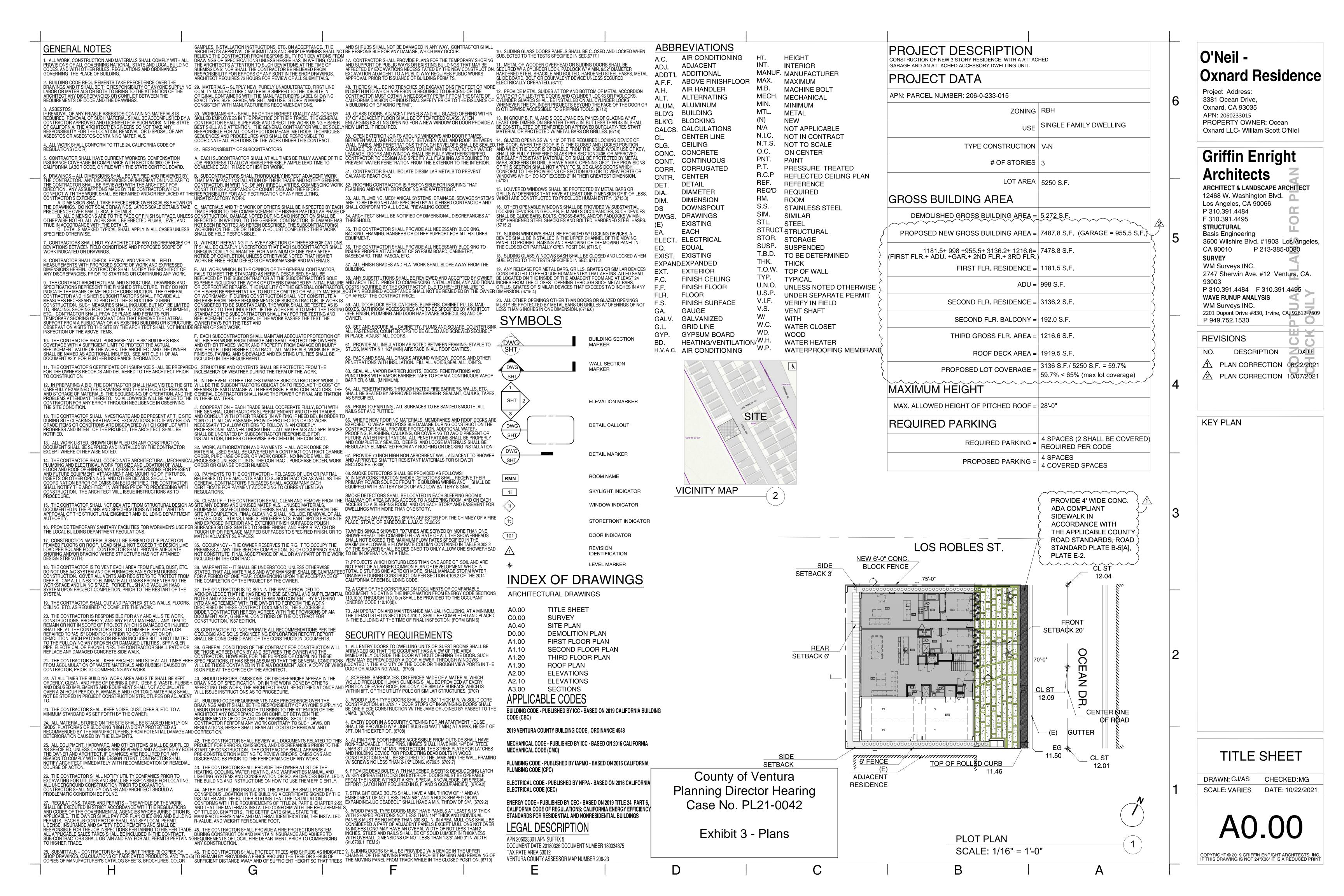


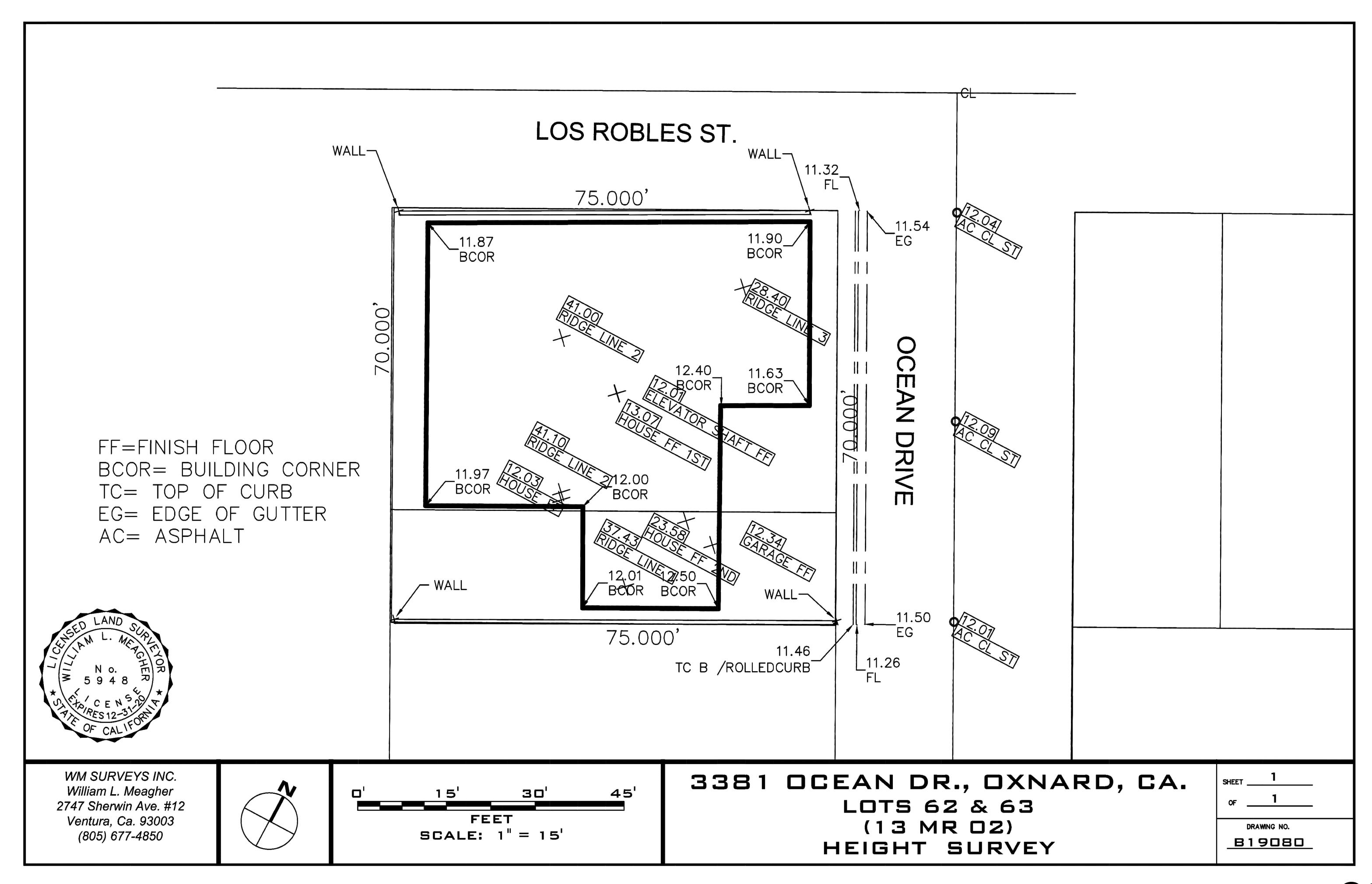


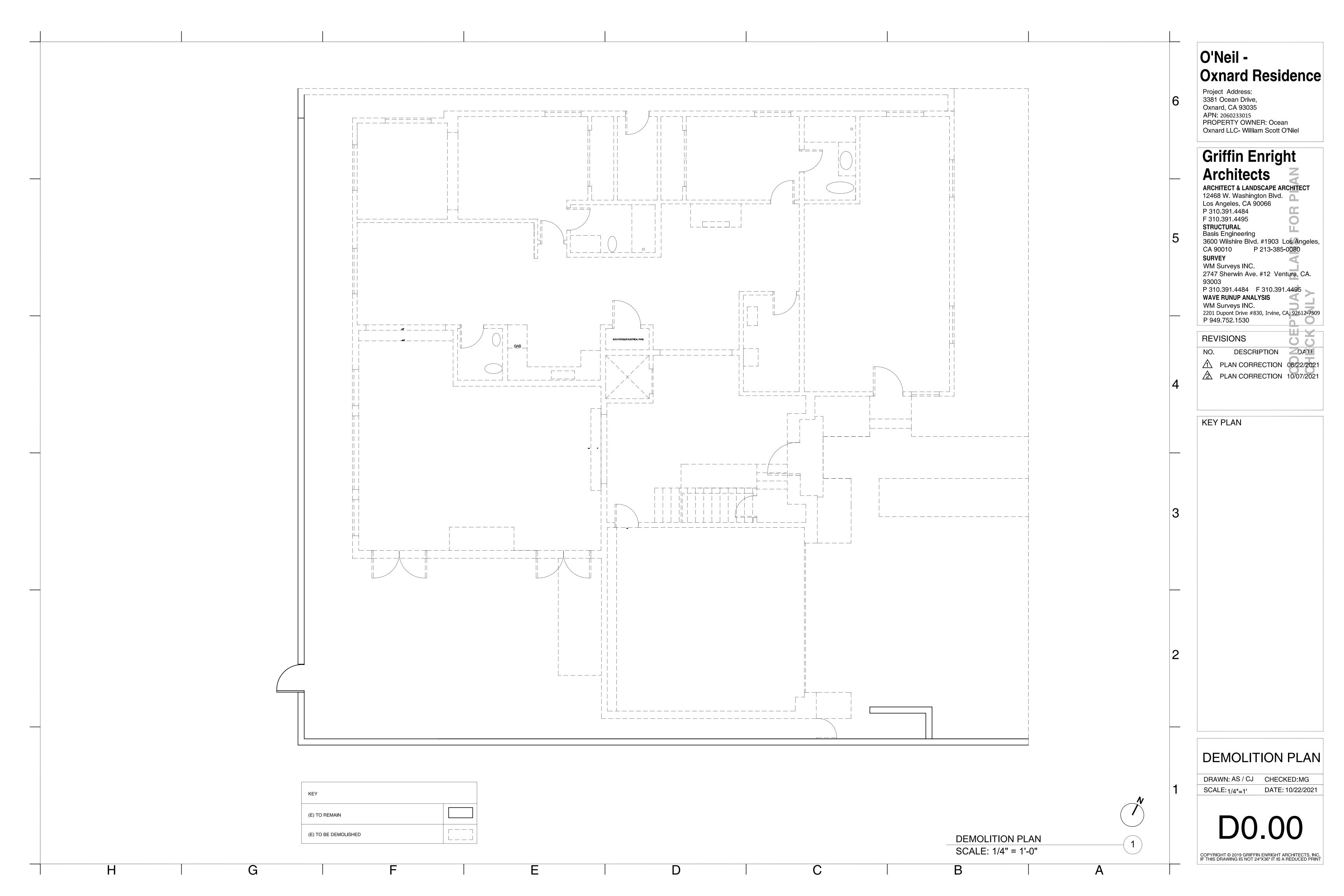
County of Ventura
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PL21-0042

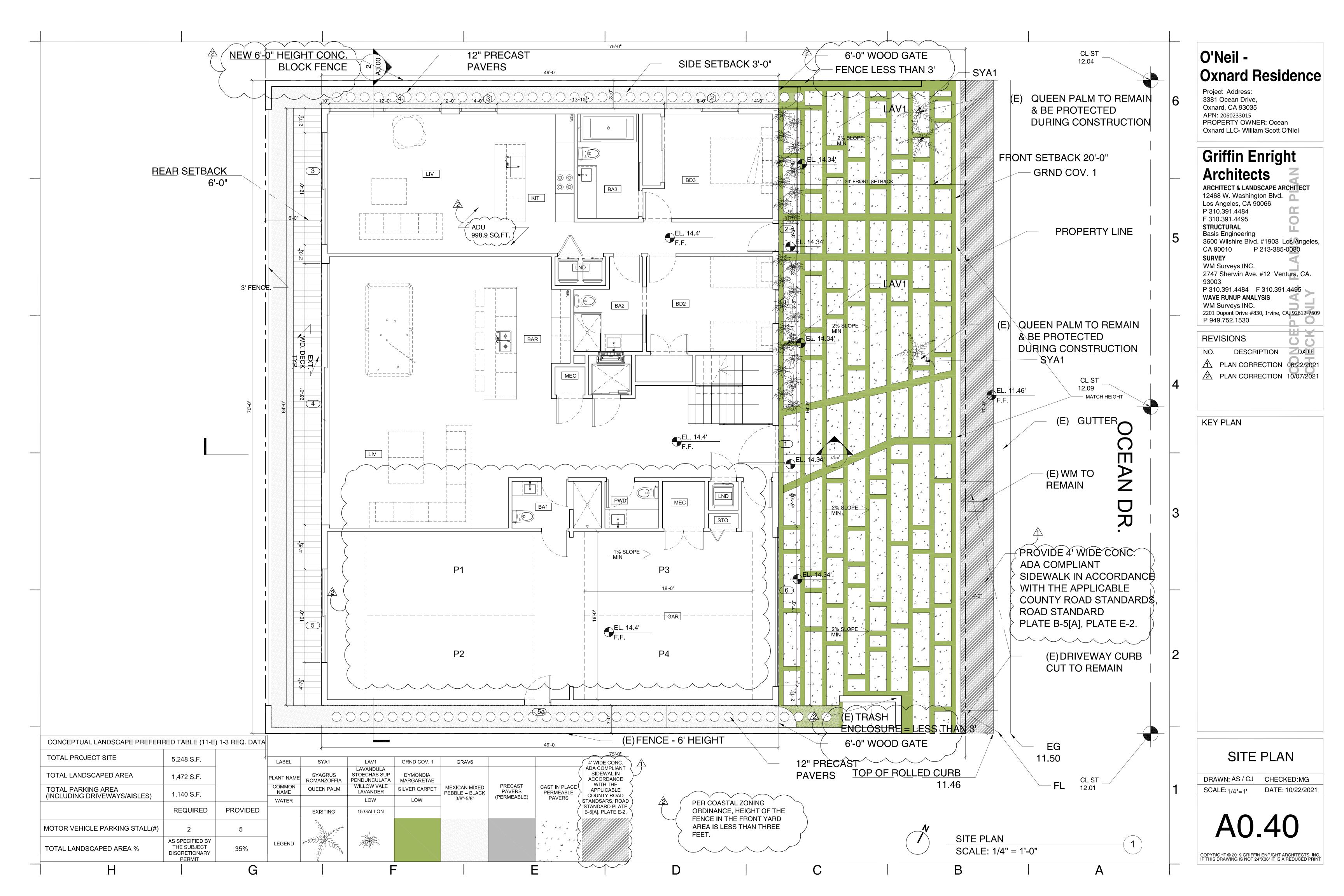
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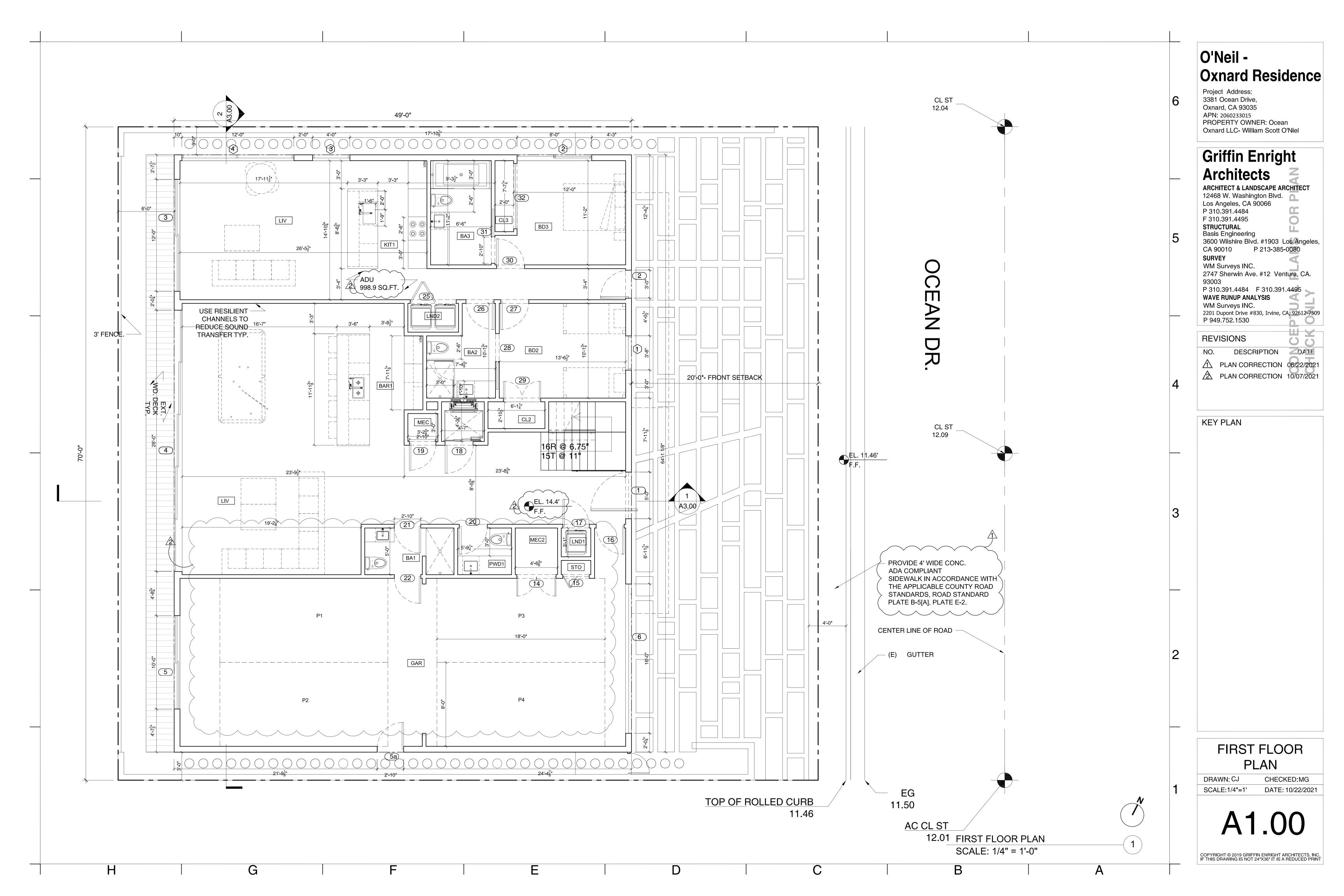


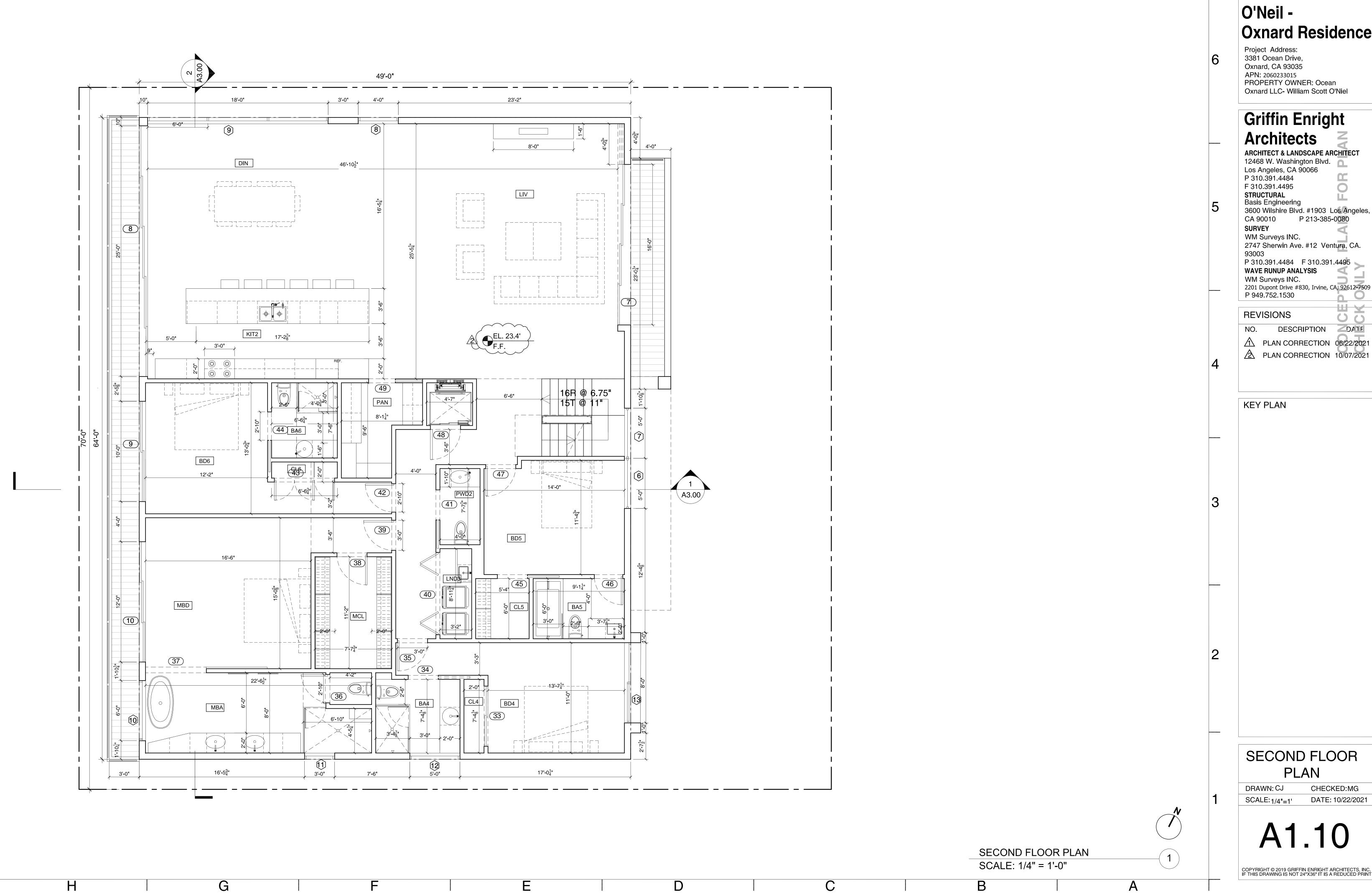












## **Oxnard Residence**

PROPERTY OWNER: Ocean Oxnard LLC- William Scott O'Niel

# **Griffin Enright**

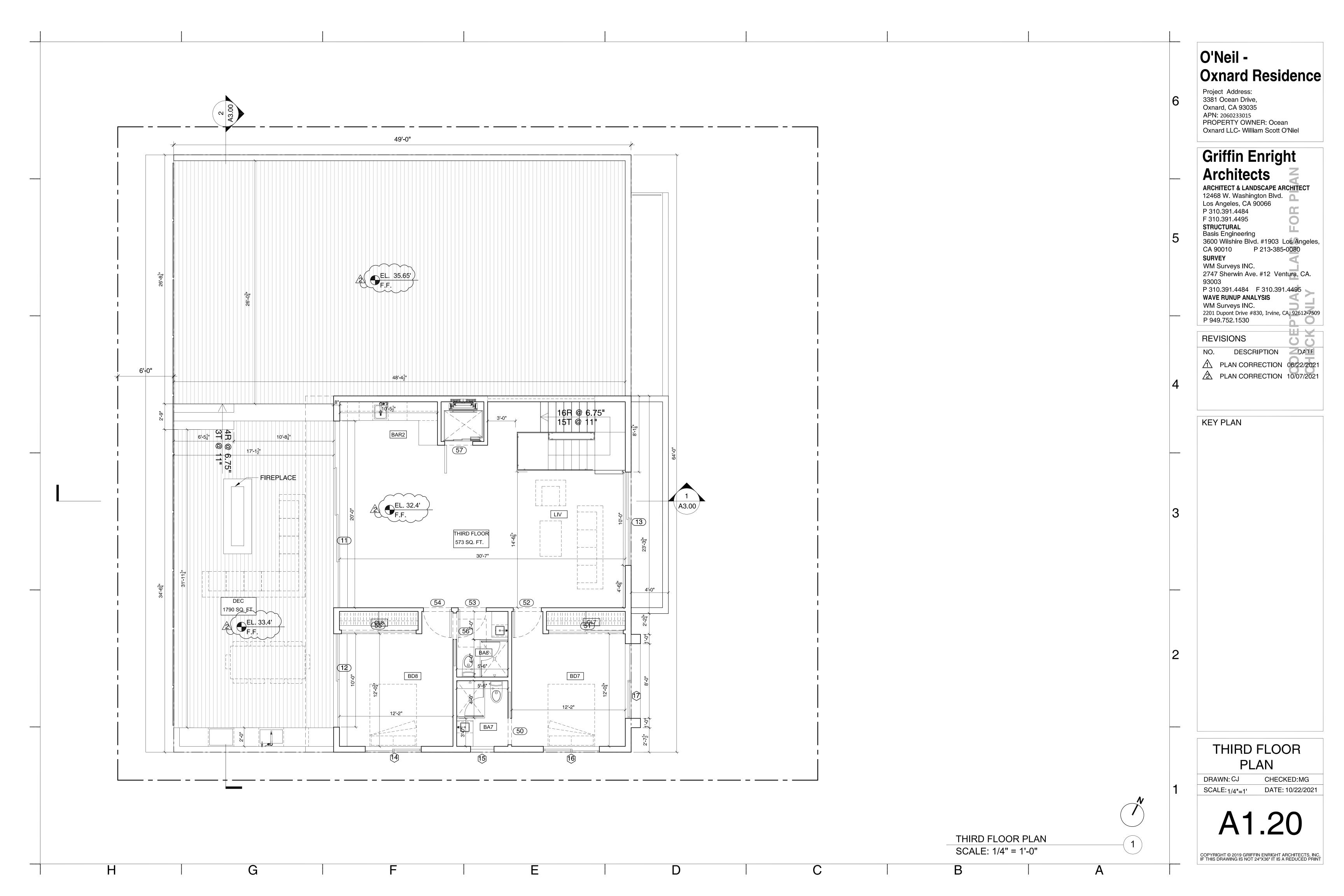
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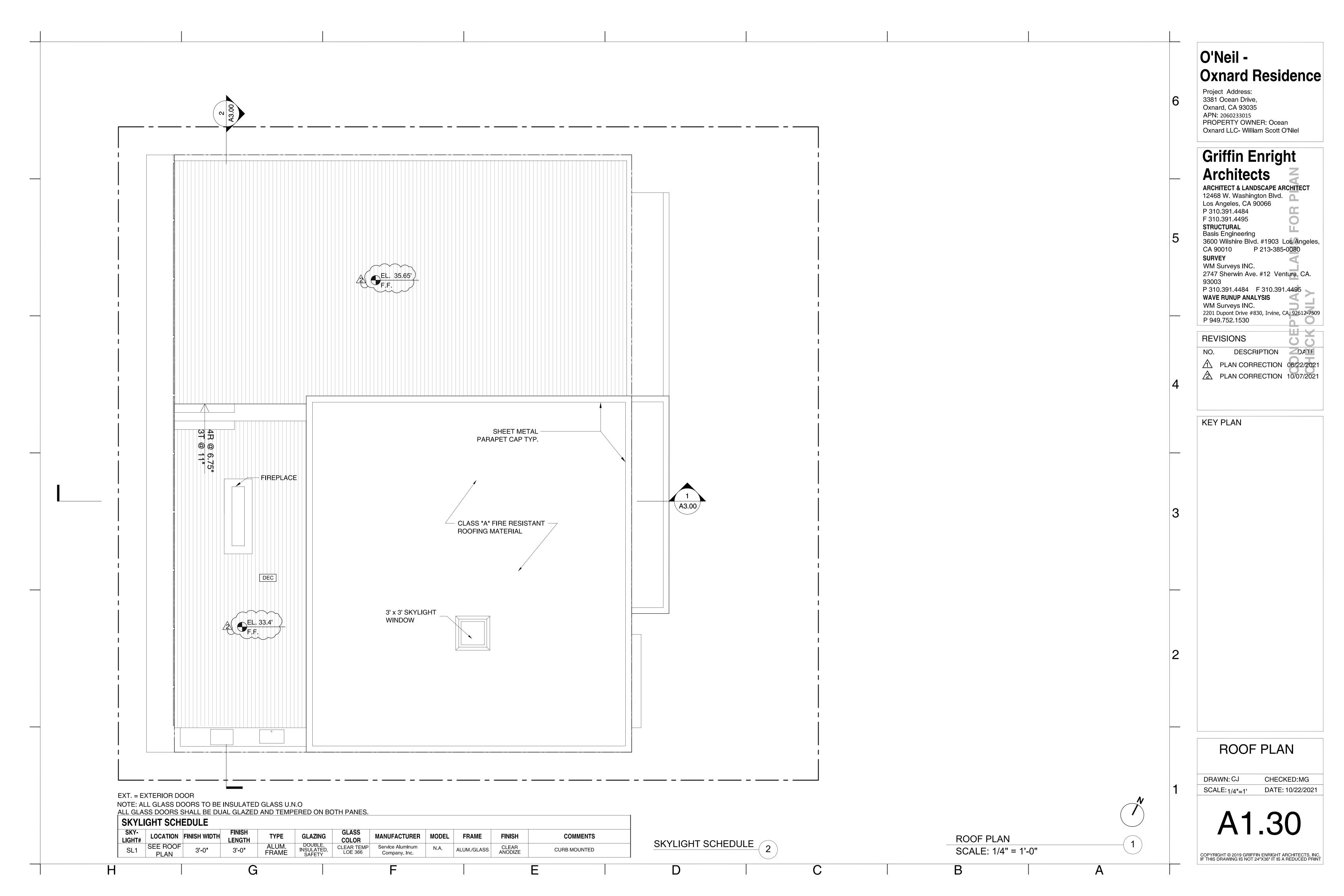
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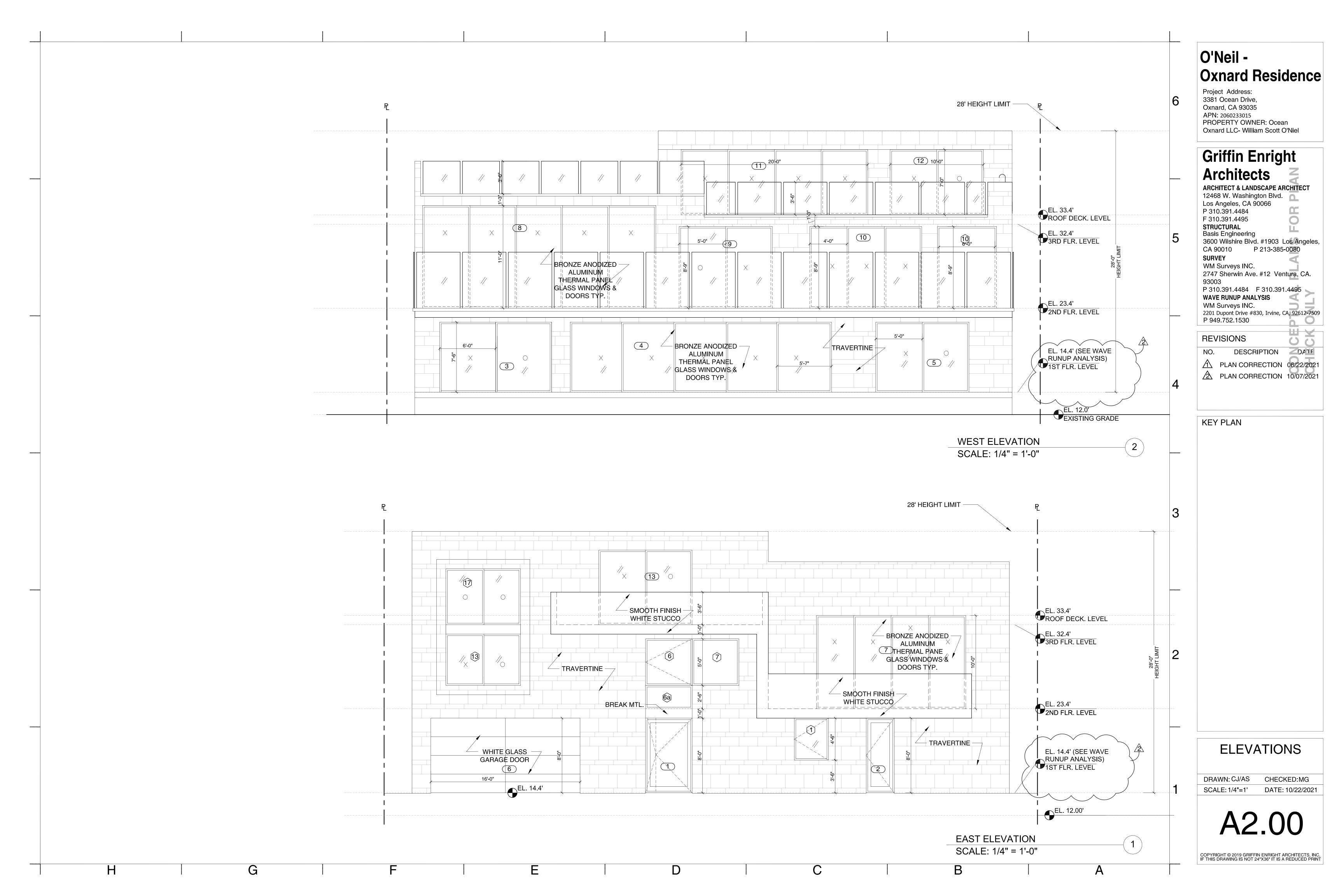
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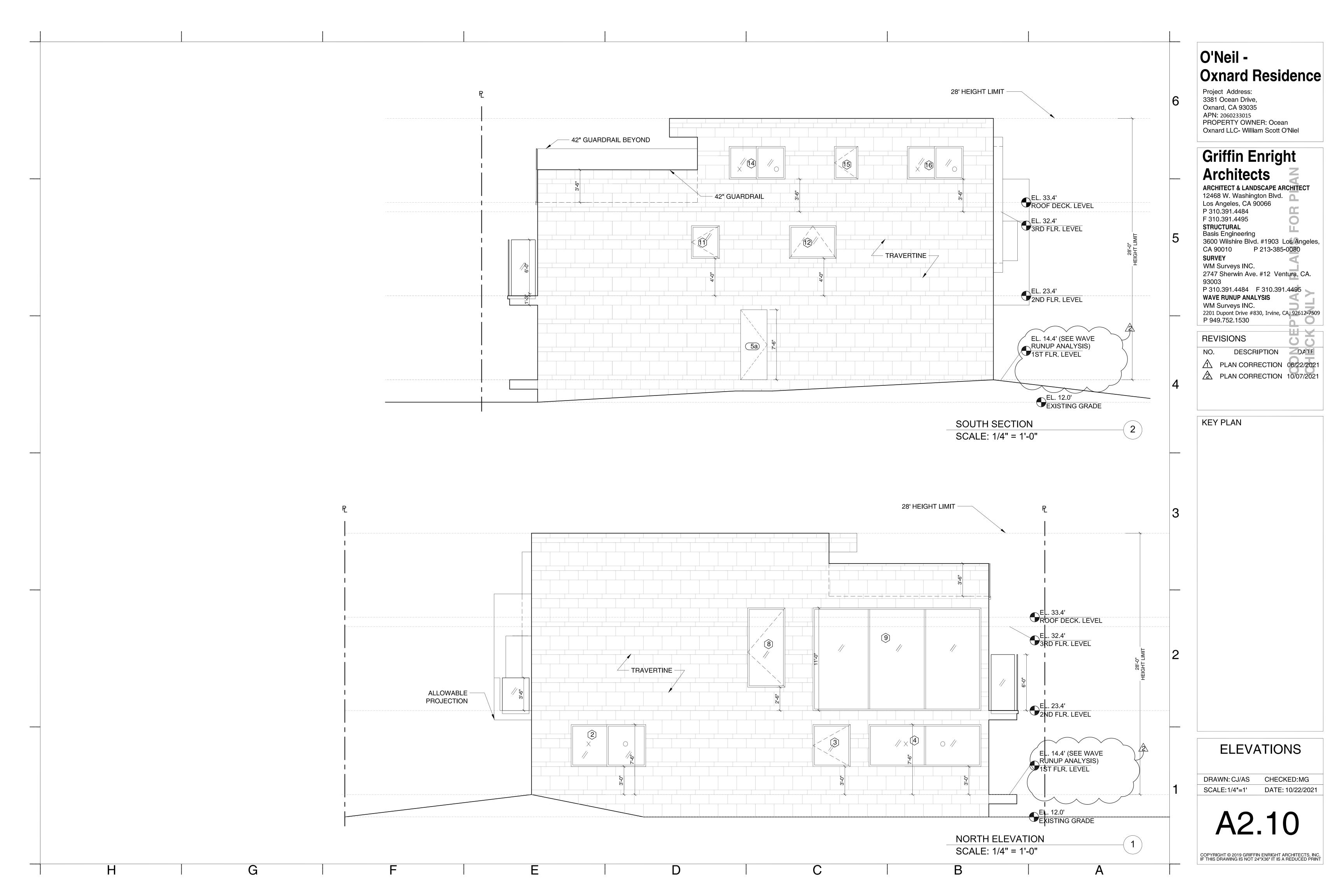
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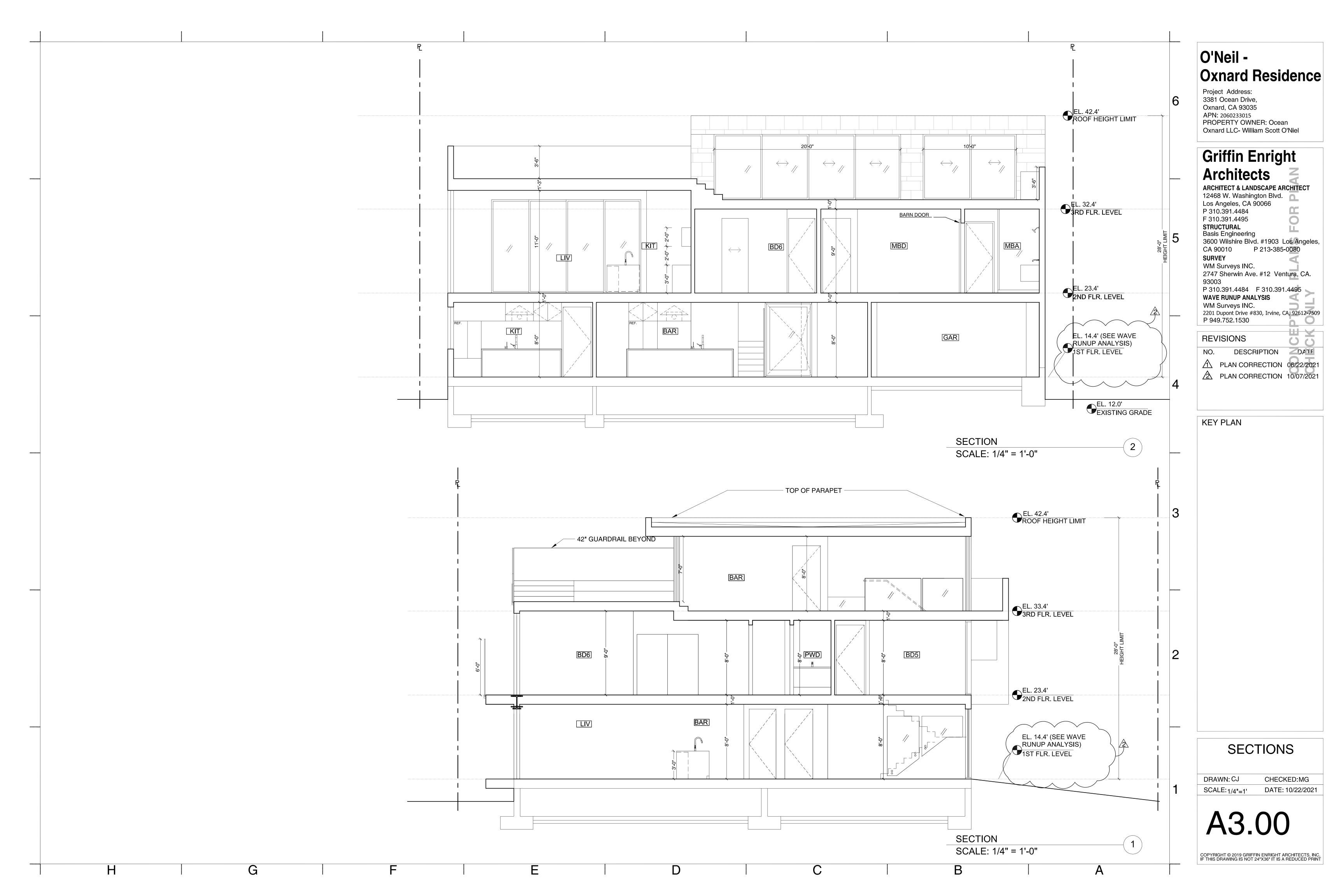
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Date of Approval: TBD

Location: 3381 Ocean Drive, Hollywood Beach
Page 1 of 22

## CONDITIONS OF APPROVAL FOR COASTAL PD PERMIT CASE NO. PL21-0042 OCEAN OXNARD, LLC

## **RESOURCE MANAGEMENT AGENCY (RMA)**

#### **Planning Division Conditions**

#### 1. Project Description

This Coastal Planned Development Permit is based on and limited to compliance with the project description stated in this condition below, Exhibits 3,Plans, 5,Wave Runup with Sea Level Rise Analysis (Nobel Consultants-G.E.C., Inc., June 2021), 6,Soils Engineering Investigation (Heathcote Geotechnical, February 2021), of the Planning Director hearing on December 23, 2021, and conditions of approval set forth below. Together, these conditions and documents describe the "Project." Any deviations from the Project must first be reviewed and approved by the County in order to determine if the Project deviations conform to the Project as approved. Project deviations may require Planning Director approval for changes to the permit or further California Environmental Quality Act (CEQA) environmental review, or both. Any Project deviation that is implemented without requisite County review and approval(s) may constitute a violation of the conditions of this permit and applicable law.

The Project description is as follows:

The Project is a Coastal Planned Development (PD) Permit to authorize the demolition of an existing two-story, 5,272 square foot (sq. ft.), single-family dwelling with a 453 sq. ft. attached garage and the construction of a new three-story 6,902 sq. ft. single-family dwelling and an 857 sq. ft. attached garage. The project includes a 1,790 sq. ft. third floor deck. The single-family dwelling will have a height of 28 feet, as measured from the from the flood control datum established by the Public Works Agency. The project includes a 711.6 sq. ft. attached accessory dwelling unit (included in the 6,902 gross floor area of the principal dwelling). The ADU is accessed from Ocean Drive via a separate entrance from the principal dwelling and does not contain internal access. Site improvements also include the installation of 1,472 sq. ft. of new landscaping improvements.

Access to the project site is provided by a new private driveway which connects to Ocean Drive. Water and wastewater services will be provided by the Channel Islands Beach Community Services District.

The grading, development, use, and maintenance of the property, the size, shape, arrangement, and location of structures, parking areas and landscape areas shall conform to the project description above and all approved County land use hearing exhibits in support of the Project and conditions of approval below.

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Case No. PL21-0042
Exhibit 4 - Conditions of Approval

## 2. Required Improvements for Coastal PD

**Purpose:** To ensure the project site conforms to the plans approved at the Planning Director hearing in support of the project.

**Requirement:** The Permittee shall ensure that all required off-site and on-site improvements for the Project, including structures, paving, parking, and landscaping are completed in conformance with the approved plans stamped as hearing exhibit 3. The Permittee shall prepare and submit all final building and site plans for the County's review and approval in accordance with the approved plans.

**Documentation:** The Permittee shall obtain Planning Division staff's stamped approval on the project plans and submit them to the County for inclusion in the Project file. The Permittee shall submit additional plans to the Planning Division for review and stamped approval (e.g., tree protection and landscape plans) for inclusion in the Project file, as necessary.

**Timing:** Prior to the issuance of a Zoning Clearance for construction the Permittee shall submit all final development plans to the Planning Division for review and approval. Unless the Planning Director and/or Public Works Agency Director allow the Permittee to provide financial security and a final executed agreement, approved as to form by the County Counsel, that ensures completion of such improvements, the Permittee shall complete all required improvements prior to occupancy. The Permittee shall maintain the required improvements for the life of the Project.

**Monitoring and Reporting:** The County Building Inspector, Public Works Agency Grading Inspector, Fire Marshall, and/or Planning Division staff has the authority to conduct periodic site inspections to ensure the Permittee's ongoing compliance with this condition consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance.

#### 3. Site Maintenance

**Purpose:** To ensure that the Project site is maintained in a neat and orderly manner so as not to create any hazardous conditions or unsightly conditions which are visible from outside of the Project site.

**Requirement:** The Permittee shall maintain the Project site in a neat and orderly manner, and in compliance with the Project description set forth in Condition No. 1. Only equipment and/or materials which the Planning Director determines to substantially comply with the Project description shall be stored within the Project site during the life of the Project.

**Documentation:** The Permittee shall maintain the Project site in compliance with Condition No. 1 and the approved plans for the Project.

**Timing:** The Permittee shall maintain the Project site in a neat and orderly manner and in compliance with Condition No. 1 throughout the life of the Project.

**Monitoring and Reporting:** The County Building Inspector, Public Works Agency Grading Inspector, Fire Marshall, and/or Planning Division staff has the authority to conduct periodic site inspections to ensure the Permittee's ongoing compliance with this condition consistent with the requirements of §8183-5 of the Ventura County Coastal Zoning Ordinance.

#### 4. Coastal PD Modification

Prior to undertaking any operational or construction-related activity which is not expressly described in these conditions, the Permittee shall first contact the Planning Director to determine if the proposed activity requires a modification of this Coastal PD. The Planning Director may, at the Planning Director's sole discretion, require the Permittee to file a written and/or mapped description of the proposed activity in order to determine if a Coastal PD modification is required. If a Coastal PD modification is required, the modification shall be subject to:

- The modification approval standards of the Ventura County Ordinance Code in effect at the time the modification application is acted on by the Planning Director; and
- b. Environmental review, as required pursuant to the California Environmental Quality Act (CEQA; California Public Resources Code, §§ 21000-21178) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, §§ 15000-15387), as amended from time to time.

#### 5. Construction Activities

Prior to any construction, the Permittee shall obtain a Zoning Clearance for construction from the Planning Division, and a Building Permit from the Building and Safety Division. Prior to any grading, the Permittee shall obtain a Grading Permit from the Public Works Agency.

## 6. Acceptance of Conditions and Schedule of Enforcement Responses

The Permittee's acceptance of this Coastal PD Permit and/or commencement of construction and/or operations under this Coastal PD Permit shall constitute the Permittee's formal agreement to comply with all conditions of this Coastal PD Permit. Failure to abide by and comply with any condition of this Coastal PD Permit shall constitute grounds for enforcement action provided in the Ventura County Coastal Zoning Ordinance (Article 13), which shall include, but is not limited to, the following:

- a. Public reporting of violations to the Planning Commission and/or Board of Supervisors;
- b. Suspension of the permitted land uses (Condition No. 1):
- c. Modification of the Coastal PD Permit conditions listed herein;
- d. Recordation of a "Notice of Noncompliance" on the deed to the subject property;

- e. The imposition of civil administrative penalties; and/or
- f. Revocation of this Coastal PD Permit.

The Permittee is responsible for being aware of and complying with the Coastal PD Permit conditions and all applicable federal, state, and local laws and regulations.

## 7. <u>Time Limits</u>

Use inauguration:

- (1) The approval decision for this Coastal PD Permit becomes effective upon the expiration of the 10 day appeal period following the approval decision, or when any appeals of the decision are finally resolved. Once the approval decision becomes effective, the Permittee must obtain a Zoning Clearance for construction in order to initiate the land uses set forth in Condition No. 1.
- (2) This Coastal PD Permit shall expire and become null and void if the Permittee fails to obtain a Zoning Clearance for construction within one year from the date the approval decision of this Coastal PD becomes effective. The Planning Director may grant a one year extension of time to the Permittee in order to obtain the Zoning Clearance for construction if the Permittee can demonstrate to the satisfaction of the Planning Director that the Permittee has made a diligent effort to implement the Project, and the Permittee has requested the time extension in writing at least 30 days prior to the one year expiration date.
- (3) Prior to the issuance of the Zoning Clearance for construction, all fees and charges billed to that date by any County agency, as well as any fines, penalties, and sureties, must be paid in full. After issuance of the Zoning Clearance for construction, any final billed processing fees must be paid within 30 days of the billing date or the County may revoke this Coastal PD Permit.

## 8. <u>Documentation Verifying Compliance with Other Agencies' Requirements Related</u> to this Coastal PD Permit

**Purpose:** To ensure compliance with, and notification of, federal, state, and/or local government regulatory agencies that have requirements that pertain to the Project (Condition No. 1, above) that is the subject of this Coastal PD Permit.

**Requirement:** Upon the request of the Planning Director, the Permittee shall provide the Planning Division with documentation (e.g., copies of permits or agreements from other agencies, which are required pursuant to a condition of this Coastal PD Permit) to verify that the Permittee has obtained or satisfied all applicable federal, state, and local entitlements and conditions that pertain to the Project.

**Documentation:** The Permittee shall provide this documentation to Planning Division staff in the form that is acceptable to the agency issuing the entitlement or clearance, to be included in the Planning Division Project file.

**Timing:** The documentation shall be submitted to the Planning Division prior to the issuance of the Zoning Clearance for construction.

**Monitoring and Reporting:** The Planning Division maintains the documentation provided by the Permittee in the respective Project file. In the event that the federal, state, or local government regulatory agency prepares new documentation due to changes in the Project or the other agency's requirements, the Permittee shall submit the new documentation within 30 days of receipt of the documentation from the other agency.

# 9. Notice of Coastal PD Permit Requirements and Retention of Coastal PD Permit Conditions On Site

**Purpose:** To ensure full and proper notice of these Coastal PD Permit conditions affecting the use of the subject property.

**Requirement:** Unless otherwise required by the Planning Director, the Permittee shall notify, in writing, the Property Owner(s) of record, contractors, and all other parties and vendors who regularly conduct activities associated with the Project, of the pertinent conditions of this Coastal PD Permit.

**Documentation:** The Permittee shall maintain a current set of Coastal PD Permit conditions and exhibits at the project site.

**Timing:** Prior to issuance of a Zoning Clearance for construction and throughout the life of the Project.

**Monitoring and Reporting:** The Planning Division has the authority to conduct periodic site inspections to ensure ongoing compliance with this condition consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance.

#### 10. Recorded Notice of Land Use Entitlement

**Purpose:** The Permittee shall record a "Notice of Land Use Entitlement" form and the conditions of this Coastal PD Permit with the deed for the subject property that notifies the current and future Property Owner(s) of the conditions of this Coastal PD Permit.

**Requirement:** The Permittee shall sign, have notarized, and record with the Office of the County Recorder, a "Notice of Land Use Entitlement" form furnished by the Planning Division and the conditions of this Coastal PD Permit, with the deed of the property that is subject to this Coastal PD Permit.

**Documentation:** Recorded "Notice of Land Use Entitlement" form and conditions of this Coastal PD Permit.

**Timing:** The Permittee shall record the "Notice of Land use Entitlement" form and conditions of this Coastal PD Permit, prior to Zoning Clearance for construction.

**Monitoring and Reporting:** The Permittee shall return a copy of the recorded "Notice of Land Use Entitlement" form and conditions of this Coastal PD Permit to Planning Division staff to be included in the Project file.

#### 11. Financial Responsibility for Compliance Monitoring and Enforcement

- a. Cost Responsibilities: The Permittee shall bear the full costs of all County staff time, materials, and County-retained consultants associated with condition compliance review and monitoring, CEQA mitigation monitoring, other permit monitoring programs, and enforcement activities, actions, and processes conducted pursuant to the Ventura County Coastal Zoning Ordinance (§ 8183-5) related to this Coastal PD Permit. Such condition compliance review, monitoring and enforcement activities may include (but are not limited to): periodic site inspections; preparation, review, and approval of studies and reports; review of permit conditions and related records; enforcement hearings and processes; drafting and implementing compliance agreements; and attending to the modification, suspension, or revocation of permits. Costs will be billed at the rates set forth in the Planning Division or other applicable County Fee Schedule, and at the contract rates of County-retained consultants, in effect at the time the costs are incurred.
- b. Billing Process: The Permittee shall pay all Planning Division invoices within 30 days of receipt thereof. Failure to timely pay an invoice shall subject the Permittee to late fees and charges set forth in the Planning Division Fee Schedule, and shall be grounds for suspension, modification, or revocation of this Coastal PD Permit. The Permittee shall have the right to challenge any charge or penalty prior to payment.

#### 12. Defense and Indemnification

- a. The Permittee shall defend, at the Permittee's sole expense with legal counsel acceptable to the County, against any and all claims, actions, or proceedings against the County, any other public agency with a governing body consisting of the members of the County Board of Supervisors, or any of their respective board members, officials, employees and agents (collectively, "Indemnified Parties") arising out of or in any way related to the County's issuance, administration, or enforcement of this Coastal PD Permit. The County shall promptly notify the Permittee of any such claim, action or proceeding and shall cooperate fully in the defense.
- The Permittee shall also indemnify and hold harmless the Indemnified Parties from and against any and all losses, damages, awards, fines, expenses, penalties, judgments, settlements, or liabilities of whatever nature, including but not limited

to court costs and attorney fees (collectively, "Liabilities"), arising out of or in any way related to any claim, action or proceeding subject to subpart (a) above, regardless of how a court apportions any such Liabilities as between the Permittee, the County, and/or third parties.

- c. Except with respect to claims, actions, proceedings, and Liabilities resulting from an Indemnified Party's sole active negligence or intentional misconduct, the Permittee shall also indemnify, defend (at Permittee's sole expense with legal counsel acceptable to County), and hold harmless the Indemnified Parties from and against any and all claims, actions, proceedings, and Liabilities arising out of, or in any way related to, the construction, maintenance, land use, or operations conducted pursuant to this Coastal PD Permit, regardless of how a court apportions any such Liabilities as between the Permittee, the County, and/or third parties. The County shall promptly notify the Permittee of any such claim, action, or proceeding and shall cooperate fully in the defense.
- d. Neither the issuance of this Coastal PD Permit, nor compliance with the conditions hereof, shall relieve the Permittee from any responsibility otherwise imposed by law for damage to persons or property; nor shall the issuance of this Coastal PD Permit serve to impose any liability upon the Indemnified Parties for injury or damage to persons or property.

#### 13. Invalidation of Condition(s)

If any of the conditions or limitations of this Coastal PD Permit are held to be invalid in whole or in part by a court of competent jurisdiction, that holding shall not invalidate any of the remaining Coastal PD Permit conditions or limitations. In the event that any condition imposing a fee, exaction, dedication, or other mitigation measure is challenged by the Permittee in an action filed in a court of competent jurisdiction, or threatened to be filed therein, the Permittee shall be required to fully comply with this Coastal PD Permit, including without limitation, by remitting the fee, exaction, dedication, and/or by otherwise performing all mitigation measures being challenged. This Coastal PD Permit shall continue in full force unless, until, and only to the extent invalidated by a final, binding judgment issued in such action.

If a court of competent jurisdiction invalidates any condition in whole or in part, and the invalidation would change the findings and/or the mitigation measures associated with the approval of this Coastal PD Permit, at the discretion of the Planning Director, the Planning Director may review the project and impose substitute feasible conditions/mitigation measures to adequately address the subject matter of the invalidated condition. The Planning Director shall make the determination of adequacy. If the Planning Director cannot identify substitute feasible conditions/mitigation measures to replace the invalidated condition and cannot identify overriding considerations for the significant impacts that are not mitigated to a level of insignificance as a result of the invalidation of the condition, then this Coastal PD Permit may be revoked.

## 14. Consultant Review of Information and Consultant Work

The County and all other County permitting agencies for the Project have the option of referring any and all special studies that these conditions require to an independent and qualified consultant for review and evaluation of issues beyond the expertise or resources of County staff.

Prior to the County engaging any independent consultants or contractors pursuant to the conditions of this Coastal PD Permit, the County shall confer in writing with the Permittee regarding the necessary work to be contracted, as well as the estimated costs of such work. Whenever feasible, the County will use the lowest responsible bidder or proposer. Any decisions made by County staff in reliance on consultant or contractor work may be appealed pursuant to the appeal procedures contained in the Ventura County Zoning Ordinance Code then in effect.

The Permittee may hire private consultants to conduct work required by the County, but only if the consultant and the consultant's proposed scope-of-work are first reviewed and approved by the County. The County retains the right to hire its own consultants to evaluate any work that the Permittee or a contractor of the Permittee undertakes. In accordance with Condition No. 14 above, if the County hires a consultant to review any work undertaken by the Permittee or hires a consultant to review the work undertaken by a contractor of the Permittee, the hiring of the consultant will be at the Permittee's expense.

#### 15. Relationship of Coastal PD Permit Conditions, Laws, and Other Entitlements

The Permittee shall implement the Project in compliance with all applicable requirements and enactments of federal, state, and local authorities. In the event of conflict between various requirements, the more restrictive requirements shall apply. In the event the Planning Director determines that any Coastal PD Permit condition contained herein is in conflict with any other Coastal PD Permit condition contained herein, when principles of law do not provide to the contrary, the Coastal PD Permit condition most protective of public health and safety and environmental resources shall prevail to the extent feasible.

No condition of this Coastal PD Permit for uses allowed by the Ventura County Ordinance Code shall be interpreted as permitting or requiring any violation of law, lawful rules, or regulations, or orders of an authorized governmental agency. Neither the approval of this Coastal PD Permit, nor compliance with the conditions of this Coastal PD Permit, shall relieve the Permittee from any responsibility otherwise imposed by law for damage to persons or property.

## 16. Contact Person

**Purpose:** To designate a person responsible for responding to complaints.

**Requirement:** The Permittee shall designate a contact person(s) to respond to complaints from citizens and the County which are related to the permitted uses of this Coastal PD Permit.

**Documentation:** The Permittee shall provide the Planning Director with the contact information (e.g., name and/or position title, address, business and cell phone numbers, and email addresses) of the Permittee's field agent who receives all orders, notices, and communications regarding matters of condition and code compliance at the Project site.

**Timing:** Prior to the issuance of a Zoning Clearance for construction, the Permittee shall provide the Planning Division the contact information of the Permittee's field agent(s) for the Project file. If the address or phone number of the Permittee's field agent(s) should change, or the responsibility is assigned to another person, the Permittee shall provide Planning Division staff with the new information in writing within three calendar days of the change in the Permittee's field agent.

**Monitoring and Reporting:** The Planning Division maintains the contact information provided by the Permittee in the Project file. The Planning Division has the authority to periodically confirm the contact information consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance.

## 17. Change of Permittee

**Purpose:** To ensure that the Planning Division is properly and promptly notified of any change of Permittee.

**Requirement:** The Permittee shall file, as an initial notice with the Planning Director, the new name(s), address(es), telephone/FAX number(s), and email addresses of the new owner(s), lessee(s), operator(s) of the permitted uses, and the company officer(s). The Permittee shall provide the Planning Director with a final notice once the transfer of ownership and/or operational control has occurred.

**Documentation:** The initial notice must be submitted with the new Permittee's contact information. The final notice of transfer must include the effective date and time of the transfer and a letter signed by the new Property Owner(s), lessee(s), and/or operator(s) of the permitted uses acknowledging and agreeing to comply with all conditions of this Coastal PD Permit.

**Timing:** The Permittee shall provide written notice to the Planning Director 10 calendar days prior to the change of ownership or change of Permittee. The Permittee shall provide the final notice to the Planning Director within 15 calendar days of the effective date of the transfer.

**Monitoring and Reporting:** The Planning Division maintains notices submitted by the Permittee in the Project file and has the authority to periodically confirm the information consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance].

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## 18. Plans Conforming to Coastal Engineer's Recommendations

**Purpose:** To demonstrate that permitted buildings and structures comply with the recommendations in the Wave Runup with Sea Level Rise Analysis for 3381 Ocean Drive, Ventura County, CA (Noble Consultants-G.E.C., Inc., June 21, 2021).

**Requirement:** The final plans for the permitted development shall be in substantial conformance with the recommendations contained in the Wave Runup with Sea Level Rise Analysis for 3381 Ocean Drive, Ventura County, CA (Noble Consultants-G.E.C., Inc., June 21, 2021), relative to foundation, construction, grading, drainage, and height of the structure. The plans and specifications shall note the design flood elevation and height of the single-family dwelling and all other permitted structures.

**Documentation:** A copy of building plans and specifications and Wave Runup with Sea Level Rise Analysis for 3381 Ocean Drive, Ventura County, CA (Noble Consultants-G.E.C., Inc., June 21, 2021), for the permitted development that comply with all of the requirements set forth above.

**Timing:** Prior to issuance of a Zoning Clearance for construction, the Permittee shall submit a copy of the plans, specifications and reports to the Planning Division for review and approval. The Permittee shall maintain the County-approved building plans and specifications throughout the life of this Coastal PD.

**Monitoring and Reporting:** Prior to occupancy, the Planning Division has the authority to inspect the site to ensure that permitted development was constructed as approved. The Planning Division has the authority to conduct site inspections to ensure ongoing compliance by the Permittee with this condition consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning.

#### 19. Paleontological Resources Discovered During Grading

**Purpose:** In order to mitigate potential impacts to paleontological resources that may be encountered during ground disturbance or construction activities.

**Requirement:** If any paleontological remains are uncovered during ground disturbance or construction activities, the Permittee shall:

- a. Cease operations and assure the preservation of the area in which the discovery was made:
- b. Notify the Planning Director in writing, within three days of the discovery;
- c. Obtain the services of a paleontological consultant or professional geologist who shall assess the find and provide a report that assesses the resources and sets forth recommendations on the proper disposition of the site;

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d. Obtain the Planning Director's written concurrence with the recommended disposition of the site before resuming development; and

e. Implement the agreed upon recommendations.

**Documentation:** The Permittee shall submit the paleontologist's or geologist's reports. Additional documentation may be required to demonstrate that the Permittee has implemented the recommendations set forth in the paleontological report.

**Timing:** If any paleontological remains are uncovered during ground disturbance or construction activities, the Permittee shall provide the written notification to the Planning Director within three days of the discovery. The Permittee shall submit the paleontological report to the Planning Division immediately upon completion of the report.

Monitoring and Reporting: The Permittee shall provide the paleontological report to the Planning Division to be made part of the Project file. The Permittee shall implement any recommendations made in the paleontological report to the satisfaction of the Planning Director. The paleontologist shall monitor all ground disturbance activities within the area in which the discovery was made, in order to ensure the successful implementation of the recommendations made in the paleontological report. The Planning Division has the authority to conduct site inspections to ensure that the Permittee implements the recommendations set forth in the paleontological report, consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance.

#### 20. Archaeological Resources Discovered During Grading

**Purpose:** In order to mitigate potential impacts to archaeological resources discovered during ground disturbance.

**Requirement:** The Permittee shall implement the following procedures:

- a. If any archaeological or historical artifacts are uncovered during ground disturbance or construction activities, the Permittee shall:
  - (1) Cease operations and assure the preservation of the area in which the discovery was made;
  - (2) Notify the Planning Director in writing, within three days of the discovery;
  - (3) Obtain the services of a County-approved archaeologist who shall assess the find and provide recommendations on the proper disposition of the site in a written report format;
  - (4) Obtain the Planning Director's written concurrence of the recommended disposition of the site before resuming development; and

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- (5) Implement the agreed upon recommendations.
- b. If any human burial remains are encountered during ground disturbance or construction activities, the Permittee shall:
  - (1) Cease operations and assure the preservation of the area in which the discovery was made;
  - (2) Immediately notify the County Coroner and the Planning Director;
  - (3) Obtain the services of a County-approved archaeologist and, if necessary, Native American Monitor(s), who shall assess the find and provide recommendations on the proper disposition of the site in a written report format;
  - (4) Obtain the Planning Director's written concurrence of the recommended disposition of the site before resuming development on-site; and
  - (5) Implement the agreed upon recommendations.

**Documentation:** If archaeological remains are encountered, the Permittee shall submit a report prepared by a County-approved archaeologist including recommendations for the proper disposition of the site. Additional documentation may be required to demonstrate that the Permittee has implemented any recommendations made by the archaeologist's report.

**Timing:** If any archaeological remains are uncovered during ground disturbance or construction activities, the Permittee shall provide the written notification to the Planning Director within three days of the discovery. The Permittee shall submit the archaeological report to the Planning Division immediately upon completion of the report.

Monitoring and Reporting: The Permittee shall provide the archaeological report to the Planning Division to be made part of the Project file. The Permittee shall implement any recommendations made in the archaeological report to the satisfaction of the Planning Director. The archaeologist shall monitor all ground disturbance activities within the area in which the discovery was made, in order to ensure the successful implementation of the recommendations made in the archaeological report. The Planning Division has the authority to conduct site inspections to ensure that the Permittee implements the recommendations set forth in the archaeological report, consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance.

#### 21. Construction Noise

**Purpose:** In order for this project to comply with the Ventura County General Plan Goals, Policies and Programs Hazards Policy HAZ-9.2 and the County of Ventura Construction Noise Threshold Criteria and Control Plan (Amended 2010).

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**Requirement:** The Permittee shall limit construction activity for site preparation and development to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and from 9:00 a.m. to 7:00 p.m. Saturday, Sunday, and State holidays. Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities such as interior painting are not subject to these restrictions.

**Documentation:** The Permittee shall post a sign stating these restrictions in a conspicuous location on the Project site, in order so that the sign is visible to the general public. The Permittee shall provide photo documentation showing posting of the required signage to the Planning Division, prior to the commencement of grading and construction activities. The sign must provide a telephone number of the site foreman, or other person who controls activities on the jobsite, for use for complaints from the public. The Permittee shall maintain a "Complaint Log," noting the date, time, complainant's name, complaint, and any corrective action taken, in the event that the Permittee receives noise complaints. The Permittee must submit the "Complaint Log" to the Planning Division upon the Planning Director's request.

**Timing:** The Permittee shall install the sign prior to the issuance of a building permit and throughout all grading and construction activities. The Permittee shall maintain the signage on-site until all grading and construction activities are complete. If the Planning Director requests the Permittee to submit the "Complaint Log" to the Planning Division, the Permittee shall submit the "Complaint Log" within one day of receiving the Planning Director's request.

**Monitoring and Reporting:** The Planning Division reviews, and maintains in the Project file, the photo documentation of the sign and the "Complaint Log." The Planning Division has the authority to conduct site inspections and take enforcement actions to ensure that the Permittee conducts grading and construction activities in compliance with this condition, consistent with the requirements of § 8183-5 of the Ventura County Coastal Zoning Ordinance.

## 22. Landscaping

**Purpose:** To comply with the County's landscaping requirements.

**Requirement:** The Permittee shall retain a landscape architect to prepare a landscape plan that complies with the requirements of this condition and the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

Landscaping Objectives: The Permittee must install and maintain landscaping serves the following functions:

a. Provides visual relief and visual integration. The Permittee must install landscaping that softens the building edges, breaks up the expanses of building facades or walls, blends structures with the surrounding residential development.

b. Ensures compatibility with community character. The Permittee must install landscaping that visually integrates the development with the character of the surrounding community.

c. Compliance with the California Department of Water Resources MWELO. The Permittee must install landscaping that complies with the requirements of the California Department of Water Resources' Model Water Efficient Landscape Ordinance, which is available on-line at: <a href="http://www.water.ca.gov/wateruseefficiency/landscapeordinance/">http://www.water.ca.gov/wateruseefficiency/landscapeordinance/</a>.

Landscaping Design: The Permittee shall design the required landscaping such that the landscaping requires minimal amounts of water and uses required water efficiently, in accordance with the water efficiency requirements of the California Department of Water Resources Model Water Efficient Landscape Ordinance, and must achieve the following design objectives:

- a. Use Available Non-potable Sources of Water. The landscaping must involve the harvesting and/or use of alternative, non-potable sources of water, including stormwater, reclaimed water, and gray water, if available to the Project site.
- b. Protection of Solar Access. The Permittee must design the landscaping to avoid the introduction of vegetation that would now or in the future cast substantial shadow on existing solar collectors or photovoltaic cells or impair the function of a nearby building using passive solar heat collection.
- c. Protection of Existing Vegetation. Existing vegetation, especially trees, must be saved and integrated into landscape design wherever feasible, appropriate, or required by other regulations (e.g., the Tree Protection Ordinance).
- d. Use Non-Invasive Plant Species.

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**Documentation:** The Permittee shall submit three sets of a draft landscape plan to the Planning Division for review and approval. A California registered landscape architect (or other qualified individual as approved by the Planning Director) shall prepare the landscape plan, demonstrating compliance with the requirements set forth in this condition (above), § 8178-8 of the Coastal Zoning Ordinance, and the State MWELO. The landscape architect responsible for the work shall stamp the plan. After landscape installation, the Permittee shall submit to Planning Division staff a statement from the project landscape architect that the Permittee installed all landscaping as shown on the approved landscape plan. Prior to installation of the landscaping, the Permittee must obtain the Planning Director's approval of any changes to the landscape plans that affect the character or quantity of the plant material or irrigation system design.

**Timing:** The Permittee shall submit the landscape plan to the Planning Division for review and approval prior to issuance of a Zoning Clearance for construction.

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Landscaping installation shall be completed prior to Certificate of Occupancy and maintenance activities shall occur for the life of the permit.

**Monitoring and Reporting:** Landscaping approval/installation verification, monitoring activities, and enforcement activities shall occur according to the procedures set forth in § 8183-5 or the Coastal Zoning Ordinance. The Planning Division maintains the landscape plans and statement by the landscape architect in the Project file and has the authority to conduct site inspections to ensure that the Permittee installs and maintains the landscaping in accordance with the approved plan consistent with the requirements of § 8183-5 or the Coastal Zoning Ordinance.

## **PUBLIC WORKS AGENCY (PWA)**

## **Integrated Waste Management Division (IWMD) Conditions**

## 23. Construction & Demolition Debris Recycling Plan (Form B)

**Purpose:** Ordinance 4421 requires the Permittee to divert recyclable construction and demolition (C&D) materials generated by the Project (e.g., wood, metal, greenwaste, soil, concrete, asphalt, paper, cardboard, etc.) from local landfills through recycling, reuse, or salvage. Review Ordinance 4421 at:

http://onestop.vcpublicworks.org/integrated-waste-management-laws-ordinances.

**Requirement:** The Permittee must submit a comprehensive recycling plan (Form B – Recycling Plan) to the Integrated Waste Management (IWMD) for any proposed construction and/or demolition projects that require a building permit.

**Documentation:** The Form B – Recycling Plan must ensure a minimum of 65 percent of the recyclable C&D debris generated by the Project will be diverted from the landfill by recycling, reuse. or salvage. copy available at: http://onestop.vcpublicworks.org/integrated-waste-management-forms. comprehensive list of permitted recyclers, County franchised haulers, and solid waste & recycling facilities Ventura County available in is at: https://www.vcpublicworks.org/wsd/iwmd/construction/#solid-waste-collecters. A list of local facilities permitted to recycle soil, wood, and greenwaste is available at: https://www.vcpublicworks.org/wsd/iwmd/businessrecycling/#GreenWasteProcessing

**Timing:** Upon Building & Safety's issuance of a building permit for the Project, the Permittee must submit a Form B – Recycling Plan to the IWMD for approval.

**Monitoring & Reporting:** The Permittee is required to keep a copy of their approved Form B – Recycling Plan until Building and Safety Division's issuance of final permit.

#### 24. Construction & Demolition Debris Reporting Form (Form C)

**Purpose:** Ordinance 4421 requires the Permittee to divert recyclable construction and demolition (C&D) materials generated by their Project (e.g., wood, metal, greenwaste,

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soil, concrete, paper, cardboard, plastic containers, etc.) from local landfills through recycling, reuse, or salvage. Please review Ordinance 4421 at:

http://onestop.vcpublicworks.org/integrated-waste-management-laws-ordinances.

**Requirement:** The Permittee must submit a Form C – Reporting Form to the IWMD for approval prior to issuance of their final Building and Safety Division permit. Form C is available at <a href="http://onestop.vcpublicworks.org/integrated-waste-management-forms">http://onestop.vcpublicworks.org/integrated-waste-management-forms</a>

**Documentation:** The Permittee must submit original recycling facility receipts and/or documentation of reuse with their Form C – Reporting Form to verify a minimum of 65% of the recyclable C&D debris generated by their Project was diverted from the landfill.

**Timing:** A completed Form C – Reporting Form, with required recycling facility receipts and/or documentation or reuse, must be submitted to the IWMD for approval prior to Building and Safety Division's issuance of a certificate of occupancy.

**Monitoring & Reporting:** The Permittee is required to keep a copy of their approved Form C – Reporting Form until Building and Safety Division's issuance of final permit.

## **Transportation Department Conditions**

#### 25. Road Improvements

**Purpose:** Road improvements shall be required when the existing road does not meet the current applicable County Road Standard Plate.

**Requirement:** Road improvements are required in accordance with the County Road Standards, 2040 General Plan CMT-2.18; Ordinance 1607 dated November 10, 1964; and Code of Ordinances Division 8, Chapter 4 – Urban Area Development. Ocean Drive has and existing right-of-way width of 40 feet.

- a. The applicant/permittee shall submit road improvement plans for improvements along the parcel's frontage for min. 4 ft-wide sidewalks in accordance with Road Standard Plate B-5 [A] (Sidewalk width reduced, but next to existing rolled curb), E-1, E-2, E-3 (Min. 6" thick at driveways, otherwise min. 4" and Surface Access to Underground Facilities) or as modified by the VCPWA-RT Permit Engineer, prepared by a Registered Civil Engineer, to the VCPWA-RT Permits Section for review and approval;
- b. The applicant/permittee shall obtain an Encroachment Permit (EP) from the VCPWA-RT Permits Section. Contact the VCPWA-RT Permits Section, by phone at (805) 654-2055 or by e-mail at pwa.transpermits@ventura.org, for the requirements of the EP. The EP form is available on the internet; and
- c. Construct and complete minimum 4'-wide sidewalks along the parcel's frontage in

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accordance with the approved improvements plans and Road Standard Plate B-5 [A], or as modified by the VCPWA-RT Permit Engineer.

**Documentation:** The VCPWA-RT will review the improvement plans, supporting documentation, and final sign off on the completion of the improvements.

**Timing:** This condition shall be met prior to the issuance of the Certificate of Occupancy.

**Monitoring and Reporting:** The VCPWA-RT will review the improvement plans and the VCPWA-RT Inspectors will monitor construction and verify that the work is performed, and completed, in accordance with the Encroachment Permit.

#### 26. Encroachment Permit

**Purpose:** The current right-of-way width on Ocean Drive is 40 feet wide along the front of this parcel. An Encroachment Permit is required for any work conducted within the County road right-of-way, for example but not limited to, driveways, road improvements, utility installation, planter walls, and landscaping and any construction related storage in the County road right-of-way.

**Requirement:** The applicant/permittee shall contact the Permits Division at (805) 654-2055 for requirements of the permit. An Encroachment Permit (EP) is required for any work and construction related storage conducted within the County right-of-way. Contact the VCPWA-RT Permits Section, by phone at (805) 654-2055 or by e-mail at pwa.transpermits@ventura.org, for the requirements of the EP. The application shall be submitted to the VCPWA-RT.

**Documentation:** The application shall be submitted to the VCPWA-RT. When applying for the permit, the applicant/permittee shall provide sufficient documentation, including, but not limited to, a (1) Resource Management Agency (RMA) Project Number (for discretionary projects), (2) a copy of the Roads & Transportation Conditions of Approval, (3) a sketch or map showing the work to be accomplished, project, project parcel, Assessor Parcel Number (APN), address and street name. Permit applications without sufficient documentation for processing may not be accepted for processing.

**Timing:** This condition shall be met prior to the issuance of the Building Permit and/or Zoning Clearance for Use Inauguration, whichever comes first.

**Monitoring and Reporting:** The VCPWA-RT will review the application and supporting documentation. The VCPWA-RT Inspectors will monitor construction and verify that the work is performed, and completed, in accordance with the Encroachment Permit.

#### 27. Traffic Impact Mitigation Fee

**Purpose:** To address the cumulative adverse impacts of traffic on the Regional Road Network, Ventura County Area Plan Goals and Policies, and Ventura County Ordinance Code, Division 8, Chapter 6 require that the PWATD collect a Traffic Impact Mitigation

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Fee (TIMF).

**Requirement:** The applicant/permittee shall deposit with the PWATD a TIMF. The TIMF is calculated based on the applicant's information. The TIMF may be adjusted for inflation at the time of deposit in accordance with the latest version of the Engineering News Record Construction Cost Index. Based on the applicant's information:

a) The TIMF due to the County of Ventura would be:

 $$480.00 = 1 DU \times $480.00(1) / ADT$ 

b) The TIMF due to the City of Oxnard would be:

\$367.18= DU x \$367.18(2) / ADT

#### Notes:

- 1. County of Ventura TIMF for a Single Family Dwelling Unit in the Oxnard Area District #8.
- 2. The City of Oxnard Reciprocal TIMF for a Single Family Dwelling Unit.
- 3. The TIMF due to the City of Oxnard is to be transferred to the City within 30 calendar days in accordance with the reciprocal traffic mitigation agreement between the City and the County of Ventura.

**Documentation:** The applicant/permittee shall either come to the PWATD counter or contact the PWATD Permits Section by phone at (805) 654-2055 or e-mail at pwa.transpermits@ventura.org, fill out the TIMF form, and pay the TIMF. The applicant/permittee shall provide a copy of the Conditions of Approval for the project. The fee will not be collected without sufficient documentation.

**Timing:** This condition shall be met prior to the issuance of the Building Permit and/or Zoning Clearance for Use Inauguration, whichever comes first.

**Monitoring and Reporting:** The PWATD will review and approve the payment of the TIMF.

#### **Watershed Protection District (WPD) Conditions**

#### Advanced Planning Section

#### 28. Flood Zone Clearance

**Purpose:** To comply with the Ventura County Floodplain Management Ordinance and Ventura County General Plan policies HAZ-2.1 and HAZ-2.3.

**Requirement:** The Permittee shall obtain a Flood Zone Clearance from the Ventura County Public Works Agency Floodplain Manager.

**Documentation:** A Flood Zone Clearance issued by the Public Works Agency Floodplain Manager.

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**Timing:** The Flood Zone Clearance shall be obtained by the Applicant prior to obtaining a building permit.

**Monitoring and Reporting:** A copy of the approved Flood Zone Clearance shall be provided to the Building and Safety Department as well as maintained in the case file by the Public Works Agency.

#### County Stormwater Program Section

#### 29. Compliance with Stormwater Development Construction Program

**Purpose:** To ensure compliance with the Los Angeles Regional Water Quality Control Board NPDES Municipal Stormwater Permit No.CAS004002 (Permit) the proposed project will be subject to the construction requirements for surface water quality and storm water runoff in accordance with Part 4.F., "Development Construction Program" of the Permit.

**Requirement:** The construction of the proposed project shall meet requirements contained in Part 4.F. "Development Construction Program" of the Permit through the inclusion of effective implementation of the Construction BMPs during all ground disturbing activities.

**Documentation:** The Permittee shall submit to the Watershed Protection District – County Stormwater Program Section (CSP) for review and approval a completed and signed SW-1 form (Best Management Practices for Construction Less Than One Acre) which can be found at <a href="http://onestop.vcpublicworks.org/stormwater-forms">http://onestop.vcpublicworks.org/stormwater-forms</a>.

**Timing:** The above listed item shall be submitted to the CSP for review and approval prior to issuance of a Zoning Clearance for Construction.

**Monitoring and Reporting:** CSP will review the submitted materials for consistency with the NPDES Municipal Stormwater Permit. Building Permit Inspectors will conduct inspections during construction to ensure effective installation of the required BMPs.

#### OTHER VENTURA COUNTY AGENCIES

## **Ventura County Air Pollution Control District (APCD) Conditions**

#### 30. Asbestos Containing Material

**Purpose:** To ensure that the Permittee shall remove all asbestos-containing material from a facility being demolished.

**Requirement:** Project demolition activities shall be operated in accordance with the Rules and Regulations of the Ventura County Air Pollution Control District, with emphasis on Rule 62.7, Asbestos – Demolition and Renovation.

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**Documentation:** The Permittee shall ensure compliance with the following provision:

I. The applicant shall submit an AB3205 Form to APCD for approval. In addition, the contractor shall notify APCD 10 business days prior to the abatement commencement, if applicable, by submitting a Notification of Demolition or Renovation Form. Demolition and/or renovation activities shall be conducted in compliance with APCD Rule 62.7, Asbestos – Demolition and Renovation.

**Timing:** Prior to issuance of a demolition permit(s) by Building & Safety or the applicable jurisdiction agency.

**Reporting and Monitoring:** An AB3205 form must be submitted to and approved by APCD. Building & Safety is aware of the District's AB3205 Form and is contained in their Compliance Checklist to submit prior to issuance of a demolition permit. The Notification of Demolition or Renovation Form must be submitted to APCD. Enforcement of notification requirements for both forms and compliance with the APCD Asbestos Rule will be enforced by APCD Asbestos Inspectors and/or on a complaint-driven basis.

## **Ventura County Fire Protection District (VCFPD) Conditions**

## 31. Address Numbers (Single-Family Homes)

**Purpose:** To ensure proper premise identification to expedite emergency response.

**Requirement:** The Permittee shall install a minimum of 4 inch (4") address numbers that are a contrasting color to the background and readily visible at night. Brass or gold plated numbers shall not be used. Where structures are setback more than 150 feet (150') from the street, larger numbers will be required so that they are distinguishable from the street. In the event the structure(s) is not visible from the street, the address number(s) shall be posted adjacent to the driveway entrance on an elevated post.

**Documentation:** A stamped copy of an approved addressing plan or a signed copy of the Ventura County Fire Protection District's Form #126 "Requirements for Construction".

**Timing:** The Permittee shall install approved address numbers before final occupancy.

**Monitoring and Reporting:** A copy of the approved addressing plan and/or signed copy of the Ventura County Fire Protection District's Form #126 "Requirements for Construction" shall be kept on file with the Fire Prevention Bureau. The Fire Prevention Bureau shall conduct a final inspection to ensure that all structures are addressed according to the approved plans/form.

#### 32. Fire Flow

**Purpose:** To ensure that adequate water supply is available to the project for firefighting purposes.

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**Requirement:** The Permittee shall verify that the water purveyor can provide the required volume and duration at the project. The minimum required fire flow shall be determined as specified by the current adopted edition of the Ventura County Fire Code and the applicable Water Manual for the jurisdiction (whichever is more restrictive). Given the present plans and information, the required fire flow is approximately 500 gallons per minute at 20 psi for a minimum 1 hour duration.

**Documentation:** A signed copy of the water purveyor's fire flow certification.

**Timing:** Prior to map recordation, the Permittee shall provide to the Fire District, verification from the water purveyor that the purveyor can provide the required fire flow. If there is no map recordation, the Permittee shall submit a signed copy of the water purveyor's certification to the Fire Prevention Bureau for approval before the issuance of building permits.

**Monitoring and Reporting:** A copy of the fire flow certification shall be kept on file with the Fire Prevention Bureau.

#### 33. Fire Sprinklers

**Purpose:** To comply with current California Codes and Ventura County Fire Protection District Ordinance.

**Requirement:** The Permittee shall be responsible to have an automatic fire sprinkler system installed in all structures as required by the VCFPD. The fire sprinkler system shall be designed and installed by a properly licensed contractor under California State Law.

**Documentation:** A stamped copy of the approved fire sprinkler plans.

**Timing:** The Permittee shall submit fire sprinkler plans to the Fire Prevention Bureau for approval before the installation of the fire sprinkler system.

**Monitoring and Reporting:** A copy of the approved fire sprinkler plans shall be kept on file with the Fire Prevention Bureau. The Fire Prevention Bureau shall conduct on-site inspections to ensure that the fire sprinkler system is installed according to the approved plans. Unless a modification is approved by the Fire Prevention Bureau, the Permittee, and their successors in interest, shall maintain the fire sprinkler system for the life of the development.

#### 34. Fire Department Clearance

**Purpose:** To provide the Permittee a list of all applicable fire department requirements for their project.

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**Requirement:** The Permittee shall obtain VCFD Form #126 "Requirements for Construction" for any new structures or additions to existing structures before issuance of building permits.

**Documentation:** A signed copy of the Ventura County Fire Protection District's Form #126 "Requirements for Construction."

**Timing:** The Permittee shall submit VCFPD Form #126 Application to the Fire Prevention Bureau for approval before issuance of building permits.

**Monitoring and Reporting:** A copy of the completed VCFPD Form #126 shall be kept on file with the Fire Prevention Bureau. The Fire Prevention Bureau will conduct a final on-site inspection of the project to ensure compliance with all conditions and applicable codes / ordinances.



June 21, 2021

Andrea Sanchez Griffin Enright Architects 12468 W. Washington Blvd. Los Angeles, CA 90066

Re: Wave Runup with Sea Level Rise Analysis For 3381 Ocean Drive, Ventura County, CA 93035 Assessor's Parcel No. 206-0-233-015

#### Dear Ms. Sanchez:

This letter report presents the results of our coastal engineering analysis for your proposed residential construction project located at 3381 Ocean Drive, Ventura County, CA 93035 (APN: 206-0-233-015). Our scope of services includes data collection and processing, engineering analysis of sea level rise (SLR), wave runup, beach erosion, and wave overtopping, and preparation of this report which summarizes the findings. The purpose of this analysis is to quantify the risks of coastal hazards at the project site to ensure necessary flood risk mitigation efforts are taken, and to assist Griffin Enright Architects in obtaining building permits for the project.

The Federal Emergency Management Agency (FEMA) has researched the impacts of storm surge in Ventura County with consideration of beach erosion, wave runup, and overtopping, but without sea level rise. The results of the FEMA studies can be found in their published maps and in the *FEMA Region IX California Coastal Analysis and Mapping Project – Open Pacific Coast Study* performed by BakerAECOM (2016) (herein referred to as the *FEMA CCAMP* report). The purpose of the report in this letter is to build upon FEMA's flood risk research by incorporating sea level rise to the storm surge analysis, as required by Ventura County and the California Coastal Commission for this project.

The project site is located in the jurisdiction of unincorporated Ventura County, County Zoning District RBH (Residential Beach Harbor), Ventura County Coastal Area Plan "Central Coast" Subarea, and FEMA NFIP Number 060413 Flood Hazard Zone X. All portions of this report's analysis were performed in conformance with the applicable regulatory requirements including the *Ventura County Coastal Zoning Ordinance* (2018)<sup>1</sup>, *Ventura County Building Code* (2019)<sup>2</sup>,

<sup>&</sup>lt;sup>1</sup> https://docs.vcrma.org/images/pd

<sup>&</sup>lt;sup>2</sup> https://docs.vcrma.org/images/pd





Ventura General Plan – Coastal Area Plan (2017)<sup>3</sup> as part of the Ventura County Local Coastal Program, Ventura County Floodplain Management Ordinance No. 4521 (2018)<sup>4</sup>, California Coastal Commission Sea Level Rise Policy Guidance (2018)<sup>5</sup> (herein referred to as the CCC SLR report), and all references therein. These coastal, state, and federal documents outline the objectives and planning tools for implementing policies that improve coastal resiliency.

# Site Geographic Conditions

The project site is located at the southern end of the peninsula that separates Channel Islands Harbor from the Pacific Ocean, approximately 1,700ft north of the harbor entrance (see Figure 1). The beach-front property is on a stretch of beach called "Hollywood Beach," which faces west-southwest. The exact beach width in front of the property varies with tides and seasonal erosion/accretion, but averages approximately 700ft. The project site is actually closer to water within Channel Islands Harbor approximately 550ft to the east, but is protected by a rock revetment and separated from the harbor by multiple other properties.

<sup>&</sup>lt;sup>3</sup> https://docs.vcrma.org/images/pdf/planning/plans/Coastal Area Plan 07-01-2017 ver.pdf

<sup>&</sup>lt;sup>4</sup> http://www.vcfloodinfo.com/pdf/VenturaCountyFloodPlainManagementOrdinance.pdf

<sup>&</sup>lt;sup>5</sup> https://documents.coastal.ca.gov/assets/slr/guidance/2018/0 Full 2018AdoptedSLRGuidanceUpdate.pdf







Figure 1. Project Site Map

Due to the project site's close vicinity to the harbor entrance channel, it's somewhat protected from waves by the 2,300ft rubble mound breakwater located approximately 1,200ft offshore. The offshore breakwater and the two jetties that form the harbor's entrance channel largely block waves approaching from south and southwest. This leaves the project site exposed primarily to waves approaching from the west and northwest directions.

The close vicinity of the entrance channel jetties also has the effect of widening the beach at the project site due to sand accretion, whereas the beach in front of the project site is roughly 50% wider than the beach 1-mile north. This increased sand presence acts as a buffer from flooding, and greatly reduces flood risks at the project site in comparison to other beach-front properties in Ventura County.



The analysis of sea level rise and wave runup requires reliable Digital Elevation Model (DEM) data, which can be obtained from NOAA's Data Access Viewer online. For this report, the "2009-2011 California Coastal LiDAR Project Hydro-Flattened Bare Earth DEM" is used. The 2009-2011 LiDAR only covers above-water, so a DEM was obtained that merges this LiDAR with underwater multibeam data provided by the California Seafloor Mapping Program (CSMP).

The elevation profile shown in Figure 2 is taken along a transect perpendicular to the contours of the shore directly in front of the project site, since this is the transect along which waves most commonly approach. The existing grade elevations of the profile can be compared to Mean Sea Level (MSL) at +2.65ft NAVD88, adjacent road (Ocean Drive) at +12.0ft, and beach crest at +16.6ft.

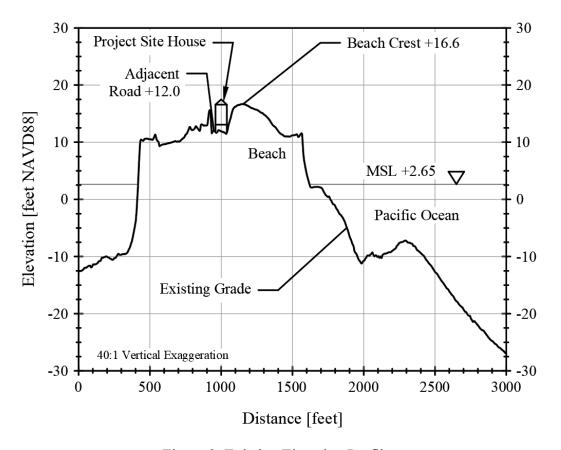


Figure 2. Existing Elevation Profile

The underwater seafloor profile is somewhat unique among beach-front properties in Ventura County due to the fact that it doesn't continuously drop with distance offshore. Roughly 700 feet offshore (2300ft mark in Figure 2) there appears to be an underwater ridge due to sediment accretion caused by the nearby breakwater and jetty structures. This additional sediment protects





the project site from waves by increasing the offshore distance at which wave energy dissipates due to bottom friction.

Another key feature of the elevation profile is the heightened elevation of the beach, reaching a peak elevation of +16.6ft. Ignoring the irregularities of the dunes/ridges, the best estimate of an average beach slope is 30:1 H:V, which will be used in the wave runup calculations below.

## Site Still Water Flood Elevations

To assess flood risk and establish minimum design parameters for the house, a "design flood elevation" in the form of a SWEL (Stillwater Elevation – statistical value) will be determined. The design flood elevation is the base flood elevation with sea level rise added, and will be the basis of the wave runup analysis and establish a minimum house first floor elevation.

#### Base Flood Elevation

Section 5.1 of the Ventura County Floodplain Management Ordinance 4521 defines specific elevation and floodproofing requirements for all new construction or substantial improvements of residential structures located within an "area of special flood hazard" defined as FEMA Flood Insurance Rate Map Zones A, AO, A1-A30, AE, A99, AH, V1-V30, VE or V. FEMA Flood Insurance Rate Map Panel 911 of 1275 shows that the project site is located within Zone X (See Figure 3), labeled as "Other Areas of Flood Hazard" with 0.2% Annual Chance Flood Hazard. Therefore, the project site is not located within a Ventura County "area of special flood hazard" and is not explicitly bound by the requirements of Ordinance Section 5.1. That being said, Section 4.2.F states "the Floodplain Administrator shall make interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazards," which implies it is ultimately up to County officials whether or not this project is required to comply with Section 5.1, despite being located out of the defined flood zone. The FEMA flood maps show the project site is located ~25ft from an area of special flood hazard, therefore it is reasonable that the project site must take flood risk precautions.







Figure 3. FEMA Flood Insurance Rate Map Panel 911 of 1275

Section 5.7 of the Ordinance defines specific elevation and floodproofing requirements for all new construction or substantial improvements of residential structures located within a "coastal high hazard area" defined as FEMA Flood Insurance Rate Map Zones V, V1-30 and VE. The project site is located in Zone X and therefore is also not bound by the requirements of Ordinance Section 5.7.

Section 4.2.C of the Ordinance states that "when base flood elevation data has not been provided in accordance with Section 3.2, the Floodplain Administrator shall obtain, review, and reasonably utilize any best available base flood elevation and floodway data from a federal or state agency, or other source, in order to Administer Section 5. Any such information shall be submitted by the applicant to the County for consideration."

In review of the first submission of this report, Yunsheng Su of the Ventura County Watershed Protection District identified the "best available base flood elevation" to be +7.8ft NAVD88, based on results published in the *FEMA CCAMP* report. Specifically, report Table 3 determines +7.8ft NAVD88 to be the extreme 1-percent/100-year SWEL at Santa Barbara tidal gage station 9411340.



#### Sea Level Rise

Sea level rise primarily results from thermal expansion of ocean water from rising temperatures, combined with melting of land ice. The effects of sea level rise include loss of coastal land to inundation, relocation and migration of wildlife, and larger and more powerful ocean waves at fixed coastal sites such as the beach-front residence studied in this report.

Appendix G of the *CCC SLR* report provides tables of projected sea level rise at different tide gauge stations across the coastline. The tide gauge station closest to the project site is the Santa Barbara Tide Gauge, which has projected sea level rise values shown in Figure 4, corresponding to Table G-8 in the *CCC SLR* report.

	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion  Single scenario (no associated probability)
	Upper limit of "likely range" (~17% probability SLR exceeds)	1-in-200 chance (0.5% probability SLR exceeds)	
2030	0.4	0.7	1.0
2040	0.7	1.1	1.6
2050	1.0	1.8	2.5
2060	1.3	2.5	3.6
2070	1.7	3.3	4.9
2080	2.1	4.3	6.3
2090	2.6	5.3	7.9
2100	3.1	6.6	9.8
2110*	3.2	6.9	11.5
2120	3.7	8.2	13.7
2130	4.2	9.5	16.0
2140	4.8	11.0	18.6
2150	5.3	12.6	21.4

Figure 4. Sea Level Rise Projections for the Santa Barbara Tide Gauge





Chapter 6 of the *CCC SLR* report provides expected project life time frames, stating "residential or commercial structures will likely be around for some time, so a time frame of 75 to 100 years may be appropriate." 75 years from the current year of 2021 sets the design lifespan of the project at year 2096, which is closest to year 2100 in the SLR table.

Chapter 6 of the *CCC SLR* report also provides sea level rise risk aversion scenarios, stating "medium-high risk aversion scenario: should be used for projects with greater consequences and/or a lower ability to adapt such as residential and commercial structures."

The year 2100 design lifespan with medium-high risk aversion (1-in-200 chance) corresponds to a projected sea level rise value of **6.6ft**. This sea level rise projection is presented in terms of an increase in still water level over time.

#### Design Flood Elevation

The base flood elevation of +7.8ft NAVD88 with 6.6ft of sea level rise results in a design flood elevation of +14.4ft NAVD88. This design flood elevation corresponds to the 1-percent (100-year) extreme SWEL occurring with the 0.5-percent (200-year) projected sea level rise in year 2100. Figure 5 illustrates how the design flood elevation of +14.4ft NAVD88 is 11.75ft higher than the current mean sea level (MSL), and 2.4ft above the road adjacent to the project site, but 2.2 feet below the crest of the beach.



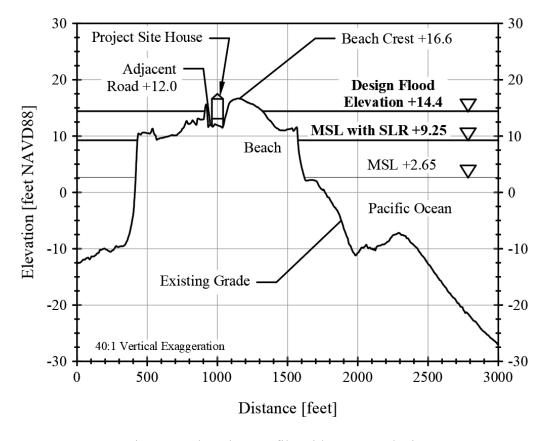


Figure 5. Elevation Profile with Sea Level Rise

A major impact of this elevated SWEL is that the width of the beach is reduced by  $\sim$ 300ft, reducing the beach width from  $\sim$ 700ft to  $\sim$ 400ft. This puts the project site at much greater risk of flooding because a 300ft reduction in beach width directly corresponds to waves impacting the beach 300ft closer to the project site.

# Wave Height, Period, and Length Determination

The design incident wave height will be taken as the upper extreme limit of wave heights that could occur at the site. The best estimate of this extreme wave height is the largest significant wave height over the historical record. FEMA's *Storm Wave Characteristics* (2005)<sup>6</sup> lists NOAA's National Data Buoy Center (NDBC) as a reliable wave data source. The closest NDBC buoy to the project site with relevant data is Station 46053 "East Santa Barbara" located at

<sup>&</sup>lt;sup>6</sup> https://www.fema.gov/sites/default/files/2020-03/frm p1swc.pdf





34.241N latitude, 119.839W longitude, approximately 35 miles west of the project site in the center of Santa Barbara Channel.

For this station, NDBC provides the plot of historical significant wave heights shown in Figure 6. This wave data is presented in the form of monthly mean and standard deviation wave heights in meters for the data set spanning from 1994 to 2008. The peak significant wave height appears to be in the month of December at a height of **5.6 meters (18.4 feet)**.

To verify this historical peak significant wave height value and expand the time series beyond 2008, the raw wave data from 1994 to 2020 was obtained and processed. The peak wave height over this expanded period is the same 5.6-meter value from the plot, and occurred on December 13, 1995.

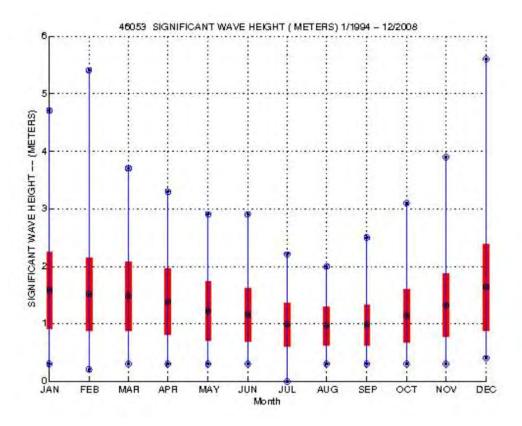


Figure 6. NDBC Station 46053 Historical Wave Plot

The corresponding wave period was 12.9 seconds, and the deep water wave length is calculated as follows:



$$L_o = \frac{gT^2}{2\pi} = \frac{32.174ft/s^2 * 12.9^2}{2\pi} = 852ft = 260m$$

## Wave Runup Analysis

Wave runup is the process where a wave impacts the beach and continues to rush up the beach slope, extending the reach of the water beyond the height of the incident wave until friction and gravity forces dissipate the wave energy. This process is illustrated in Figure 7, where the wave runup "R" value is quantified as the maximum height that water extends above the still water level (SWL).

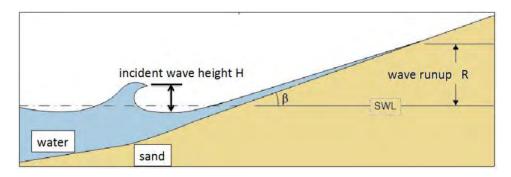


Figure 7. Wave Runup Illustration

Source: https://cdip.ucsd.edu/m/documents/\_images/wave\_runup.png

The wave runup analysis procedures detailed in the FEMA *Guidance for Flood Risk Analysis* and Mapping – Coastal Wave Runup and Overtopping (2018)<sup>7</sup> report will be used. Specifically, the Stockdon equation is listed as the recommended empirical equation for sandy beaches, and the Stockdon equation is also what was used in the *FEMA CCAMP* report. The Stockdon et. Al. (2006) paper presents the following equation as the "elevation of extreme (2%) runup":

$$R_2 = \langle \eta \rangle + \frac{S}{2}$$

Where:

$$\langle \eta \rangle = wave \ setup = 0.35 \beta_f (H_0 L_0)^{1/2}$$

$$S = wave swash = \sqrt{(S_{inc})^2 + (S_{IG})^2}$$

<sup>&</sup>lt;sup>7</sup> https://www.fema.gov/sites/default/files/2020-02/Wave\_Runup\_and\_Overtopping\_Guidance\_Feb\_2018.pdf



$$\beta_f = beach slope = \frac{1}{30}$$

 $H_0 = deep water wave height = 5.6m$ 

$$L_0 = deepwater\ wave\ length = \frac{gT^2}{2\pi} = \left(\frac{\left(9.81\frac{m}{s^2}\right)(12.9s)^2}{2\pi}\right) = 259.82m$$

T = wave period = 12.9 seconds

$$S_{inc} = incident \ swash = 0.75 \ \beta (H_0 L_0)^{1/2}$$

$$S_{IG} = infragravity \, swash = 0.06 \, (H_0 L_0)^{1/2}$$

Together:

$$R_{2} = 0.35\beta_{f}(H_{0}L_{0})^{1/2} + \frac{\sqrt{(0.75\beta(H_{0}L_{0})^{1/2})^{2} + (0.06(H_{0}L_{0})^{1/2})^{2}}}{2}$$

$$= 0.35\left(\frac{1}{30}\right)\left((5.6m)(259.82m)\right)^{1/2}$$

$$+ \frac{\sqrt{\left(0.75\left(\frac{1}{30}\right)\left((5.6m)(259.82m)\right)^{1/2}\right)^{2} + \left(0.06\left((5.6m)(259.82m)\right)^{1/2}\right)^{2}}}{2}$$

$$= 1.68m = 5.51ft$$

Wave runup  $(R_2)$  is shown to be 5.51ft.

#### **Erosion**

Unarmored beach shorelines commonly retreat in response to extreme storm conditions, such as the 1-percent-annual-chance flood event. As waves impinge upon the beach toe, retreat occurs through a process by which sand is eroded from the toe, thereby destabilizing the beach face, which then adjusts to a stable slope through landward retreat. Erosion will be evaluated in response to the design storm water level and wave projections.

The FEMA CCAMP report references the use of the MK&A geometric dune erosion model, which the standard model detailed in FEMA's Guidance for Flood Risk Analysis and Mapping —



Erosion (2018)<sup>8</sup>. The MK&A model will therefore be used to analyze erosion in this report. The model considers the total water level, storm duration, breaking wave height, D50 of the beach material, and profile characteristics (beach face slope and surf zone profile) to determine the maximum beach erosion potential for a particular storm event. Conservation of sand volume between the erosion of the beach and the offshore deposition is maintained. The beach at the project site is classified as a "sandy beach backed by low sand dune berm," resulting in the use of the following erosion equation:

$$R_{\infty} = maximum \ erosion \ potential = \frac{S(W_b - h_b/m)}{B + h_b - S/2}$$

Where:

 $S = storm\ water\ level\ rise\ above\ MSL = 7.8ft - 2.65ft = 5.15ft$ 

$$h_b = breaking \ water \ depth = \frac{18.4ft}{0.78} = 23.6ft$$

$$MSL \text{ with } SLR = 2.65 + 6.6 = +9.25 \text{ ft } NAVD88$$

Elevated storm water level = +9.25ft + 5.15ft = 14.4ft

Ground elevation at which waves break at MSL = +9.25ft - 23.6ft= -14.35ft NAVD88

$$W_b = surf\ zone\ width\ (from + 9.25ft\ to - 14.35ft) = 976 \mathrm{ft}$$

m = beach slope = 30

B = berm or dune height above mean sea level = 16.6ft - 9.25ft = 7.35ft

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<sup>&</sup>lt;sup>8</sup> https://www.fema.gov/sites/default/files/2020-02/Coastal Erosion Guidance Feb 2018.pdf





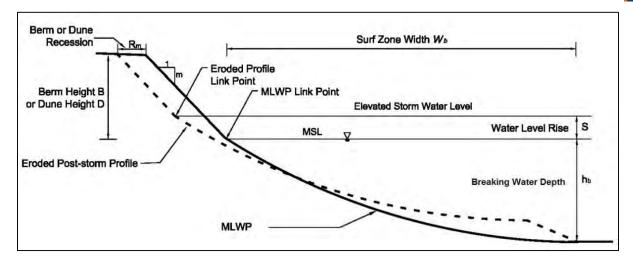


Figure 8. Definition Sketch for K&D Geometric Model

Together:

$$R_{\infty} = \frac{S(W_b - h_b/m)}{B + h_b - S/2} = \frac{5.15ft(976ft - 23.6ft/30)}{7.35ft + 23.6ft - 5.15ft/2} = 177 ft$$

The "K&D maximum potential dune retreat ( $R_{\infty}$ ) is shown to be 177ft. Because there is no discernable "toe" of the beach profile, it will be assumed this erosion occurs at the SWEL. Figure 9 shows the eroded beach profile given the maximum erosion potential calculated above. This results in an eroded (post-storm) beach crest elevation of +16.12ft, which is 0.48ft below the existing (pre-storm) beach crest of +16.6ft.



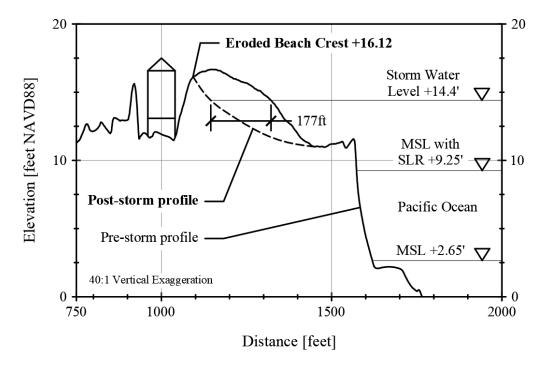


Figure 9. Elevation Profile with Erosion

177ft of erosion further reduces the beach width from ~400ft during design flood elevation conditions to ~223ft. This increases flood risks by allowing waves to impact the shore much closer to the project site.

# Wave Overtopping

Wave overtopping is the volumetric flow rate of water over a finite height structure as a result of wave runup. Wave overtopping occurs with the total water level (TWL) exceeds the crest elevation of the controlling topographic feature, putting areas otherwise protected at the SWEL at risk of flooding. In this case, the controlling topographic feature is the beach crest after storm-induced erosion occurs. This analysis quantifies the volumetric flow rate and landward extent of overtopping, which establishes a "wave overtopping hazard zone." TWL is the still water level (SWEL) plus wave setup and wave runup, in this case:

$$TWL = base\ flood\ elevation + sea\ level\ rise + wave\ runup$$
  
=  $+7.8ft\ NAVD88 + 6.6ft + 5.51ft = 19.91ft$ 

This TWL of +19.91ft NAVD88 is 3.79ft above the eroded (post-storm) beach crest elevation of +16.12ft, therefore wave overtopping occurs. The extent of the overtopping can be quantified,





but will be extreme since this is a scenario of an 18.4ft wave overtopping an eroded beach crest only 1.72ft above the still water level.

FEMA's Guidance for Flood Risk Analysis and Mapping – Coastal Wave Runup and Overtopping (2018)<sup>9</sup> states "the EurOtop Manual provides some of the best guidance for overtopping calculations. It is highly encouraged that the Mapping Partner refer to the latest version of the EurOtop Manual for overtopping analysis." Therefore, methods described in EurOtop Manual on Wave Overtopping of Sea Defences and Related Structures (2018)<sup>10</sup> will be used in this analysis. Note that the EurOtop manual uses methods and data from European research studies, therefore the analysis is performed in metric system units.

Principal formula for wave overtopping:

$$\frac{q}{\sqrt{gH_{m0}^3}} = a * exp\left[-\left(b\frac{R_c}{H_{m0}}\right)^c\right] for R_c > 0$$

Expands as:

$$\frac{q}{\sqrt{gH_{m0}^{3}}} = \frac{0.023}{\sqrt{\tan \alpha}} * \gamma_{b} * \xi_{m-1,0} * exp \left[ -\left(2.7 \frac{R_{c}}{\xi_{m-1,0} * H_{m0} * \gamma_{b} * \gamma_{f} * \gamma_{\beta} * \gamma_{v}}\right)^{1.3} \right]$$

$$\rightarrow q = \sqrt{gH_{m0}^{3}} * \frac{0.023}{\sqrt{\tan \alpha}} * \gamma_{b} * \xi_{m-1,0}$$

$$* exp \left[ -\left(2.7 \frac{R_{c}}{\xi_{m-1,0} * H_{m0} * \gamma_{b} * \gamma_{f} * \gamma_{\beta} * \gamma_{v}}\right)^{1.3} \right]$$

Where:

 $q = mean \ overtopping \ discharge \ per \ meter \ structure \ width \ \left[ \frac{m^3}{s} \ per \ m \right]$ 

 $g = acceleration due to gravity = 9.81 \left[\frac{m}{s^2}\right]$ 

 $H_{m0} = significant wave height = 5.6m$ 

<sup>&</sup>lt;sup>9</sup> https://www.fema.gov/sites/default/files/2020-02/Wave Runup and Overtopping Guidance Feb 2018.pdf

<sup>10</sup> http://www.overtopping-manual.com/assets/downloads/EurOtop II 2018 Final version.pdf



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 $R_c = crest\ freeboard\ of\ structure = 16.12ft - 14.4ft = 1.75ft\ = 0.53m$ 

$$\alpha = beach slope angle = tan^{-1} \left(\frac{1}{30}\right) = 1.91^{\circ}$$

$$\xi_{m-1,0} = breaker\ paramater = \frac{\tan \alpha}{\left(\frac{H_{m0}}{L_{m-1,0}}\right)^{1/2}} = \frac{\tan(1.91^\circ)}{\left(\frac{5.6m}{260m}\right)^{1/2}} = 0.23$$

$$\gamma_b = berm \, factor = 1 - r_B (1 - r_{db}) = 1 - \frac{B}{L_{Berm}} \left( 1 - \left( 0.5 - 0.5 \cos \left( \pi \frac{d_b}{R_{u2\%}} \right) \right) \right)$$

since berm is at SWL,  $d_b = 0$ , and therefore  $\gamma_b = 1$ 

 $\gamma_f = roughness \ factor = 1 \ (smooth \ beach \ sand \ surface)$ 

 $\gamma_{\beta} = oblique \ wave \ attack \ factor$ 

= 1 (assume wave perpendicular to shore / transect)

 $\gamma_v = wall on slope factor = 1 (no wall)$ 





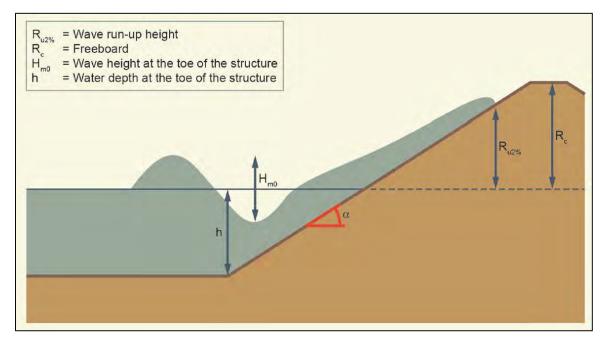


Figure 10. Overtopping Formula Component Illustration

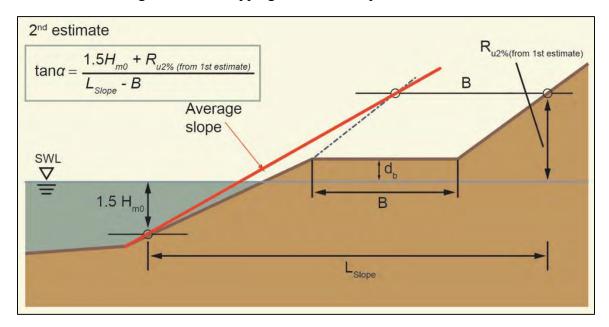


Figure 11. Berm Factor Formula Component Illustration

Together:



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Irvine, CA 92612
(949) 752-1530
Patrick Miskel, P.E.

DENR
TOP
500
DESIGN
FIRMS

$$q = \sqrt{9.81m/s^2 * 5.6m^3} * \frac{0.023}{\sqrt{\tan(1.91^\circ)}} * 1 * 0.23$$

$$* exp \left[ -\left(2.7 \frac{0.53}{0.23 * 5.6 * 1 * 1 * 1 * 1}\right)^{1.3} \right] = 0.38 \left[ \frac{m^3}{s} \ per \ m \right]$$

$$= 380 \left[ \frac{l}{s} \ per \ m \right] = 4.1 \left[ \frac{ft^3}{s} \ per \ ft \right]$$

These results show very extreme levels of overtopping, which makes sense for an 18.4ft wave overtopping a 1.72ft obstacle. The EurOtop manual classifies q = 10  $\left[\frac{l}{s} \ per \ m\right]$  as "significant overtopping", and q = 100  $\left[\frac{l}{s} \ per \ m\right]$  as a threshold where transmitted waves may even be generated. The q = 380  $\left[\frac{l}{s} \ per \ m\right]$  level in this analysis greatly exceeds even that threshold, theoretically putting the entire area in the vicinity of the project site in the "wave overtopping hazard zone." With these results, it is not necessary to calculate landward extent of overtopping  $(Y_G, Y, Y_0 \text{ values})$  since extreme flooding will occur beyond the splashing typically quantified by overtopping analyses. These overtopping results should not be considered in design of the house since it corresponds to the very unlikely future event of a 1% storm occurring with a 0.5% sea level rise scenario in year 2100, with the largest waves on record, "maximum erosion potential," and 2% probability runup.

# Comparison of Results to FEMA Data

The results of this project report can be compared to the results of the *FEMA CCAMP* report and published FEMA Flood Maps. The differences are that this analysis considers future sea level rise and is performed on a transect exactly at the project site, whereas the FEMA data does not consider future sea level rise and the closest analysis transect (Transect 322) is located 0.55 miles north of the project site. Even without 6.6ft of sea level rise considered the FEMA Flood Maps show the project site just ~25ft from the flood zone, which suggested it was likely this analysis would find flooding to occur at the project site. The results compare as follows:

Condition	FEMA CCAMP Report – Transect 322	This Report
1% (100-year) Storm Base Flood Elevation [ft NAVD88]	+7.8	+7.8



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Sea Level Rise [ft]	+0	+6.6		
Design Flood Elevation (SWL) [ft NAVD88]	+7.8	+14.4		
Total Water Level (TWL) With Wave Runup [ft NAVD88]	+17.1	+19.91		
Eroded Beach Crest Elevation [ft NAVD88]	+13.8	+16.12		
Landward Extent of Overtopping (Y <sub>0</sub> ) [ft]	22.4	$\infty$		

Figure 12. Comparison of Results Table

The FEMA data shows that even without considering sea level rise the total water level of +17.1ft exceeds the beach crest elevation, and overtopping occurs. In this report 6.6ft of sea level rise is added to this condition, which explains the extreme overtopping results.

# Conclusion

The analysis in this report confirms that the project site at 3381 Ocean Drive, Ventura County is located in a zone at risk of storm flooding, and the first floor of the house should be elevated to mitigate future flood risks.

Coastal engineering analysis methods were applied to determine a design flood elevation of +14.4ft NAVD88, which corresponds to 6.6ft of sea level rise added to the base flood elevation of +7.8ft NAVD88 published in the *FEMA CCAMP* report. The 2019 *Ventura County Building Code* requires that "The top of the lowest floor, as defined in this Code, shall be set at a minimum elevation of (1) foot above the design flood elevation," which puts the **minimum house first floor elevation at +15.4ft NAVD88**.

The results show very extreme levels of overtopping at 4.1  $\left[\frac{ft^3}{s} per ft\right]$ , which would result in large levels of flooding at the project site and the surrounding areas. These overtopping results correspond to the very unlikely future event of a 1% storm occurring with a 0.5% sea level rise scenario in year 2100, with the largest waves on record, "maximum erosion potential," and 2% probability runup. Because this is such a rare storm event occurring 79 years in the future, it should not be necessary at this time to design for this scenario.



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All calculations and projections presented in this report are estimates developed using the best available engineering and statistical methods; it should be considered that due to the randomness of nature, actual future storm flooding and coastal hazards could differ greatly from what's presented herein.

C 89522

Sincerely,

NOBLE CONSULTANTS-G.E.C., INC.

Patrick G. Miskel, P.E.

# SOIL ENGINEERING INVESTIGATION PROPOSED RESIDENCE AT 3381 OCEAN DRIVE OXNARD, CALIFORNIA FOR OCEAN OXNARD LLC



County of Ventura
Planning Director Hearing
Case No. PL21-0042
Exhibit 6 - Soils Engineering
Investigation



# HEATHCOTE GEOTECHNICAL

**SOIL TESTING • FOUNDATIONS • INSPECTION** 1884 EASTMAN AVENUE, SUITE 105, VENTURA, CALIFORNIA 93003



Ocean Oxnard LLC 302 23rd Street Santa Monica, Ca 90402 Job: 20206

Date: February 9, 2021

Ladies/Gentlemen:

We are pleased to present this soil engineering report to aid in the design of the proposed project.

The project is located at 3381 Ocean Drive, Oxnard, California.

The project involves erecting a new residential structure with three stories. The structure will be of wood frame construction. The loads will be relatively light. basement is intended. Slab on grade will be used. existing public sewer lines will service the proposed residence. An existing residence will be removed.

Overexcavation is not expected.

This project will be safe for intended use as long as the recommendations given are followed.

Submittal of this report to appropriate governmental agencies is the responsibility of the owner or his representatives.

The report will follow and includes; a comprehensive task list, observations and findings, recommendations, basis of report, results of testing, plot plan, and borings.

It has been our pleasure to serve you and if you have any questions or need additional service, please contact us.

Fred Heathcote Civil Engineer No. C48316

**COMPREHENSIVE TASK LIST** 

# **GENERAL**

This portion of the report specifies all the work that was performed and the procedures used. This investigation did not address the possibility of any geologic hazards or contaminants in the soil, although none were noted.

# SITE WORK

- 1. Reviewed site for soil engineering problems.
- 2. Drilled two borings, up to 50 feet in depth, using a 8 inch hollow stem auger. Undisturbed samples taken with a 2-1/2 inch I.D. sampler using a 140 pound weight dropped 30 inches. Standard penetration tests were performed to assess strong ground motion settlement using an autotrip 140 pound hammer to drive the samples. The samples are driven 18 inches with the blowcount from the bottom 12 inches being used as the standard penetration number. Drilling by Choice Drilling.
- 3. Visual logging of the borings for classification of soil types and characteristics.
- 4. Obtained a bulk sample for laboratory testing.

# LABORATORY TESTING

- 1. Determined in place density and moisture of undisturbed samples and is shown on boring logs.
- 2. Performed expansion index test of the soils. The test was performed according to the guidelines set forth in the latest ASTM version.
- 3. Performed compaction test of the soils to aid in grading and density testing. The test was performed according to latest version of ASTM (five layers, 25 blows/layer,10 lb. hammer,18" drop,1/30 c.f. mold).

Results of testing are presented in the boring logs and following the Basis of Report.

# REPORT

- 1. Comprehensive task list
- 2. Findings and Observations
  - a) site conditions
  - b) soil conditions
  - c) geologic conditions
  - d) liquefaction
  - e) subsidence

- 3. Recommendations
  - a) foundation:bearing values, depths, settlements, and lateral values
  - b) slabs on grade
  - c) drains and grades
  - d) construction procedures: earthwork, inspection
- 4. Basis of report
- 5. Results of testing
- 6. Boring logs

**FINDINGS AND OBSERVATIONS** 

# SITE CONDITIONS

# Location description

The site is located along the west side of Ocean Drive. The proposed residence is at the southwest corner of Los Robles Street and Ocean Drive.

# Site access

The site is accessed directly from the street.

# Site relief

The area of the proposed building is located in a mildly sloping area. There is an existing structure.

# Site drainage conditions-Erosion

There are no drainage patterns that exist. No erosion is evident in the area of the residence.

# Vegetation

The site has some vegetation in the area of the proposed structure.

# **Existing structures-performance**

The site is occupied by a two story residence.

# Past use

No known past use.

# Adjacent properties

Residential use is present on adjacent properties.

# SOILS CONDITIONS

Fill soils were not encountered on the site. Fill soils may be encountered during construction.

The natural soils are sands with some clay layers down deeper. These upper natural soils are moderately compressible. The soil has a medium strength. The soil has a low expansion potential with an expansion index of 0. The densities are greater with depth.

Groundwater was first observed at a depth of 7 feet. Historical groundwater is at 6 feet. This historical groundwater is not within 5 feet of the finished floor elevation.

# **Hydrocollapse**

Upper soils are not susceptible to hydrocollapse. The lower soils are dense. Typically soils with a relative density of 80% or more are less susceptible to hydrocollapse.

# **GEOLOGIC HAZARDS**

This report is not a geology report, but certain things should be noted.

Flooding is a minor possibility due to the distance to wave action. The site is in a 500 year flood zone.

Tsunamis are a possibility. The last tsunami was over 150 years ago. Consequently, the chance of a tsunami affecting the site in the near future is considered remote. question of when the next tsunami will occur is based in probability. This means that you are just as likely to see a tsunami in any given year. The probability of having a tsunami in any "one" given year does not go up or down with the passage of time. This means you could have 2 tsunamis in one year or have one in two thousand years. The mentioning of past events 150 years ago is to establish probabilities through history search in much the same way as we predict probabilities of earthquakes. probability of having a tsunami increases with the time period considered. It is much likelier to see a tsunami in a 1000 year period as opposed to a 50 year period. In this manner, we expect that it is unlikely that the project will experience a tsunami in the next 100 years. No exact probability is given due to the limited nature of the observations of tsunamis over time in this area.

No identified faults are within the nearby vicinity of the project. This information could be addressed in a geology report to determine the exact distances to any known faults, if desired.

No slope stability problems are present.

## LIQUEFACTION

The site is situated within the alluvial area of the Oxnard plain. As with most of Southern California, this area is bordered by faults which are active potentially active and inactive. Faults which are most concern from a ground shaking viewpoint are the San Andreas, Simi-Santa Rosa, San Cayetano, Ventura Pitas Point, Santa Ynez, Malibu Coast and Oak Ridge faults. Each are capable of generating large to moderate earthquakes and of causing significant shaking at the site. The site will experience significantly strong coseismic ground motions caused by activity on regional faults at some time in the future.

The earthquake magnitudes are listed using maximum probable values. These values are used with the distances from the site to formulate the accelerations. The probabilistic methods are used to determine the accelerations from emperical data. The chart of this data is presented at the end of this letter. The fault data is shown below.

FAULT	DISTANCE(k)	MAX PROB MAG.	ACCEL.
SIMI-SPRINGVILLE	15	6.7	.22
SAN CAYETANO	22	6.8	.17
OAKRIDGE	7	6.9	.40
MALIBU COAST	15	6.7	.22
SAN ANDREAS	82	7.8	.11
SANTA YNEZ	35	7.0	.12
VENTURA PITAS	14	6.8	.24

The acceleration used for liquefaction analysis is taken from the Seismic Hazards Evaluation of the Oxnard Quadrangle. The 10% exceedance in 50 years peak ground acceleration for alluvial conditions is 0.62. The predominant earthquake is 6.7.

Groundwater was found at 7 feet below the surface. We are assuming a historical high water level of 6 feet in the liquefaction analysis. The standard penetration numbers are presented on the boring logs.

To convert standard penetration data to a N160 value, corrections are made for the overburden, and rod length. Corrections are needed for the sampling method of an automatic trip hammer. Corrections are needed for no liners in the spt device.

The soil profile will most likely experience liquefaction at various levels. The liquefaction induced settlement is on the order of 2 inches. We are assuming a minimum settlement of 2 inches due to experience in the area. Emperical data has been developed to relate standard penetration values with bulk modulus of settlement. These values are used to determine the settlement in the layers.

Due to the depth of the groundwater, the narrower foundations will not suffer a shear failure. Influence of the footings will typically be 4 to 8 feet beneath the surface. Liquefaction residual shear strength is not considered a factor due to the size of the structure. size of the structure will allow us to keep foundations to a size less than 3 feet in width. Most of the additional foundation stresses in the soil profile are in the upper 5 feet of the soils. Almost all the additional foundation stresses are reduced to near zero at 8 feet below the surface. The residual shear strength of the liquefied zones at a depth of 6 to 7 feet are sufficient for the type of loadings that we are placing. Bearing value drops to around 300 psf in the liquefied zones. The pressure drops to around .3 of the pressure at the soil foundation interface. This gives a foundation value of 300 psf of a starting pressure of 2000 psf. Thus foundations kept at this size will be sufficiently designed for shear. Foundations should be designed for primarily strip footings and pad footings no larger than 3 feet.

We have evaluated the possibility of lateral spreading toward the ocean which is about 400 feet from the project. The first component of the lateral spread is slope for any of the methods. The ground is virtually flat in the area.

From our experience, there is not a sloping layer that is subsurface. We do not feel that lateral spreading will occur on the project.

Slightly enlarged footings and slabs will be used to mitigate liquefaction induced settlement problems.

# SUBSIDENCE

The site is listed in an area of subsidence. The County of Ventura Hazards Report shows .05' per year. This is a general lowering of the ground surface due to removal of water or oil from underground. This can cause problems with drainage courses, utilities, flooding in new areas etc. The owner should be aware of this process. Groundwater under the site appears to be at 6 feet.

# SEISMIC VALUES

3381 Ocean Dr, Oxnard, CA 93035, USA Latitude. Longitude: 34.1630084. -119.2281349

Dat	e	2/6/2021, 2:34:42 PM
	ign Code Reference ument	ASCE7-16
Ris	k Category	II
Sit	e Class	D - Default (See Section 11.4.3)
Typ	eValue	Description
Ss	1.695	$MCE_R$ ground motion. (for 0.2 second period)
$S_1$	0.615	$MCE_R$ ground motion. (for 1.0s period)
$S_{\text{MS}}$	2.035	Site-modified spectral acceleration value
$S_{\text{M1}}$	null -See Section 11.4.8	Site-modified spectral acceleration value
$S_{ t DS}$	1.356	Numeric seismic design value at 0.2 second SA
$S_{D1}$	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

**RECOMMENDATIONS** 

# **FOUNDATIONS**

The expansion potential of the soils indicates a foundation design for very low expansion soils is needed for the foundations. Foundations should have at least 2-#5 bar at top and bottom.

No lateral pressure on foundations due to seismic loads are anticipated.

No lateral loads or movement are expected on foundations due to liquefaction. There are no retaining walls that will be affected by liquefaction. There is no flotation of buried structures that will affect the project.

No ground stabilization is deemed necessary. Our foundations have been structurally reinforced from normal due to liquefiable soils. Differential settlement has been accounted for in the design.

# Supporting Soils

The proposed structure may be supported on the underlying firm natural soils.

# Depth and Width

The footings must extend at least 24 inches below finished grade. Minimum width for the footings is 18 inches. Foundations shall bear in natural soils. Depth may need to be greater if fill soils are present.

Foundations should be designed for primarily strip footings and pad footings no larger than 3 feet. Any pads larger than this would need to be evaluated for liquefaction shear loss.

# Allowable Bearing Value

The proposed foundations may be designed to place a load of 2000 pounds per square foot on the soil. This value may be increased by 1/3 for wind or seismic forces. Bearing shall take into account the existing plus proposed loads. For any foundations near each other, the foundations shall be tied together to act in unison.

#### Settlement

Load induced settlement of the structures should not exceed % inch. Differential settlement should be less than 1/2 inch. Liquefaction induced settlement is on the order of 2 inches.

# Lateral Values

The allowable sliding resistance value is equal to 130 pounds per square foot. This value is to be multiplied by the contact area. In no case shall this value exceed one half the dead load. The allowable passive pressure is equal to a fluid density of 100 pounds per cubic foot. This value may be increased by 1/3 for wind or seismic forces. Sliding resistance and passive pressure may be used to resist lateral forces without reduction.

# **SLABS ON GRADE**

The slabs if any, may be placed on the resulting compacted fill from proper grading. The slabs should be designed for soils of very low expansion. Reinforcing should have a minimum of #4 bars at 18 inches on centers each way. Slab should be a minimum of 5 inches thick.

If a floor covering is used that will be affected by moisture, then we recommend that you use a 4 inch layer of gravel beneath the slab as a capillary break. The gravel should be of 3/4 inch variety with less than 10% sand with very little amount of fines.

A visquene covering must be used to serve as a water vapor barrier. To reduce problems associated with the concrete curing process, a 2 inch layer of sand should be placed on top of the visquene or a low slump concrete should be used.

#### **DRAINS AND GRADES**

All grades shall drain away from the foundations. Downspouts should be drained away from the foundations.

# CONSTRUCTION PROCEDURES

# **EARTHWORK**

To support slabs for the structure if any, the following must be excavated.

- 1) In the area of the proposed building all organic material should be removed and taken off site.
- 2) Any loose soils or disturbed soils

After excavation the following must be accomplished.

- 1) All bottoms of the excavation, areas to receive slabs, and foundations should be scarified and compacted to 90% compaction.
- 2) All fills and backfills should be placed in horizontal layers less than 8 inches in loose thickness.
- 3) The soils shall be compacted to a minimum of 90% of the maximum density rendered by the latest version of the ASTM(D-1557). Field density testing per latest ASTM version for Sand Cone Method.
- 4) The moisture content should not vary more than 2% from the optimum moisture content, although the grading process will be more easily accomplished with the soils being 1 to 2% wetter than optimum moisture content.
- 5) Any utility trenches will need to be properly backfilled as detailed in 2,3 and 4 above.
- 6) All on site soils may be used. Any import soils should be approved by our firm and should not have an expansion index greater than 35.

#### INSPECTION

This is an important step to obtain quality construction and to obtain correct design. The following will need inspection by our firm.

- \* Foundations
- \* All earthwork
  - a) All fill and backfills
  - b) Testing frequency is at all bottoms and every 2 vertical feet

Inspection, by our firm, is needed to assure that the soil conditions are consistent with this report and design assumptions. Inspection by local government agencies may also be needed.

**BASIS OF REPORT** 

# **RIGHT OF USE**

This report is intended exclusively for the use of the Ocean Oxnard LLC and the project designers.

# **METHODS**

This report has been developed based on our understanding of the project details, field review, boring excavations, laboratory testing, engineering analyses, and experience with similar soil conditions with similar use and loads.

# **DEGREE OF PERFORMANCE**

The work was performed using the methods and degree of care used by other soil engineering firms operating in this vicinity, for similar projects, in this time period. This firm is responsible only for our own negligent errors and negligent omissions. Any error or omission that results in an unexpected cost that normally would have been present, is not the responsibility of our firm. Nothing else is warranted, implied or expressed, as to the details presented in this report.

# **VALIDITY OF REPORT**

# Changes

This report is valid for this specific project as described in the text of the report and on the plot plan. Any change in project size, loads, location, grade or use would require a review of this report.

# Inspection

The recommendations given in this report are based on the assumption that all necessary inspection work will be performed during the construction phase of the project. The initial soil engineering investigation is only a part of the work needed to obtain correct engineering design. The soil conditions are only anticipated in the initial report. The inspection work verifies the conditions are as expected and allow our firm the ability to modify the recommendations in the event that the soil conditions are different.

The presence of inspection will provide the owner with the ability to obtain advice as to soil related construction procedures and answer related questions as to the implementation of the recommendations provided in this report.

If another firm is used to perform the construction inspection of the soil related aspects, our professional liability and responsibility would be drastically reduced to the point that we would no longer be the engineer of record.

**RESULTS OF TESTING** 

# **EXPANSION INDEX TEST**

Boring 1@0-1' Sample Location: Sand Soil type: Confining Pressure: 144 psf Initial Moisture Content: 11.6 (% of dry wt.) 14.3 Final Moisture Content: (% of dry wt.) Dry Density: 98 pcf Expansion Index: 0

> TEST METHOD: THE LASTEST ASTM VERSION EXPANSION INDEX TEST

# **COMPACTION TEST**

Sample Location:

Boring1@0-1'

Soil type:

Sand

Maximum Dry Density:

112 pcf

Optimum Moisture Content: (% of dry wt.)

9

TEST METHOD:
LATEST VERSION OF ASTM
COMPACTION TEST



# Earthquake Zones of Required Investigation Oxnard Quadrangule

California Geological, Survey

This Map Shows Seismic Hazard Zones for Soil Liquefaction and Earthquake-Induced Landslides.

Alquist-Priolo Earthquake Fault Zones Have Not Been Prepared for the Oxnard Quadrangle.







Liquefaction Zones

Areas where historical occurrence of liquefaction, or local geological geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



3381 Ocean Drive
Oxnard, California 93035

# Note:

SCALE 1"=1000'

0 1000 2000 3000 4000FT

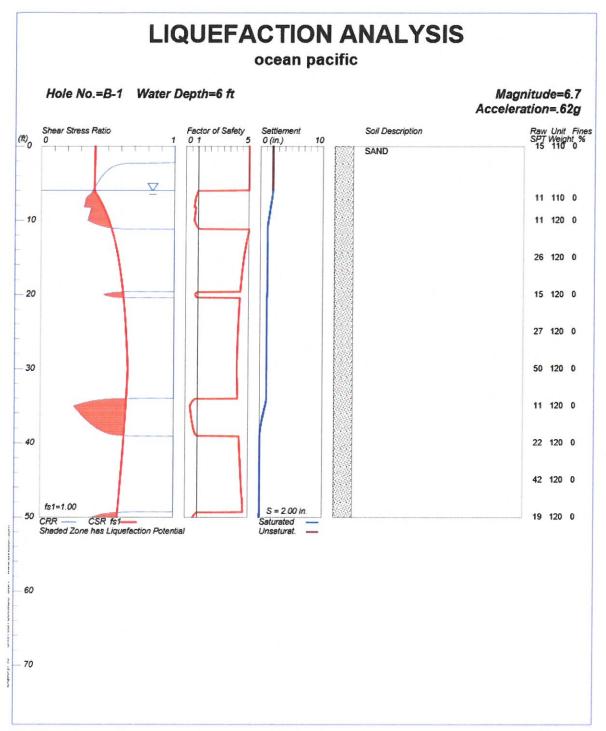
0 1 MILE



STANDARD PEN (blows per foot)	MOISTURE CONTENT (% of dry weight)	DRY DENSITY (lbs. per cubic foot)	DRIVE ENERGY (kip-feet)	ELEVATION (feet)	DEPTH (feet)	SAMPLE LOCATION	DRILLING EQUIPMENT: 8-INCH HOLLOW STEM AUGER
	.5	94	8		-		SP SAND- fine, light greyish brown,damp,mod dense
	1.3	96	11		- 5		
11					-		WATER AT /1'
11					— 10 - -		
26					15 		
15					- - 20 -		
27	16.1	103	13		- - 25 -		
50					- - 30 - -		Some clay layers and gravel, grey
11					- 35 - -		
	15.5	107	17	-	-		

STANDARD PEN (blows per foot)	MOISTURE CONTENT (% of dry weight)	DRY DENSITY (lbs. per cubic foot)	DRIVE ENERGY (kip-feet)	ELEVATION (feet)	DEPTH (feet)	SAMPLE LOCATION	BORING 1  JOB: 20206  FIELD ENGINEER FRED HEATHCOTE  DATES DRILLED: JANUARY 13, 2021  DRILLING EQUIPMENT: 8-INCH HOLLOW STEM AUGER
22					- - - - - 45		SP SAND- fine,grey,wet,dense,some clay layers
19					- - - - - 50		

STANDARD PEN (blows per foot)	MOISTURE CONTENT (% of dry weight)	DRY DENSITY (lbs. per cubic foot)	DRIVE ENERGY (kip-feet)	ELEVATION (feet)	DEPTH (feet)	SAMPLE LOCATION	BORING  JOB: 20206  FIELD ENGINEER FRED HEATHCOTE  DATES DRILLED: JANUARY 13, 2021  DRILLING EQUIPMENT: HAND AUGER	2
	1.5	99	5		- - - - - 5		SP SAND- fine, light greyish brown,damp,mod do	lense



**CivilTech Corporation** 

Subtitle or Proj No.

Plate A-1

## LIQUEFACTION ANALYSIS CALCULATION SHEET

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(425) 453-6488 Fax (425) 453-5848

Licensed to , 2/9/2021

5:59:19 PM

Input File Name: C:\Users\Fred\Documents\liquefaction\20206.liq

Title: ocean pacific

Subtitle: Subtitle or Proj No.

# Input Data:

Surface Elev.=

Hole No.=B-1

Depth of Hole=50.0 ft

Water Table during Earthquake= 6.0 ft Water Table during In-Situ Testing= 7.0 ft

Max. Acceleration=0.62 g Earthquake Magnitude=6.7

- 1. SPT or BPT Calculation.
- 2. Settlement Analysis Method: Ishihara / Yoshimine\*
- 3. Fines Correction for Liquefaction: Stark/Olson et al.\*
- 4. Fine Correction for Settlement: During Liquefaction\*
- 5. Settlement Calculation in: All zones\*
- 6. Hammer Energy Ratio,

Ce = 1.25

7. Borehole Diameter,

Cb= 1.15

8. Sampling Method,

Cs= 1.2

9. User request factor of safety (apply to CSR), User= 1

10. Use Curve Smoothing: Yes\*

#### In-Situ Test Data:

Depth	SPT	Gamm	GammaFines					
ft		pcf	%					
0.0	15.0	110.0	0.0					
7.0	11.0	110.0	0.0					
10.0	11.0	120.0	0.0					
15.0	26.0	120.0	0.0					
20.0	15.0	120.0	0.0					
25.0	27.0	120.0	0.0					
30.0	50.0	120.0	0.0					
35.0	11.0	120.0	0.0					
40.0	22.0	120.0	0.0					
45.0	42.0	120.0	0.0					
50.0	19.0	120.0	0.0					

# Output Results:

Calculation segment, dz=0.050 ft User defined Print Interval, dp=1.00 ft

<sup>\*</sup> Recommended Options

CSR C Depth ft	alculation gamm pcf	on: a sigma tsf	gamm pcf	a'sigma' tsf	rd	CSR	x fs1	=CSRfs
0.00	110.0	0.000	110.0	0.000	1.00	0.40	1.0	0.40
1.00	110.0	0.055	110.0	0.055	1.00	0.40	1.0	0.40
2.00	110.0	0.110	110.0	0.110	1.00	0.40	1.0	0.40
3.00	110.0	0.165	110.0	0.165	0.99	0.40	1.0	0.40
4.00	110.0	0.220	110.0	0.220	0.99	0.40	1.0	0.40
5.00	110.0	0.275	110.0	0.275	0.99	0.40	1.0	0.40
6.00 7.00	110.0 110.0	0.330 0.385	47.6 47.6	0.330 0.354	0.99 0.98	0.40	1.0 1.0	0.40 0.43
8.00	113.3	0.365	50.9	0.354	0.98	0.43	1.0	0.43
9.00	116.7	0.441	54.3	0.376	0.98	0.49	1.0	0.49
10.00	120.0	0.557	57.6	0.433	0.98	0.49	1.0	0.51
11.00	120.0	0.617	57.6	0.461	0.97	0.53	1.0	0.53
12.00	120.0	0.677	57.6	0.490	0.97	0.54	1.0	0.54
13.00	120.0	0.737	57.6	0.519	0.97	0.56	1.0	0.56
14.00	120.0	0.797	57.6	0.548	0.97	0.57	1.0	0.57
15.00	120.0	0.857	57.6	0.577	0.97	0.58	1.0	0.58
16.00	120.0	0.917	57.6	0.605	0.96	0.59	1.0	0.59
17.00	120.0	0.977	57.6	0.634	0.96	0.60	1.0	0.60
18.00	120.0	1.037	57.6	0.663	0.96	0.60	1.0	0.60
19.00	120.0	1.097	57.6	0.692	0.96	0.61	1.0	0.61
20.00	120.0	1.157	57.6	0.721	0.95	0.62	1.0	0.62
21.00	120.0	1.217	57.6	0.749	0.95	0.62	1.0	0.62
22.00	120.0	1.277	57.6	0.778	0.95	0.63	1.0	0.63
23.00	120.0	1.337	57.6	0.807	0.95	0.63	1.0	0.63
24.00	120.0	1.397	57.6	0.836	0.94	0.64	1.0	0.64
25.00	120.0	1.457	57.6	0.865	0.94	0.64	1.0	0.64
26.00	120.0	1.517	57.6	0.893	0.94	0.64	1.0	0.64
27.00	120.0	1.577	57.6	0.922	0.94	0.65	1.0	0.65
28.00 29.00	120.0 120.0	1.637	57.6	0.951	0.93	0.65	1.0	0.65
30.00	120.0	1.697 1.757	57.6 57.6	0.980 1.009	0.93 0.93	0.65 0.65	1.0 1.0	0.65 0.65
31.00	120.0	1.817	57.6	1.009	0.93	0.65	1.0	0.65
32.00	120.0	1.877	57.6	1.066	0.91	0.65	1.0	0.65
33.00	120.0	1.937	57.6	1.095	0.91	0.65	1.0	0.65
34.00	120.0	1.997	57.6	1.124	0.90	0.64	1.0	0.64
35.00	120.0	2.057	57.6	1.153	0.89	0.64	1.0	0.64
36.00	120.0	2.117	57.6	1.181	0.88	0.64	1.0	0.64
37.00	120.0	2.177	57.6	1.210	0.87	0.63	1.0	0.63
38.00	120.0	2.237	57.6	1.239	0.86	0.63	1.0	0.63
39.00	120.0	2.297	57.6	1.268	0.86	0.63	1.0	0.63
40.00	120.0	2.357	57.6	1.297	0.85	0.62	1.0	0.62
41.00	120.0	2.417	57.6	1.325	0.84	0.62	1.0	0.62
42.00	120.0	2.477	57.6	1.354	0.83	0.61	1.0	0.61
43.00	120.0	2.537	57.6	1.383	0.82	0.61	1.0	0.61
44.00	120.0	2.597	57.6	1.412	0.82	0.60	1.0	0.60
45.00	120.0	2.657	57.6	1.441	0.81	0.60	1.0	0.60
46.00	120.0	2.717	57.6	1.469	0.80	0.60	1.0	0.60
47.00	120.0	2.777	57.6	1.498	0.79	0.59	1.0	0.59
48.00 49.00	120.0 120.0	2.837 2.897	57.6 57.6	1.527 1.556	0.78 0.78	0.59 0.58	1.0 1.0	0.59 0.58
50.00	120.0	2.957	57.6	1.585	0.76	0.58	1.0	0.58
50.00	120.0	2.301	57.0	1.000	0.17	0.00	1.0	0.00

10)	CSR is based on water table at 6.0 during earthquake										
	Depth	SPT	n from S Cebs	SPT or B Cr	PT data sigma'		(N1)60	Fines	d(N1)6	0	(N1)60f
	CRR7.5	0			tsf			%			
							H				
	0.00	15.00	1.73	0.75	0.000	1.70	32.99	0.00	0.00	32.99	2.00
	1.00	14.43	1.73	0.75	0.055	1.70	31.73	0.00	0.00	31.73	2.00
	2.00	13.86	1.73	0.75	0.110	1.70	30.48	0.00	0.00	30.48	2.00
	3.00	13.29	1.73	0.75	0.165	1.70	29.22	0.00	0.00	29.22	0.38
	4.00	12.71	1.73	0.75	0.220	1.70	27.96	0.00	0.00	27.96	0.34
	5.00	12.14	1.73	0.75	0.275	1.70	26.71	0.00	0.00	26.71	0.31
	6.00	11.57	1.73	0.75	0.330	1.70	25.45	0.00	0.00	25.45	0.29
	7.00	11.00	1.73	0.75	0.385	1.61	22.94	0.00	0.00	22.94	0.25
	8.00	11.00	1.73	0.75	0.410	1.56	22.24	0.00	0.00	22.24	0.24
	9.00	11.00	1.73	0.85	0.436	1.51	24.43	0.00	0.00	24.43	0.27
	10.00	11.00	1.73	0.85	0.464	1.47	23.68	0.00	0.00	23.68	0.26
	11.00	14.00	1.73	0.85	0.493	1.42	29.25	0.00	0.00	29.25	0.39
	12.00	17.00	1.73	0.85	0.521	1.38	34.52	0.00	0.00	34.52	2.00
	13.00	20.00	1.73	0.85	0.550	1.35	39.54	0.00	0.00	39.54	2.00
		23.00	1.73	0.85	0.579	1.31	44.32	0.00	0.00	44.32	2.00
		26.00	1.73	0.95	0.608	1.28	54.65	0.00	0.00	54.65	2.00
		23.80	1.73	0.95	0.637	1.25	48.88	0.00	0.00	48.88	2.00
		21.60	1.73	0.95	0.665	1.23	43.39	0.00	0.00	43.39	2.00
	18.00	19.40	1.73	0.95	0.694	1.20	38.16	0.00	0.00	38.16	2.00
		17.20	1.73	0.95	0.723	1.18	33.15	0.00	0.00	33.15	2.00
		15.00	1.73	0.95	0.752	1.15	28.35	0.00	0.00	28.35	0.35
		17.40	1.73	0.95	0.781	1.13	32.27	0.00	0.00	32.27	2.00
		19.80	1.73	0.95	0.809	1.11	36.07	0.00	0.00	36.07	2.00
		22.20	1.73	0.95	0.838	1.09	39.74	0.00	0.00	39.74	2.00
		24.60	1.73		0.867	1.07	43.30	0.00	0.00	43.30	2.00
		27.00	1.73		0.896	1.06	46.75	0.00	0.00	46.75	2.00
		31.60			0.925	1.04	53.85	0.00	0.00	53.85	2.00
		36.20			0.953	1.02	60.75	0.00	0.00	60.75	2.00
		40.80	1.73		0.982	1.01	71.01	0.00	0.00	71.01	2.00
		45.40	1.73	1.00	1.011	0.99	77.89	0.00	0.00	77.89	2.00
		50.00 42.20	1.73 1.73	1.00 1.00	1.040	0.98		0.00	0.00	84.58	2.00
					1.069 1.097	0.97 0.95		0.00	0.00	70.42	2.00
					1.126	0.93		0.00	0.00	56.65 43.24	2.00
					1.125	0.93		0.00	0.00		2.00
						0.93			0.00	30.18 17.44	0.19
									0.00	20.68	0.19
									0.00	23.84	
									0.00	26.94	0.26 0.32
											0.32
									0.00	29.97 32.93	2.00
									0.00		2.00
									0.00	38.50 43.96	2.00
									0.00	49.32	2.00
									0.00	49.32 54.57	2.00
									0.00		2.00
•	-0.00	72.00	1.75	1.00	1.712	0.02	J9.12	0.00	0.00	J3.12	2.00

46.00	37.40	1.73	1.00	1.501	0.82	52.67	0.00	0.00	52.67	2.00
47.00	32.80	1.73	1.00	1.529	0.81	45.75	0.00	0.00	45.75	2.00
48.00	28.20	1.73	1.00	1.558	0.80	38.97	0.00	0.00	38.97	2.00
						32.32				
50.00	19.00	1.73	1.00	1.616	0.79	25.79	0.00	0.00	25.79	0.30

CRR is based on water table at 7.0 during In-Situ Testing

					ude= 6.7			v. 50
Depth ft	sigC' tsf	tsf	.5x Ksig	=CRF	Rv x MSF	=CRF	tsf	ts=F.S. CRRm/CSRfs
	131	loi		เธา		เธา	เธา	CRRIII/CSRIS
0.00	0.00	2.00	1.00	2.00	1.33	2.67	0.40	5.00
1.00	0.04	2.00	1.00	2.00	1.33	2.67	0.40	5.00
2.00	0.07	2.00	1.00	2.00	1.33	2.67	0.40	5.00
3.00	0.11	0.38	1.00	0.38	1.33	0.51	0.40	5.00
4.00	0.14	0.34	1.00	0.34	1.33	0.46	0.40	5.00
5.00	0.18	0.31	1.00	0.31	1.33	0.42	0.40	5.00
6.00	0.21	0.29	1.00	0.29	1.33	0.39	0.40	0.97 *
7.00	0.25	0.25	1.00	0.25	1.33	0.34	0.43	0.78 *
8.00	0.27	0.24	1.00	0.24	1.33	0.32	0.46	0.70 *
9.00	0.28	0.27	1.00	0.27	1.33	0.37	0.49	0.75 *
10.00	0.30	0.26	1.00	0.26	1.33	0.35	0.51	0.69 *
11.00	0.32	0.39	1.00	0.39	1.33	0.51	0.53	0.98 *
12.00	0.34	2.00	1.00	2.00	1.33	2.67	0.54	4.93
13.00	0.36	2.00	1.00	2.00	1.33	2.67	0.56	4.81
14.00	0.38	2.00	1.00	2.00	1.33	2.67	0.57	4.70
15.00	0.40	2.00	1.00	2.00	1.33	2.67	0.58	4.61
16.00	0.41	2.00	1.00	2.00	1.33	2.67	0.59	4.54
17.00	0.43	2.00	1.00	2.00	1.33	2.67	0.60	4.47
18.00	0.45	2.00	1.00	2.00	1.33	2.67	0.60	4.42
19.00	0.47	2.00	1.00	2.00	1.33	2.67	0.61	4.37
20.00	0.49	0.35	1.00	0.35	1.33	0.47	0.62	0.76 *
21.00	0.51	2.00	1.00	2.00	1.33	2.67	0.62	4.29
22.00 23.00	0.53 0.54	2.00	1.00 1.00	2.00	1.33	2.67	0.63	4.25
24.00	0.56	2.00	1.00	2.00	1.33 1.33	2.67 2.67	0.63 0.64	4.22 4.20
25.00	0.58	2.00	1.00	2.00	1.33	2.67	0.64	4.17
26.00	0.60	2.00	1.00	2.00	1.33	2.67	0.64	4.15
27.00	0.62	2.00	1.00	2.00	1.33	2.67	0.65	4.13
28.00	0.64	2.00	1.00	2.00	1.33	2.67	0.65	4.11
29.00	0.66	2.00	1.00	2.00	1.33	2.67	0.65	4.10
30.00	0.68	2.00	1.00	2.00	1.33	2.67	0.65	4.09
31.00	0.69	2.00	1.00	2.00	1.33	2.67	0.65	4.10
32.00	0.71	2.00	1.00	2.00	1.33	2.67	0.65	4.12
33.00	0.73	2.00	1.00	2.00	1.33	2.67	0.65	4.13
34.00	0.75	2.00	1.00	2.00	1.33	2.67	0.64	4.15
35.00	0.77	0.19	1.00	0.19	1.33	0.25	0.64	0.39 *
36.00	0.79	0.22	1.00	0.22	1.33	0.30	0.64	0.47 *
37.00	0.81	0.26	1.00	0.26	1.33	0.35	0.63	0.56 *
38.00	0.83	0.32	1.00	0.32	1.33	0.42	0.63	0.67 *
39.00	0.84	0.45	1.00	0.45	1.33	0.60	0.63	0.96 *
40.00	0.86	2.00	1.00	2.00	1.33	2.67	0.62	4.29
41.00	0.88	2.00	1.00	2.00	1.33	2.67	0.62	4.32

42.00	0.90	2.00	1.00	2.00	1.33	2.67	0.61	4.35
43.00	0.92	2.00	1.00	2.00	1.33	2.67	0.61	4.38
44.00	0.94	2.00	1.00	2.00	1.33	2.67	0.60	4.41
45.00	0.96	2.00	1.00	2.00	1.33	2.67	0.60	4.44
46.00	0.98	2.00	1.00	2.00	1.33	2.67	0.60	4.48
47.00	0.99	2.00	1.00	2.00	1.33	2.67	0.59	4.51
48.00	1.01	2.00	1.00	2.01	1.33	2.68	0.59	4.57
49.00	1.03	2.00	1.00	2.00	1.33	2.67	0.58	4.59
50.00	1.05	0.30	1.00	0.30	1.33	0.39	0.58	0.68 *

<sup>\*</sup> F.S.<1: Liquefaction Potential Zone. (If above water table: F.S.=5) ^ No-liquefiable Soils. (F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

CPT convert to SPT for Settlement Analysis:

Fines (	Correction	for	Settlement	Anal	ysis:
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Depth ft	lc	qc/N60	qc1 tsf	(N1)60	Fines %	d(N1)6	0	(N1)60s
0.00	-	=	_	32.99	0.00	0.00	32.99	
1.00	-	-	-	31.73	0.00	0.00	31.73	
2.00	-	-	-	30.48	0.00	0.00	30.48	
3.00	-	-	-	29.22	0.00	0.00	29.22	
4.00		-	-	27.96	0.00	0.00	27.96	
5.00	-	-	-	26.71	0.00	0.00	26.71	
6.00	-	-	-	25.45	0.00	0.00	25.45	
7.00	-	-	-	22.94	0.00	0.00	22.94	
8.00	-	-	-	22.24	0.00	0.00	22.24	
9.00	-	-	-	24.43	0.00	0.00	24.43	
10.00	-	-	-	23.68	0.00	0.00	23.68	
11.00	-	-	-	29.25	0.00	0.00	29.25	
12.00	-	-	-	34.52	0.00	0.00	34.52	
13.00	-	-	-	39.54	0.00	0.00	39.54	
14.00	-	-	-	44.32	0.00	0.00	44.32	
15.00	-	-	-	54.65	0.00	0.00	54.65	
16.00	-	-	-	48.88	0.00	0.00	48.88	
17.00	-	-	-	43.39	0.00	0.00	43.39	
18.00	-	-	-	38.16	0.00	0.00	38.16	
19.00	-	-	-	33.15	0.00	0.00	33.15	
20.00	-	-	-	28.35	0.00	0.00	28.35	
21.00	-	-	-	32.27	0.00	0.00	32.27	
22.00	-	-	-	36.07	0.00	0.00	36.07	
23.00	-	-	-	39.74	0.00	0.00	39.74	
24.00	-	-	-	43.30	0.00	0.00	43.30	
25.00	-	-	-	46.75	0.00	0.00	46.75	
26.00	_	-	-	53.85	0.00	0.00	53.85	
27.00	-	-	-	60.75	0.00	0.00	60.75	
28.00	_	-	-	71.01	0.00	0.00	71.01	
29.00	-	-	-	77.89	0.00	0.00	77.89	
30.00	-	-	_		0.00	0.00	84.58	
31.00	-	_	-		0.00	0.00	70.42	
32.00	-	-	-		0.00	0.00	56.65	
33.00	-	-	-		0.00	0.00	43.24	
34.00	-	-	-	30.18	0.00	0.00	30.18	

35.00	-	-	-	17.44	0.00	0.00	17.44
36.00	-	-	-	20.68	0.00	0.00	20.68
37.00	-	-	-	23.84	0.00	0.00	23.84
38.00	-	-	-	26.94	0.00	0.00	26.94
39.00	-	-	-	29.97	0.00	0.00	29.97
40.00	-	-	-	32.93	0.00	0.00	32.93
41.00	-		-	38.50	0.00	0.00	38.50
42.00	-	-	-	43.96	0.00	0.00	43.96
43.00	-	-	-	49.32	0.00	0.00	49.32
44.00	-	-	-	54.57	0.00	0.00	54.57
45.00	-	-	-	59.72	0.00	0.00	59.72
46.00	-	-	-	52.67	0.00	0.00	52.67
47.00	-	-	-0	45.75	0.00	0.00	45.75
48.00	-	-	-	38.97	0.00	0.00	38.97
49.00	-	-	-	32.32	0.00	0.00	32.32
50.00	- 7	-	-	25.79	0.00	0.00	25.79

(N1)60s has been fines corrected in liquefaction analysis, therefore d(N1)60=0. Fines=NoLiq means the soils are not liquefiable.

Cattlamant	of Coturated C	'anda.
Settlement	of Saturated S	ands:

Settlem	ent Ana	lysis Me	thod: Ish	nihara / `	Yoshimir	ne*				
	CSRsf	/ MSF*	=CSRn	ıF.S.	Fines	(N1)60	sDr	ec	dsz	dsp
S ft in.	tsf		tsf		%		%	%	in.	in.
49.95 0.008	0.58	1.0	0.58	0.70	0.00	26.11	81.87	1.347	8.1E-3	0.008
49.00 0.072	0.58	1.0	0.58	4.59	0.00	32.32	95.55	0.000	0.0E0	0.064
48.00 0.072	0.59	1.0	0.59	4.57	0.00	38.97	100.00	0.000	0.0E0	0.000
47.00 0.072	0.59	1.0	0.59	4.51	0.00	45.75	100.00	0.000	0.0E0	0.000
46.00 0.072	0.60	1.0	0.60	4.48	0.00	52.67	100.00	0.000	0.0E0	0.000
45.00 0.072	0.60	1.0	0.60	4.44	0.00	59.72	100.00	0.000	0.0E0	0.000
44.00 0.072	0.60	1.0	0.60	4.41	0.00	54.57	100.00	0.000	0.0E0	0.000
43.00 0.072	0.61	1.0	0.61	4.38	0.00	49.32	100.00	0.000	0.0E0	0.000
42.00 0.072	0.61	1.0	0.61	4.35	0.00	43.96	100.00	0.000	0.0E0	0.000
41.00 0.072	0.62	1.0	0.62	4.32	0.00	38.50	100.00	0.000	0.0E0	0.000
40.00 0.072	0.62	1.0	0.62	4.29	0.00	32.93	97.10	0.000	0.0E0	0.000
39.00 0.078	0.63	1.0	0.63	0.96	0.00	29.97	89.98	0.518	3.1E-3	0.005
	0.63	1.0	0.63	0.67	0.00	26.94	83.52	1.314	7.9E-3	0.119

37.00 0.390	0.63	1.0	0.63	0.56	0.00	23.84	77.53	1.822	1.1E-2	0.193
36.00 0.629	0.64	1.0	0.64	0.47	0.00	20.68	71.76	2.117	1.3E-2	0.238
35.00 0.902	0.64	1.0	0.64	0.39	0.00	17.44	65.90	2.445	1.5E-2	0.273
34.00 1.099	0.64	1.0	0.64	4.15	0.00	30.18	90.46	0.000	0.0E0	0.197
33.00 1.099	0.65	1.0	0.65	4.13	0.00	43.24	100.00	0.000	0.0E0	0.000
32.00 1.099	0.65	1.0	0.65	4.12	0.00	56.65	100.00	0.000	0.0E0	0.000
31.00 1.099	0.65	1.0	0.65	4.10	0.00	70.42	100.00	0.000	0.0E0	0.000
30.00 1.099	0.65	1.0	0.65	4.09	0.00	84.58	100.00	0.000	0.0E0	0.000
29.00 1.099	0.65	1.0	0.65	4.10	0.00	77.89	100.00	0.000	0.0E0	0.000
28.00 1.099	0.65	1.0	0.65	4.11	0.00	71.01	100.00	0.000	0.0E0	0.000
27.00 1.099	0.65	1.0	0.65	4.13	0.00	60.75	100.00	0.000	0.0E0	0.000
26.00 1.099	0.64	1.0	0.64	4.15	0.00	53.85	100.00	0.000	0.0E0	0.000
25.00 1.099	0.64	1.0	0.64	4.17	0.00	46.75	100.00	0.000	0.0E0	0.000
24.00 1.099	0.64	1.0	0.64	4.20	0.00	43.30	100.00	0.000	0.0E0	0.000
23.00 1.099	0.63	1.0	0.63	4.22	0.00	39.74	100.00	0.000	0.0E0	0.000
22.00 1.099	0.63	1.0	0.63	4.25	0.00	36.07	100.00	0.000	0.0E0	0.000
21.00	0.62	1.0	0.62	4.29	0.00	32.27	95.44	0.000	0.0E0	0.000
20.00	0.62	1.0	0.62	0.76	0.00	28.35	86.45	0.988	5.9E-3	0.043
19.00 1.172	0.61	1.0	0.61	4.37	0.00	33.15	97.65	0.000	0.0E0	0.031
18.00 1.172	0.60	1.0	0.60	4.42	0.00	38.16	100.00	0.000	0.0E0	0.000
17.00 1.172	0.60	1.0	0.60	4.47	0.00	43.39	100.00	0.000	0.0E0	0.000
16.00 1.172	0.59	1.0	0.59	4.54	0.00	48.88	100.00	0.000	0.0E0	0.000
15.00 1.172	0.58	1.0	0.58	4.61	0.00	54.65	100.00	0.000	0.0E0	0.000
14.00 1.172	0.57	1.0	0.57	4.70	0.00	44.32	100.00	0.000	0.0E0	0.000
13.00 1.172	0.56	1.0	0.56	4.81	0.00	39.54	100.00	0.000	0.0E0	0.000
12.00 1.172	0.54	1.0	0.54	4.93	0.00	34.52	100.00	0.000	0.0E0	0.000
11.00 1.182	0.53	1.0	0.53	0.98	0.00	29.25	88.38	0.523	3.1E-3	0.010
10.00 1.314	0.51	1.0	0.51	0.69	0.00	23.68	77.24	1.643	9.9E-3	0.132

9.00 1.496	0.49	1.0	0.49	0.75	0.00	24.43	78.64	1.384	8.3E-3 0.182
8.00 1.665	0.46	1.0	0.46	0.70	0.00	22.24	74.58	1.803	1.1E-2 0.169
7.00 1.861	0.43	1.0	0.43	0.78	0.00	22.94	75.85	1.486	8.9E-3 0.197
6.00 1.985	0.40	1.0	0.40	0.97	0.00	25.45	80.58	0.710	4.3E-3 0.123
1.500									

Settlement of Saturated Sands=1.985 in.

qc1 and (N1)60 is after fines correction in liquefaction analysis

dsz is per each segment, dz=0.05 ft

dsp is per each print interval, dp=1.00 ft

S is cumulated settlement at this depth

Settlement	of	Unsaturated	Sands:
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Depth ec	sigma' dsz	sigC' dsp	(N1)60s S	sCSRsf	Gmax	g*Ge/G	m	g_eff	ec7.5	Cec
ft in.	tsf in.	tsf in.		tsf	tsf	00.0		%		%
5.95 3.15E-4	0.33	0.21 0.000	25.51	0.40	606.6	2.1E-4	0.0438	0.0314	0.84	0.0263
5.00 2.57E-4	0.28	0.18 0.006	26.71	0.40	564.6	1.9E-4	0.0380	0.0256	0.84	0.0214
4.00 2.41E-4	0.22	0.14 0.010	27.96	0.40	512.8	1.7E-4	0.0380	0.0240	0.84	0.0201
3.00 1.68E-4	0.17	0.11 0.014	29.22	0.40	450.6	1.5E-4	0.0282	0.0167	0.84	0.0140
2.00 1.42E-4	0.11	0.07 0.017	30.48	0.40	373.1	1.2E-4	0.0253	0.0141	0.84	0.0118
1.00 7.71E-5	0.06	0.04 0.019	31.73	0.40	267.4	8.3E-5	0.0147	0.0077	0.84	0.0064
0.00 4.98E-6	0.00	0.00 0.020	32.99	0.40	3.7	1.1E-6	0.0010	0.0005	0.84	0.0004

Settlement of Unsaturated Sands=0.020 in. dsz is per each segment, dz=0.05 ft dsp is per each print interval, dp=1.00 ft S is cumulated settlement at this depth

Total Settlement of Saturated and Unsaturated Sands=2.005 in. Differential Settlement=1.002 to 1.323 in.

= in.	Units	Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement
- 111.		

SPT	Field data from Standard Penetration Test (SPT)
BPT	Field data from Becker Penetration Test (BPT)
qc	Field data from Cone Penetration Test (CPT)
fs	Friction from CPT testing
gamma	Total unit weight of soil

	gamma'	Effective unit weight of soil
	Fines	Fines content [%]
	D50	Mean grain size
	Dr	Relative Density
	sigma	Total vertical stress [tsf]
	sigma'	Effective vertical stress [tsf]
	sigC'	Effective confining pressure [tsf]
	rd	Stress reduction coefficient
	CRRv	CRR after overburden stress correction, CRRv=CRR7.5 * Ksig
	CRR7.5	Cyclic resistance ratio (M=7.5)
	Ksig	Overburden stress correction factor for CRR7.5
	CRRm	After magnitude scaling correction CRRm=CRRv * MSF
	MSF	Magnitude scaling factor from M=7.5 to user input M
	CSR	Cyclic stress ratio induced by earthquake
	CSRfs	CSRfs=CSR*fs1 (Default fs1=1)
	fs1	First CSR curve in graphic defined in #9 of Advanced page
	fs2	2nd CSR curve in graphic defined in #9 of Advanced page
	F.S.	Calculated factor of safety against liquefaction F.S.=CRRm/CSRsf
	Cebs	Energy Ratio, Borehole Dia., and Sampling Method Corrections
	Cr	Rod Length Corrections
	Cn	Overburden Pressure Correction
	(N1)60	SPT after corrections, (N1)60=SPT * Cr * Cn * Cebs
	d(N1)60	Fines correction of SPT
	(N1)60f	(N1)60 after fines corrections, (N1)60f=(N1)60 + d(N1)60
	Cq	Overburden stress correction factor
	qc1	CPT after Overburden stress correction
	dqc1	Fines correction of CPT
	qc1f	CPT after Fines and Overburden correction, qc1f=qc1 + dqc1
	qc1n	CPT after normalization in Robertson's method
	Kc	Fine correction factor in Robertson's Method
	qc1f	CPT after Fines correction in Robertson's Method
	lc	Soil type index in Suzuki's and Robertson's Methods
	(N1)60s	(N1)60 after settlement fines corrections
	CSRm	After magnitude scaling correction for Settlement calculation
CSRm:	=CSRsf / MSF*	Arter magnitude scaling correction for Settlement calculation
COIVIII	CSRfs	Cyclic stress ratio induced by earthquake with user inputed fs
	MSF*	Scaling factor from CSR, MSF*=1, base on Item 2 of Page C.
	ec	Volumetric strain for saturated sands
	dz	Calculation segment, dz=0.050 ft
	dsz	Settlement in each segment, dz
	dp	User defined print interval
	dsp	Settlement in each print interval, dp
	Gmax	Shear Modulus at low strain
	g eff	gamma eff, Effective shear Strain
	g*Ge/Gm	gamma_eff * G_eff/G_max, Strain-modulus ratio
	ec7.5	Volumetric Strain for magnitude=7.5
	Cec	Magnitude correction factor for any magnitude
	ec	Volumetric strain for unsaturated sands, ec=Cec * ec7.5
	NoLiq	No-Liquefy Soils
	NOLIG	140-Elquery Jolis
	References:	
	1 (616161663.	

<sup>1.</sup> NCEER Workshop on Evaluation of Liquefaction Resistance of Soils. Youd, T.L., and Idriss, I.M., eds., Technical Report NCEER 97-0022.

SP117. Southern California Earthquake Center. Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for

Analyzing and Mitigating Liquefaction in California. University of Southern California. March 1999.

2. RECENT ADVANCES IN SOIL LIQUEFACTION ENGINEERING AND SEISMIC SITE RESPONSE EVALUATION, Paper No. SPL-2, PROCEEDINGS: Fourth

International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, San Diego, CA, March 2001.

3. RECENT ADVANCES IN SOIL LIQUEFACTION ENGINEERING: A UNIFIED AND CONSISTENT FRAMEWORK, Earthquake Engineering Research Center, Report No. EERC 2003-06 by R.B Seed and etc. April 2003.



# **HEATHCOTE GEOTECHNICAL**





# **INVOICE**

Ocean Oxnard LLC 302 23<sup>rd</sup> Street Santa Monica, Ca 90402 Job: 20206

Date: February 9, 2021

Services rendered:

Soil engineering investigation for proposed residence
3381 Ocean Drive, Oxnard,
California

PRICE

\$4100

The remainder of \$2100 is now due. Thank you.