

**CALIFORNIA COASTAL COMMISSION**

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# W19a

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## STAFF REPORT: REGULAR CALENDAR

**Application No.:** 5-20-0476

**Applicant:** Tanner Family Trust

**Location:** 1904 Calle de los Alamos, San Clemente, Orange County (APN 692-304-07)

**Project Description:** Demolish a 2,492 sq. ft. 2-story single-family residence and garage and construct a 3,625 sq. ft. 2-story, 25-ft. tall single family residence and attached 430 sq. ft. 2-car garage, 938 sq. ft. balcony deck areas, 715 sq. ft. at grade concrete patio and a 438 sq. ft. detached casita/accessory dwelling unit (ADU), pool, spa, koi pond, hardscape and landscape improvements, and removal of an unpermitted retaining wall beyond the bluff edge on a 13,680 sq. ft. coastal bluff lot.

**Staff Recommendation:** Approval with conditions.

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## SUMMARY OF STAFF RECOMMENDATION

The applicant proposes demolition of a 2,492 sq. ft. single family residence on a coastal bluff top lot built circa 1959 (prior to passage of the Coastal Act) and construction of a new 3,625 sq. ft. 2-story, 25-ft. tall single family residence and attached 430 sq. ft. 2-car

garage, 938 sq. ft. balcony deck, 715 sq. ft. at grade concrete patio and a 438 sq. ft. detached casita/accessory dwelling unit (ADU), pool, spa, koi pond, and hardscape and landscape improvements. Grading for site preparation consisting of 102 cubic yards of cut and 52 cubic yards fill/ 50 cubic yards export is proposed. A pier/caisson foundation for residential structures is proposed. The applicant also proposes removal of an unpermitted retaining wall constructed beyond the bluff edge in the rear yard of the property.

Based on a review of the applicant's geotechnical reports and other relevant information, staff evaluated the present-day bluff stability of the project site, the potential for future bluff erosion, and the adequacy of the proposed 25-foot bluff edge setback over a 75-year project life. The bluff face at the site consists of a prehistoric landslide that has been overlain by bluff top fill. Slope stability analyses indicate that the bluff is currently stable against deep-seated landslides but may be vulnerable to future movement along the plane of the old landslide, such as during an earthquake or if future sea level rise (SLR) results in renewed marine erosion at the bluff toe. However, the proposed setback, combined with the proposed pier foundation embedded in stable materials landward of the landslide plane, would assure present-day stability.

The Commission's staff geologist concluded that the proposed pier foundation system for the new residential structures is designed to support the house in the stable native bluff materials beneath the weak fill rather than laterally stabilize the bluff. The proposed piers would not interfere with natural bluff erosion processes or prevent the landslides that drive natural bluff retreat in the project area. Thus, the proposed pier foundation system does not represent a "shoreline protection device" or "bluff protection device" under the definitions contained in the LUP. Alternatives to the pier foundation system exist but would generally result in similar or greater landform alteration.

In the project vicinity, the Commission has previously approved similar development with a minimum bluff edge setback of 25 feet from the edge of the bluff for primary structures and minimum 10 foot setback for secondary structures (at grade patios, decks, garden walls). A 2018 comprehensive LUP update amendment included a new definition for coastal bluff edge that takes into consideration areas where fill has been placed near or over the historic bluff edge. The City's LUP bluff edge definition is similar, though not identical, to the definition of "bluff edge" contained in the Coastal Commission's regulations (Cal. Code Reg. Title 14, §13577(h)). The key consideration for present purposes is that San Clemente's LUP definition does not credit artificial fill placed over the historic bluff edge, and explicitly states that the "original natural bluff edge, even if buried beneath fill" is to be used as the bluff edge in applying the certified policies of the LUP.

At the project site, determining the bluff edge pursuant to the certified LUP definition is complicated by the past placement of fill on top of the natural bluff materials, modifying the topography of the site and obscuring the "original natural bluff edge." The project, as proposed, is set back 25-feet from the edge of the upper bluff fill slope, and not set back per the bluff edge as defined in the LUP. In response to this issue, the applicant submitted a historical bluff edge delineation based on a stereoscopic analysis of paired

aerial photographs dating from 1941, predating the placement of the fill. The Commission geologist agrees that this delineation is an acceptable estimate of the bluff edge prior to the pre-Coastal Act landform alteration. As shown in **Exhibit #5**, the 1941 historical bluff edge was up to 7 feet landward of the current edge of the fill slope on the southern half of the site and in the northern area, the natural bluff edge remains unknown (buried by fill), but may occur near the edge of the fill slope. Therefore, **Special Condition 1** requires the applicant revise the proposed project plans to comply with the 25-foot bluff edge setback from the bluff edge as defined in the LUP. Due to the more landward position of the bluff edge, accessory development and the primary residence will need to be set back up to 7 feet farther landward than currently proposed. The LUP makes a clear distinction between the setback that is geologically necessary and the 25-foot minimum bluff edge setback; it requires the development to be setback by the greater of the two in order for the bluff setback to address other non-geological/non-hazard coastal resource protections (i.e., biological resources, visual resources).

Future bluff retreat at the subject bluff top site will depend in part on future decisions to protect or relocate the existing Orange County Transit Authority (OCTA) railroad corridor at the toe of the bluff. The available evidence indicates that substantial erosion at the bluff toe is only a possibility with higher levels of SLR (>3.3 ft) in the latter decades of the project life, and that even with 6+ feet of SLR, future bluff erosion would not threaten new development, given a 25-ft setback and the proposed pier foundation. If the old landslide were to reactivate, there is some potential for existing bluff top caissons and grade beams to become exposed and a smaller risk that the proposed pier foundations could be exposed.

Finally, the proposed development currently before the Commission includes the removal of an unpermitted garden retaining wall constructed beyond the bluff edge in the rear yard. No Commission-approved permits for the retaining wall have been identified. Thus, the retaining wall constitutes unpermitted development and a Coastal Act violation. To resolve the violation on the property, the applicant agrees to the removal of the retaining wall as part of the project proposal. Therefore, **Special Condition 1** also requires a revised landscape plan depicting the removal of the unpermitted retaining wall and restoration of the area with vegetation native to Orange County coastal bluffs. Approval of this application pursuant to the staff recommendation, issuance of the permit, and the applicant's subsequent compliance with all terms and conditions of the permit will result in resolution of the violation described above.

As is evident, major Coastal Act issue associated with this project include coastal hazards typically associated with development on a coastal bluff lot, the potential adverse visual impacts, and adverse impacts to water quality and marine resources during the project construction phase and life of the project. To address these potential adverse impacts the Commission staff is recommending Special Condition 1: Submittal of Revised Final Plans; Special Condition 2: Conformance with Geotechnical Recommendations; Special Condition 3: Pool/Spa Protection Plan; Special Condition 4: Storage of Construction Materials, Mechanized Equipment and Removal of Construction Debris; Special Condition 5: Caisson and Grade Beam Exposure Plan ; Special Condition 6: Assumption of Risk and Waiver of Liability; Special Condition 7: No

Future Shoreline/Bluff Protection Device; Special Condition 8: Public Trust; Special Condition 9: Future Improvements; Special Condition 10: Deed Restriction.

Section 30600(c) of the Coastal Act provides for the issuance of coastal development permits directly by the Commission in regions where the local government having jurisdiction does not have a certified Local Coastal Program. The City of San Clemente only has a certified Land Use Plan and has not exercised the options provided in 30600(b) or 30600.5 to issue its own permits. Therefore, the Coastal Commission is the permit issuing entity and the standard of review is Chapter 3 of the Coastal Act. The City's certified Land Use Plan serves as guidance.

Staff recommends that the Commission **APPROVE** coastal development permit application 5-20-0476, as conditioned. The motion is on page 6.

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## EXHIBITS

[Exhibit 1 – Vicinity Map/Aerial Photos](#)

[Exhibit 2 – Project Plans](#)

[Exhibit 3 – Foundation Plan](#)

[Exhibit 4 – Geologic Cross-Sections](#)

[Exhibit 5 – Bluff Edge Delineation and 25-ft. Setback, per Staff](#)

[Exhibit 6 – Revised Bluff Edge, per Applicant](#)

[Exhibit 7 - Commission Staff Geologist Geotechnical Review Memorandum](#)

## I. MOTION AND RESOLUTION

### Motion:

I move that the Commission approve Coastal Development Permit 5-20-0476 pursuant to the staff recommendation.

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of Commissioners present.

### Resolution:

The Commission hereby approves the Coastal Development Permit for the proposed project and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

## II. STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the applicant or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the applicant to bind

all future owners and possessors of the subject property to the terms and conditions.

### III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Submittal of Revised Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit, for the review and approval of the Executive Director two (2) full-size sets of the following revised final plans that have been reviewed and approved by the City of San Clemente, modified as required below:
  - a) **Revised Architectural, Foundation, Grading, Erosion Control Plans** that conform with the plans submitted to the Commission titled “Tanner Residence, 1904 Calle de los Alamos” prepared by Horst Architects dated 8/18/2020, and “Preliminary Grading Plan” and “Erosion Control Plan” prepared by Toal Engineering dated 5/22/20, except that they shall be modified as required below:
    - (1) Removal of the unpermitted retaining wall as depicted on the Preliminary Grading Plan included as **Exhibit #2, page 3** of this staff report;
    - (2) Provide a 25-foot structural setback for the proposed residential structure and its foundation elements from the bluff edge as depicted on **Exhibit #5** of this staff report;
    - (3) For any proposed pool/spa or pond feature, provide a 25-foot setback from the bluff edge as depicted on **Exhibit #5** of this staff report; and
    - (4) For any proposed accessory structures such as decks, patios, and walkways which are at grade and do not require foundations, provide a 10-foot bluff edge setback as depicted on **Exhibit #5** of this staff report. A safety fence with shallow footings may be allowed provided it is located 10 feet or more from the bluff edge.
    - (5) The residence may include a reduced front yard setback, if approved by the City of San Clemente. No amendment to the subject permit would be required for a project revision that includes relocating or expanding the structure to accommodate a reduced front yard setback, consistent with all other policies of the certified LUP including height, density, and public view corridors.

(6) The proposed development including foundations shall be designed to facilitate removal and/or relocation of the structure and its foundation in the future, in the event of endangerment of the residential structure.

- b) **Bird Strike Prevention.** Revised final architectural plans shall depict the location, design, height and materials of deck railings, fences, screen walls and gates.
- (1) Coastal bluff top deck railing systems, fences, screen walls and gates subject to this permit shall use materials designed to minimize bird-strikes with the deck railing, fence, or gate. Such materials may consist, all or in part, of wood, wrought iron, frosted or partially-frosted glass, or other visually permeable barriers that are designed to prevent creation of a bird strike hazard. Clear glass or Plexiglas shall not be installed. All materials shall be maintained throughout the life of the development to ensure continued effectiveness at addressing bird strikes and shall be maintained at a minimum in accordance with manufacturer specifications.
  - (2) The residence shall be designed to use minimal exterior lighting and minimize light pollution from interior lighting to the maximum extent feasible to minimize nighttime bird-strike hazards.
- c) **Revised Landscape Plan** that conforms with the plans submitted to the Commission titled "Landscape Plan" prepared by Horst Architects dated 7/27/20, except it shall be modified as required below:
- (1) Provide a 10-foot bluff edge setback for any proposed accessory structures such as decks, patios, and walkways which are at grade and do not require foundations from the bluff edge as depicted on **Exhibit #5** of this staff report. A safety fence with shallow footings may be allowed provided it is located 10 ft. or more from the bluff edge;
  - (2) All blufftop areas disturbed/affected by grading and construction activities not occupied by development shall be re-vegetated for habitat enhancement and erosion control purposes;
  - (3) Any areas disturbed/affected by construction activities in the rear yard (coastal bluff-facing) shall be planted and maintained for erosion control and native habitat enhancement purposes. To minimize the need for irrigation and minimize encroachment of non-native plant species into



adjacent existing native plant areas, all landscaping adjacent to the coastal bluff shall consist of drought tolerant plants native to coastal Orange County and appropriate to the habitat type. Native plants shall be from local stock wherever possible. Landscaped areas in the front yard (street-facing) area shall consist of native or non-invasive, non-native drought tolerant plant species;

(4) No plant species listed as problematic and/or invasive by the California Native Plant Society (<http://www.CNPS.org/>), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (<http://www.cal-ipc.org/>), or as may be identified from time to time by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as a “noxious weed” by the State of California or the U.S. Federal Government shall be utilized within the property. All plants shall be low water use plants as identified by California Department of Water Resources (See: <http://www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf>);

(5) No permanent in-ground irrigation systems shall be installed on the coastal bluff-facing portion of the site. Temporary above ground irrigation is allowed to establish plantings. Use of reclaimed water for irrigation is encouraged. Any permanent irrigation system shall be low volume (drip, micro jet, etc.) and shall only be permitted on the street facing portion of the lot. Other water conservation measures shall be considered, such as weather based irrigation controllers;

(6) All planting shall be completed within 60 days after completion of construction; and

(7) All vegetation shall be maintained in good growing condition throughout the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the landscaping plan.

The permittee shall undertake development in accordance with the approved plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director provides a written determination that no amendment is required.

2. **Conformance with Geotechnical Recommendations.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the

Executive Director's review and approval, along with a copy of each plan, evidence that an appropriately licensed professional has reviewed and approved all final design and construction plans, including foundation and grading/drainage plans, and certified that each of those final plans is consistent with all the recommendations contained in the geologic engineering investigations. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

- 3. Pool Protection Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit, for review and approval of the Executive Director, two (2) full size sets of a pool protection plan prepared by an appropriately licensed professional that incorporates mitigation of the potential for geologic instability caused by leakage from the proposed pool/spa and koi pond. The pool/spa and koi pond protection plan shall incorporate and identify on the plans the following measures, at a minimum: 1) installation of a leak detection system such as, but not limited to, leak detection system/moisture sensor with alarm and/or a separate water meter for the pool/spa and koi pond which is separate from the water meter for the house to allow for the monitoring of water usage for these elements; 2) use of materials and design features, such as but not limited to double linings, plastic linings or specially treated cement, to be used to waterproof the undersides of the pool/spa and koi pond to prevent leakage, along with information regarding the past and/or anticipated success of these materials in preventing leakage; and, where feasible, 3) installation of a sub drain or other equivalent drainage system under the pool/spa and koi pond that conveys any water leakage to an appropriate drainage outlet. The applicants shall comply with the final plan approved by the Executive Director.
- 4. Storage of Construction Materials, Mechanized Equipment and Removal of Construction Debris.** The permittees shall comply with the following construction-related requirements:

  - (a) No demolition or construction materials, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain, or tidal erosion and dispersion.
  - (b) No demolition or construction equipment, materials, or activity shall be placed in or occur in any location that would result in impacts to environmentally sensitive habitat areas.
  - (c) Any and all debris resulting from demolition or construction activities shall be removed from the project site within 24 hours of completion of the project.
  - (d) Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the

accumulation of sediment and other debris that may be discharged into coastal waters.

- (e) All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.
- (f) The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction.
- (g) Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.
- (h) All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil.
- (i) Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems.
- (j) The discharge of any hazardous materials into any receiving waters shall be prohibited.
- (k) Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible.
- (l) Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity
- (m) All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

- 5. Caisson and Grade Beam Exposure Plan.** In the event any subsurface caissons or grade beams (permitted circa 1983) on the subject site become exposed to public view from the public beach and/or trail below the site, the permittee shall submit plans to the Executive Director, for review and concurrence, that provide for the removal of the exposed portions of the existing buried caissons and grade beams and recontouring of the bluff face grade/bluff revegetation to the extent

feasible and that minimizes the visual impact of the exposed features. The Executive Director shall determine whether the proposed work will require an amendment to this coastal development permit, a new coastal development permit, or whether no amendment or new permit is legally required.

- 6. Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the permittees acknowledge and agree (i) that the site may be subject to hazards including but not limited to waves, storm conditions, erosion, slope instability and landsliding, some of which may be exacerbated by sea level rise; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- 7. No Future Bluff or Shoreline Protective Device.**

  - A. By acceptance of this permit, the permittees agree, on behalf of themselves and any successors and assigns, that no shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit No. 5-20-0476 including, but not limited to, the residence and foundation, in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, liquefaction, flooding, sea level rise, or any other natural hazards in the future. By acceptance of this permit, the permittees hereby waive, on behalf of themselves and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235, any similar provision of a certified LCP, or any applicable law.
  - B. By acceptance of this Permit, the permittees further agree, on behalf of themselves and all successors and assigns, that they are required to remove all or a portion of the development authorized by this permit and restore the site, if:

    - i. The City of San Clemente or any government agency with jurisdiction has issued a final order, not overturned through any appeal or writ proceedings, determining that the structures are currently and permanently unsafe for occupancy or use due to damage or destruction from waves, storm conditions, erosion, slope instability and landsliding, sea level rise, or other natural hazards related to coastal and geologic processes, and that there are no feasible measures that could make the structure suitable for habitation or use without the use of bluff or shoreline protective devices;

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- ii. Essential services to the site (e.g. utilities, roads) can no longer feasibly be maintained due to the coastal hazards listed above;
  - iii. Removal is required pursuant to LCP policies for sea level rise adaptation planning; or
  - iv. The development requires new or augmented shoreline protective devices that conflict with applicable LCP policies or Coastal Act policies.
- 8. Public Trust.** Approval of CDP No. 5-20-0476 does not allow encroachment onto public trust lands. Any future encroachment onto public trust lands shall be removed unless authorized by the Coastal Commission. Additionally, encroachment onto public trust lands is subject to approval by the State Lands Commission or other designated trustee agency.
- 9. Future Improvements.** This permit is only for the development described in Coastal Development Permit 5-20-0476. Pursuant to Title 14 California Code of Regulations Section 13250(b)(6), the exemptions otherwise provided in Public Resources Code Section 30610(a) shall not apply to this development governed by the Coastal Development Permit 5-20-0476. Accordingly, any future improvements to the structures authorized by this permit, including but not limited to, repair and maintenance identified as requiring a permit in Public Resources Section 30610(d) and Title 14 California Code of Regulations Sections 13252(a)-(b), shall require an amendment to Permit 5-20-0476 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government.
- 10. Deed Restriction.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the landowner has executed and recorded against the parcel governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

## IV. FINDINGS AND DECLARATIONS

### A. Project Location and Description

The project site is located at 1904 Calle de los Alamos in the City of San Clemente, Orange County (**Exhibit 1**). The subject site is designated RL (Residential Low Density) in the San Clemente certified Land Use Plan (LUP). The site is surrounded to the north and south by single-family residences, to the east by the frontage street (Calle de los Alamos) and to the west by a coastal bluff at an elevation of 105 ft. (NAVD88 datum) which is very close to the Mean Lower Low Water (MLLW) level. The bluff rises approximately 80-85 feet above the toe of the bluff, at approximately 20 ft. above sea level. The 13,680 sq. ft. coastal bluff lot site consists of a relatively flat pad developed with a circa 1959 residence. In 1976, the Commission approved a two-story addition to the 1959 residence. The existing residence on the subject site is a two-story, 2,492 sq. ft. single-family residence at the top of the coastal bluff. In 1983, the Commission also approved construction of caissons and grade beams beneath the portion of existing slab/foundation facing the bluff and beneath a concrete patio at the bluff edge to address soil settlement caused by an ancient landslide on the subject site.

The coastal bluff is not currently subject to marine erosion as the San Clemente Coastal Trail and the Orange County Transportation Authority (OCTA) railroad tracks and right-of-way, both of which run parallel to the public beach below, are located between the toe of the bluff and the ocean. Adequate public access to the beach exists nearby with the nearest vertical access available approximately 250 feet south (downcoast) of the subject lot at the Lost Winds public beach access stairway down the bluff face to a protected at-grade railroad crossing and the public beach beyond (**Exhibit #1**).

Project plans for the proposed new structures are included in **Exhibit #2**. The applicant proposes demolition of the existing 2,492 sq. ft. 2-story single-family residence built circa 1959 and construction of a new 3,625 sq. ft. 2-story, 25-ft. tall single family residence an attached 430 sq. ft. 2-car garage, balcony decks totaling 938 sq. ft., a 715 sq. ft. at grade concrete patio and a detached 438 sq. ft. casita/ADU, with a 138 sq. ft. deck. Hardscape improvements include a pool, spa, koi pond, new driveway and side property line fencing and landscape improvements. Additionally, the applicant has revised the project description to include removal of an unpermitted retaining wall constructed beyond the edge of the coastal bluff in the rear yard of the property. This unpermitted development is a Coastal Act violation; it is further discussed in the Coastal Act Violation section of this report.

#### **Standard of Review**

The project site is in the Commission's permit jurisdiction as the City does not have a certified LCP. Chapter 3 policies of the Coastal Act are the standard of review with the City's certified Land Use Plan (LUP) serving as guidance.

### **Prior Commission Actions**

**A-5-10-76-7848** – Approved by the Commission in 1976 for a two-story addition to the existing single-family residence; CDP issued.

**CDP 5-83-839 (Perry)** – Approved by the Commission in 1983 for the replacement of an existing concrete patio and portion of existing slab and construction of caissons and grade beams for slide protection; CDP issued.

**CDP 5-13-0649 (Tanner)** Approved by the Commission in 2014 for improvements to an existing 2,492 sq. ft. single-family residence consisting of a complete interior remodel, a 300 sq. ft. addition to the first floor, 312 sq. ft. addition to the second floor, new 444 sq. ft. detached casita, new doors, windows, roof covering and exterior façade improvements, new hardscape including new spa, pond feature and landscaping; CDP expired two years from the date on which the Commission voted on the application.

### **B. Coastal Hazards**

Section 30253 of the Coastal Act states, in part:

New development shall do all of the following:

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Section 13577(h) of the Commission's Regulations, bluff edge definition, in part:

... the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a steplike feature at the top of the cliff face, the landward edge of the topmost riser shall be taken to be the cliff edge..." (Title 14, California Code of Regulations, §13577(h)(2)).

### **City of San Clemente LUP Policies**

**GEN-7 Setback Requirements.** Setback requirements from bluff and canyon edges and biological resources shall have priority over street and rights-of-way setback requirements, while maintaining a minimum five feet setback from the property line.

**GEN-8 Taking of Private Property.** The City does not have the power to grant or deny a permit in a manner which will cause a physical or regulatory taking of private property, without the payment of just compensation. This policy is not intended to increase or decrease the rights of any owner of property under the Constitution of the State of California or the United States (Coastal Act Section 30010).

**HAZ-8 Geotechnical Review.** A geotechnical review is required for all shoreline/coastal bluff or canyon parcels where new development or major remodel is proposed. If, as a result of geotechnical review, a greater setback is recommended than is required in the policies herein, the greater of the setbacks shall apply. For shoreline/coastal bluff or canyon parcels, geotechnical review shall identify the bluff or canyon edge, provide a slope stability analysis, and a bluff/slope retreat rate analysis. Consideration of the expected long-term average coastal bluff retreat rates over the expected life of the structure (minimum of 75 years unless otherwise specified in the LCP), shall include retreat rates due to expected sea level rise and a scenario that assumes that any existing shoreline or bluff protective device is not in place. The anticipated retreat over the expected life of the structure shall be added to the setback necessary to assure that the development will maintain a minimum factor of safety against land sliding of 1.5 (static) and 1.1 (pseudo static) for the life of the structure. The analysis for shoreline/coastal bluff parcels shall use the best available science on sea level rise and consider a range of scenarios including the high scenario of sea level rise expected to occur over the life of the structure and its effect on long term bluff retreat rates. The City may issue building permits for structures that maintain a different minimum factor of safety against landslides under certain circumstances and conditions, pursuant to the Geotechnical Review specifications in the IP and where alternative stability requirements are approved by the City Engineer.

**HAZ-9 Site-Specific Coastal Hazard and Erosion Study.** A site-specific coastal hazard and erosion study is required for all new shoreline and coastal bluff development that could be threatened by coastal hazards such as inundation, flooding, wave run-up and overtopping, erosion, etc. including an analysis of the changes to these hazards due to sea level rise within the anticipated life assuming no reliance upon existing or future shoreline protective devices. This study shall be prepared by a qualified professional, and shall use the best available science, and a scenario-based analysis to assess the potential coastal impacts (inundation, flooding, wave run-up and overtopping, erosion, etc.), taking into consideration the effects of sea level rise over the lifetime of the development (minimum of 75 years unless otherwise specified) considering, at a minimum, a high sea level rise scenario. If the new development cannot fully minimize hazards risks by avoiding all geologic and coastal hazards for the anticipated life of the development without reliance upon existing or future shoreline protection, the study should discuss possible adaptation responses to the hazards to reduce risk as feasible and mitigate impacts to coastal resources. The study should also include an evaluation to



determine whether any grading (permitted or unpermitted) has occurred and whether the grading, if any, has had an effect on potential inundation hazard.

**HAZ-10 Applicant's Assumption of Risk.** A Coastal Development Permit (CDP) for development in a hazardous area shall be conditioned when consistent with Policy GEN-8 to require the property owner to record a document (i.e., deed restriction) that waives and indemnifies the approving entity from liability for any personal or property damage caused by geologic, coastal or other hazards on such properties in relation to any development approved by the CDP and acknowledging that future shoreline protective devices to protect structures authorized by such a CDP are prohibited as outlined in HAZ-18.

**HAZ-19 No Right to Future Bluff or Shoreline Protective Device for New Development.** New development, including Major Remodels, shall be sited and designed to avoid the need for shoreline protective devices over the life of the structure(s), except when such development is coastal-dependent and there is no feasible alternative that avoids the need for a shoreline protective device (and in such cases such devices shall be limited to the maximum feasible degree). When consistent with GEN-8, a condition of any CDP issued for new development, including Major Remodels, but excluding coastal-dependent development, in areas subject to coastal hazards, including but not limited to tidal and storm flooding, wave runup, and erosion, as influenced by sea level rise over time, shall require the property owner(s) to record deed restriction(s) on all properties on which proposed development is sited that acknowledges that, pursuant to Section 30235 of the Coastal Act and HAZ-18, the owner has no right to construct shoreline protection to protect the new development approved pursuant to the permit and that expressly waives any right to apply to construct such protection pursuant to Section 30235 of the Coastal Act and HAZ-18.

**HAZ-32 New Development in Hazard Areas.** New development shall only be permitted where an adequate factor of safety can be provided including on sites with ancient landslides, unstable slopes, or other geologic hazards.

**HAZ-33 Development on Hillside, Canyons and Bluffs.** New development shall be designed and sited to maintain the natural topographic characteristics of the City's natural landforms by minimizing the area and height of cut and fill, minimizing pad sizes, siting and designing structures to reflect natural contours, clustering development on lesser slopes, restricting development within setbacks consistent with HAZ-41 and HAZ-47, and/or other techniques. Any landform alteration proposed shall be minimized to the maximum extent feasible. Development partially or wholly located in a coastal canyon or bluff or along the shoreline shall minimize the disturbance to the natural topographic characteristics of the natural landforms.

**HAZ-37 Removal of Non-conforming, Unpermitted and/or Obsolete Structures and Uses.** When a principal structure is removed, all non-

conforming accessory development and/or uses shall be removed. Development on the shoreline, canyon, and/or bluff sites must identify and remove all unpermitted and/or obsolete structures that are no longer being used, including but not limited to protective devices, fences, walkways, stairways, etc. which encroach into canyons or bluffs or shoreline or onto public property.

**HAZ-41 Blufftop Setback.** Proposed development, redevelopment, and accessory structures, if such accessory structures require a foundation on blufftop lots shall be set back by the greater of the following distances: the setback distance recommended as a result of the geotechnical study required by policy HAZ-8 or HAZ-9, at least 25 feet from the bluff edge, or in accordance with a stringline drawn between the nearest corners of adjacent structures on either side of the development. No deepened foundations, such as caissons, shall be located within 25 feet of a bluff edge. Cantilevering into the bluff top setback or geologic setback may be allowed up to a 10-foot seaward projection when necessary to avoid a taking pursuant to Policy GEN-8. In addition, construction within 5-feet of the public right-of-way front yard setback for all stories shall be allowed as long as adequate architectural relief (e.g., recessed windows or doorways or building articulation) is maintained as determined by the City. No variance or other additional permit shall be required for a reduction in the street side setback to a minimum of 5-feet when this policy is applied, provided the development is consistent with all other applicable LUP policies.

**HAZ-42 New Development and Accessory Structures in Bluff Setbacks.**

All new development, except for public access facilities, including additions to existing structures, on blufftop lots shall be landward of the setback line required by Policy HAZ-41. This requirement shall apply to the principal structure, additions and accessory or ancillary structures such as guesthouses, pools, and septic systems, etc. with a foundation. Accessory structures such as decks, patios, and walkways, which are at grade and do not require foundations may extend into the setback area and shall be sited in accordance with a stringline, but no closer than 10 feet to the bluff edge, provided such accessory structures:

- a. are consistent with all other applicable LCP policies;
- b. are sited and designed to be easily relocated landward or removed without significant damage to the bluff area;
- c. will be relocated and/or removed and the affected area restored to natural conditions when threatened by erosion, geologic instability, or other coastal hazards
- d. Are removed by the landowner in the event that portions of the development fall to the bluffs, beach or ocean before they are

removed/relocated, along with all recoverable debris, and the material lawfully disposed of in an approved disposal site;

e. Do not require any bluff or shoreline protective device.

**HAZ-43 Blufftop Swimming Pool Setback.** The minimum setback for swimming pools is the greater of the following distances: 25 feet from the bluff edge or the setback distance recommended as a result of the geotechnical review required by policy HAZ-8 or HAZ-9. All new or substantially reconstructed swimming pools shall incorporate a leak prevention/detection system.

**HAZ-45 Blufftop/Coastal Canyon Lot Drainage and Erosion.** New development and redevelopment on a blufftop or coastal canyon lot shall provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner away from the bluff/canyon edge to minimize hazards, site instability, and erosion. Drainage devices extending over or down the bluff face will not be permitted if the property can be drained away from the bluff face. Drainpipes will be allowed only where no other less environmentally damaging drain system is feasible, and the drainpipes are designed and placed to minimize impacts to the bluff face, toe, and beach.

**HAZ-46 Bluff, Canyon and Shoreline Landscaping.** All landscaping for new bluff, canyon or shoreline development or redevelopment shall consist of native, non-invasive, drought-tolerant, and fire-resistant species. Any permanent irrigation system shall be low volume (drip, micro jet, etc.) and shall only be permitted on the street facing portion of the lot. Irrigation systems along the bluff, canyon or shoreline portion of a lot shall only be allowed on a temporary basis for initial plant establishment and shall be removed after vegetation has established. Excessive irrigation on bluff and canyon lots is prohibited.

### **City of San Clemente LUP Definitions**

**“BLUFF EDGE”** The upper termination of a bluff, cliff, or seacliff: In cases where the top edge of the bluff is rounded away from the face of the bluff as a result of erosional processes related to the presence of the steep bluff face, the bluff line or edge shall be defined as that point nearest the bluff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the bluff. In a case where there is a step like feature at the top of the bluff face, the landward edge of the topmost riser shall be taken to be the bluff edge. Bluff edges typically retreat landward due to coastal erosion, landslides, development of gullies, or by grading (cut). In areas where the bluff top or bluff face has been cut or notched by grading, the bluff edge shall be the most landward position of either the current or historic bluff edge. In areas where fill has been placed near or over the historic bluff edge, the original natural bluff edge, even if buried beneath fill, shall be taken to be the bluff edge.

“**STRINGLINE**” means in a developed area where new construction is generally infill and is otherwise consistent with the policies of the Land Use Plan of the City of San Clemente Local Coastal Program, no part of a proposed new structure, including decks, shall be built closer to a bluff edge, canyon edge or beach-front than a line drawn between the nearest adjacent corners of the adjacent structures for a structural stringline and to the nearest corner of an accessory structure for an accessory stringline.

The site is a generally rectangular-shaped, 13,493 sq. ft. property which fronts 63± feet along Calle de los Alamos and extends southwesterly up to 246± feet to the rear property boundary located near the toe of a coastal bluff. Topographically, the property extends from the street across a relatively level pad at an average elevation of 105 feet (NAVD 88) and descends southwesterly across an irregular, approximately 1.5:1 to 2:1 (horizontal: vertical) ratio slope (upper portion of the bluff) to the rear property boundary. Below the site, the bluff face steepens to 1:1± as it descends to the footpath bordering the railroad tracks at a local elevation of 17 to 19± feet. The overall slope height is 80± feet. The key geologic feature at the site is a prehistoric, but geologically recent landslide extending more than 500 feet along the bluff seaward of Calle de los Alamos. According to a Geofirm report, the rear slope is predominantly comprised of landslide debris, which also underlies a portion of the building pad and that fill was unknowingly placed over the landslide debris in the early 1950s to create building pads for the subject and adjoining properties near the same general elevation of the neighboring bluff top lots.

The subject blufftop lot is currently developed with a two-story, single-family residence with a rear yard (ocean bluff-facing) concrete slab patio. The pre-Coastal Act residence was constructed circa 1959 and is non-conforming to the current minimum 25-foot bluff edge development setback. The Commission approved a 1976 remodel and second story addition, and in 1983 approved construction of caissons and grade beams beneath the portion of the existing slab/foundation facing the bluff and beneath a concrete patio that extends to within 5-feet of the bluff edge to address soil settlement caused by the ancient landslide on the subject site.

### **Bluff Edge Determination**

The City’s LUP bluff edge definition (cited in the policies section above) is similar, though not identical, to the definition of “bluff edge” contained in the Coastal Commission’s regulations (Cal. Code Reg. Title 14, §13577(h)). The Commission’s regulations definition does not explicitly address fill at the top of the bluff. The key consideration for present purposes is that San Clemente’s LUP definition does not credit artificial fill placed over the historic bluff edge, and explicitly states that the “original natural bluff edge, even if buried beneath fill” is to be used as the bluff edge in applying the certified policies of the LUP.

At the project site, determining the bluff edge pursuant to the certified LUP definition is complicated by the past placement of a deep mantle of fill on top of the natural bluff materials, greatly modifying the topography of the site and obscuring the “original natural bluff edge.” Geologic investigations conducted by Geofirm (the applicants’ geotechnical consultant) indicate that the coastal bluff at the subject site is composed

of Capistrano Formation (mostly siltstone) bedrock, overlain by marine and non-marine terrace deposits; and that the site is located along the northern headscarp of a large, prehistoric (but geologically recent) landslide extending 500-600 feet along the bluff seaward of Calle de los Alamos. As a result, the bluff face at the subject site is comprised largely of landslide debris. Development of the site and surrounding lots in the early to mid-1950s included the placement of up to ~20 feet of fill over both the intact natural bluff and the landslide debris in order to create level building pads. Geofirm concluded that due to past grading and construction activities, including the placement of the fill, “the delineation of the natural bluff edge in strict accordance with the LUP (or Coastal Act) is not possible.” Accordingly, their geologic hazards analyses and setback recommendations (listed in Appendix A of this staff report) use the edge of the upper bluff fill slope as the “geologic bluff edge” (see the geologic cross-section provided in **Exhibit #4**). The applicant did not undertake an additional extensive subsurface investigation (i.e., drilling of numerous borings across the site, or large amount of trenching and excavation in the surficially unstable fill at the top of the slope) necessary for a clearer understanding of the location of the buried natural bluff edge.

The Commission’s staff geologist Dr. Joseph Street provided an estimate of the position of the natural bluff edge, as defined in the LUP, using available information from the applicants’ geologic reports, including the limited subsurface investigation (consisting of two geotechnical borings) and evidence from historical maps and photographs dating from 1886, 1941, 1946, and 1948 that pre-date the placement of the artificial fill on the site. In an effort to minimize the significant uncertainties associated with use of these historical maps and photographs, Dr. Street estimated the historical (pre-1950) bluff edge position as the average of the estimated bluff edge positions taken from these four historical data sources. This straight line, average bluff edge position was approximately 118 feet seaward of the street curb (Calle de los Alamos). A significant constraint on this two-dimensional analysis was the presence of a large area of bare ground occupying the northern part of the site, visible in both the 1941 and 1946 aerial photographs, which precluded the delineation of the bluff edge across a significant portion of the site. Additionally, the 1886 and 1948 topographic maps were of uncertain accuracy (1886 map) and small-scale (1948 map), limiting their utility for a precise bluff edge determination.

In response to Dr. Street’s analysis, the applicant submitted a new historical bluff edge delineation based on a stereoscopic analysis of paired aerial photographs dating from 1941 (Geofirm 5/21/21). This analysis technique allows for topographic features to be more readily discerned than in Dr. Street’s analysis. Crucially, Geofirm was able to delineate the primary slope break across both the southern half of the project site (where it corresponded closely to Dr. Street’s delineation) and across the bare northern half of the site (**Exhibit #6**). Dr. Street has reviewed the new Geofirm bluff edge delineation, confirmed that the method used was rigorous and agrees that this delineation is an acceptable estimate of the bluff edge in 1941, predating the most significant landform alteration at the site (i.e., placement of fill for building pad in 1950s). The applicant also submitted a second figure showing that the estimated 1941 bluff edge line was, on average, 127.8 feet seaward of the street.

As shown in **Exhibit #5**, the 1941 historical bluff edge was up to 7 feet landward of the current edge of the fill slope (“geologic bluff edge” per Geofirm) on the southern half of the site. Here, the placement of fill in the 1950s has effectively extended the bluff top further seaward, burying the natural bluff edge. On this portion of the site, the bluff edge under the LUP and 13577(h) definitions is represented by the 1941 historical bluff edge. Across the northern half of the site the 1941 historical bluff edge occurs mostly seaward of the present-day edge of the fill slope. This indicates that there has been net bluff erosion since 1941, even with the placement of fill in the 1950s. In this northern area, the natural bluff edge remains unknown (buried by fill), but may occur near the edge of the fill slope. Thus, across the northern half of the site, the current “geologic bluff edge” (edge of fill) is taken to be the bluff edge under the LUP and 13577(h) definitions. The bluff edge and the 25-foot bluff edge setback is shown in **Exhibit #5**.

The bluff edge is relevant in order to establish necessary setbacks to assure the stability of proposed new development and assurance that the placement of new development will neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area as required by Coastal Act Section 30253.

### **New Bluff Development Setbacks**

Coastal bluff development is inherently hazardous and poses potential adverse impacts to the geologic stability of coastal bluffs, shoreline processes, and to the stability of residential structures. Bluff stability has been an issue of historic concern throughout the City of San Clemente. On bluff top lots in San Clemente, new development must conform to a minimum 25-foot setback from the bluff edge for primary structures (e.g. the enclosed living area of residential structures) and a minimum 10-foot setback for secondary structures (e.g., patios, decks, garden walls) or in accordance with a stringline setback, although this distance may be revised to accommodate slope instability and/or projected erosion.

Certified LUP Policy HAZ-41 more specifically requires development, redevelopment, and accessory structures (such as pools and accessory structures which require a foundation) on blufftop lots to be set back by the greater of the following distances: the setback distance recommended as a result of the geotechnical study required by policy HAZ-8 or HAZ-9, a minimum of 25 feet from the bluff edge, or in accordance with a stringline drawn between the nearest corners of adjacent structures on either side of the development. No deepened foundations, such as caissons, shall be located within 25 feet of a bluff edge. Cantilevering into the bluff top setback or geologic setback may be allowed up to a 10-foot seaward projection only when necessary to avoid a taking pursuant to LUP Policy GEN-8. In addition, construction within 5 feet of the public right-of-way front yard setback for all stories shall be allowed as long as adequate architectural relief (e.g., recessed windows or doorways or building articulation) is maintained as determined by the City. No variance or other additional permit shall be required for a reduction in the street side setback to a minimum of 5 feet when this policy is applied, provided the development is consistent with all other applicable LUP policies. LUP Policy HAZ-41 makes a clear distinction between the setback that is geologically necessary and the 25-foot minimum bluff edge setback; it requires the development to be setback by the greater of the two in order for the bluff setback to address other non-geological/non-hazard coastal resource protections (i.e., biological resources, visual resources).

Furthermore, certified LUP policies aim to restrict development on the face of coastal bluffs and to protect coastal bluffs from development encroachments to ensure protection and enhancement of visual and habitat values of the bluff. The Preliminary Grading Plan prepared by Toal Engineering with a survey date of May 2019 (**Exhibit #2, page 3**) submitted by the applicant depicts a low garden retaining wall at approximately the 104' elevation contour line. According to a Google Maps aerial photograph with 2021 map data (see image below), the subject wall appears to be of wood soldier pile type construction.



SUBJECT SITE –  
UNPERMITTED  
DEVELOPMENT

As this garden retaining wall-type element is located seaward of the bluff edge, it is non-conforming to the required minimum 10-foot bluff edge setback for accessory structures. Certified LUP Policy HAZ-37 requires all non-conforming accessory development and/or uses be removed when the primary structure is removed. The applicant has revised the proposed project to include removal of the retaining wall. Therefore, the Commission imposes **Special Condition 1** requiring the applicant submit final revised plans depicting the removal of this non-conforming element as part of the complete redevelopment of the site. Furthermore, **Special Condition 1** clarifies that a safety fence with shallow footings may be allowed along the bluff-facing portion of the lot provided it is located 10 feet or more from the bluff edge.

### **Geologic Stability**

Coastal Act Section 30253(b) requires new development assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. With regard to stability, certified LUP policies (listed above) require new development have an adequate slope stability factor of safety of 1.5 as determined through geotechnical analysis. The location/setback of proposed new development is also required to maintain this 1.5 factor of safety over the full project life, and thus must be adequate to accommodate 75 years of estimated bluff retreat resulting from erosional processes. The intent of the bluff edge setback is to substantially reduce the likelihood of proposed development becoming threatened given the inherent uncertainty in

predicting geologic processes in the future, and to allow for potential changes in bluff erosion rates as a result of rising sea level.

As described in the above section, the development of the subject site and adjoining properties in the mid-1950s included the placement of 20± feet of artificial fill over ancient landslide debris and intact terrace deposits. Due to localized fill settlement, in 1983, CDP 5-83-839 approved the replacement of an existing concrete patio and portion of existing slab and construction of caissons and grade beams to underpin and provide support to the rear/seaward side of the residence and rear patio.

The applicant provided several hazards analyses by Geofirm and a coastal hazards analysis by GeoSoils<sup>1</sup>, each considering aspects of bluff stability and erosion at the subject site. These reports concluded that the presence of the ancient landslide result in a relatively shallow bluff slope which then favors long-term resistance to bluff retreat. An important consequence of the old landslide is that the bluff at the project site has a variable but relatively gentle profile. According to Geofirm's reports, the site has localized slopes of up to 45 degrees (1:1 h:v), but the average slope along cross-section A-A' is less than 30 degrees (2:1 h:v), See **Exhibit #4**. For comparison, the intact cliffs to the north of the project site stand at 60 – 70 degrees. Due to the landslide and resulting gentle gradient of the bluff face, the top of the slope is set back approximately 200 feet inland of the bluff toe.

The May 26, 2020 Geofirm report concludes, "erosion from coastal hazards is considered improbable over the next 75 years." However, the Coastal Act and the City of San Clemente's certified LUP requires that new bluff development be sited to be safe from geologic instability and erosion hazards over a minimum 75-year project life, taking into account the effects of sea level rise, while avoiding the need for bluff and shoreline protection structures.

Thus, it is necessary to evaluate both the present-day stability of the coastal bluff at the site and the potential for instability, erosion and bluff retreat over the next 75 years, including the effects of sea level rise, while discounting the effects of any shoreline or bluff protection devices that currently exist at the site (i.e., the railroad corridor at the toe of the bluff). The entire San Clemente coastline, inclusive of the project site, is paralleled by a railroad corridor owned and maintained by the OCTA. Along much of the corridor the railroad tracks are positioned atop a raised earthen berm or step, at

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<sup>1</sup> "Preliminary Geotechnical Investigation, Proposed Residential Remodel and Additions, 1904 Calle de los Alamos, San Clemente, California" (June 6, 2013), "Geotechnical Analysis of Coastal Hazards Affecting Bluff Retreat, Proposed New Single-Family Residence, 1904 Calle de los Alamos" (May 21, 2020), "Geotechnical Update Report with Supplemental Investigation of Bluff Slope Stability, Proposed New Single-Family Residence 1904 Calle de los Alamos" (May 26, 2020), "Geotechnical Addendum Letter, Supplemental Investigation of Bluff Slope Stability, Proposed New Single-Family Residence, 1904 Calle de los Alamos, San Clemente, California" (May 3, 2021) and "Wave Runup and Coastal Hazard Study for Proposed New Residence, 1904 Calle de Los Alamos, San Clemente, California" (April 14, 2021), signed by D. W. Skelly, GeoSoils.



elevations between +17.5 – 22.5 feet MSL, and are protected by a riprap revetment. In the project area, however, there is no riprap seaward of the berm. A coastal recreational trail runs along the toe of the landslide just inland of the railroad. The railroad has been in place since the 1880s, and despite occasional storm damage and wave overtopping in this location of the railroad, the berm has effectively halted marine erosion at the toe of the bluff for the last 135 years. The City's LUP anticipates that sea level rise, coupled with coastal storms, will "eventually threaten the revetment, railroad, and development landward of the revetment and railroad such that an adaptive response will be necessary" (LUP Section 5.1.4). However, there is always the possibility that the railroad corridor could be moved to a new alignment by OCTA or a future owner, changing the bluff's configuration and vulnerability to coastal hazards, including sea level rise.

### **Bluff Stability – Present Day Conditions**

The applicants' quantitative slope stability analysis indicates that a 1.5 (static) / 1.1 (seismic) factor of safety for failures within the fill/landslide debris is achieved approximately 20 feet inland of the edge of the fill slope. However, the bluff is susceptible to renewed movement along the plane of the old landslide, which the Geofirm analysis indicates has factors of safety of 1.0 (static) / 0.77 (seismic). (Note: Consistent with Commission guidance, Geofirm's slope stability analyses did not include or rely on the stabilizing effects of the existing circa 1983 permitted caisson system beneath the rear yard of the subject site.)

Based on the relatively gentle angle of the landslide failure plane and the current absence of marine erosion at the bluff toe, the Commission's staff geologist judges that renewed movement of the old landslide, if it occurs, would most likely to occur as slow downhill creep rather than catastrophic failure. This opinion is also shared by the Geofirm project geologist (E. Hilde, pers. comm.). However, more substantial movement could occur during a large earthquake or if new marine erosion occurred at the bluff toe.

A 25-foot setback from the natural bluff edge buried underneath fill as depicted on **Exhibit #5** would place the proposed structure inland of the 1.5/1.1 factor of safety surfaces for failures within the fill and landslide material and would also be inland of the most likely failure surface for reactivation of the old landslide. It is not clear if the setback alone would maintain 1.5/1.1 factors of safety at the location of the new house following a major reactivation of the old landslide – for example, if new movement exposed a steep headscarp in the fill material at the top of the bluff. However, the proposed pier foundation system (**Exhibit #3**) for the proposed new residential structures would be located beneath the proposed residence and ADU. These foundation piers are proposed to be embedded at least five feet into stable marine terrace deposits below the fill and inland of the old landslide and would mitigate against instability following possible future reactivations of the old landslide. With the use of the pier foundation system, the proposed 25-foot setback from the bluff edge per the LUP definition would protect against bluff instability under present-day conditions. As proposed, at their nearest, the piers and primary residence are proposed to be 25 feet from the edge of the fill slope and 19 feet from the natural buried bluff edge. As

discussed in the Geofirm reports, the artificial fill on the bluff top does not provide adequate foundation support for the proposed house, and the use of conventional shallow foundations would leave the new house at risk of differential settlement and structural damage.

After review of the geotechnical investigations provided by the applicant and the proposed foundation plans (**Exhibit #3**), the Commission's staff geologist concluded that the pier foundation system is designed to support the house in the stable native bluff materials beneath the weak fill rather than laterally stabilize the bluff. The proposed piers would interfere only minimally with natural bluff erosion processes and would not prevent the bluff collapses and landslides that are the main driver of natural bluff retreat in the project area. Thus, the proposed pier foundation system does not represent a "shoreline protection device" or "bluff protection device" under the definitions contained in the LUP. Alternatives to the use of a pier foundation system could include (i) other highly engineered deepened foundation options, (ii) installation of a basement level founded in competent materials beneath the fill, or (iii) excavation of the existing fill and replacement with compacted fill. Arguably, these alternatives would have resulted in similar or greater landform alteration (and other coastal effects) as the proposed piers.

### **Future Bluff Retreat and Future Sea Level Rise Considerations**

In addition to minimizing present-day geologic hazards, the Coastal Act and City LUP require that new development assure stability over its full design life (75 years) while considering future bluff erosion and the potential effects of sea level rise, and without relying on shoreline or bluff protection devices.

Two important but uncertain factors influencing the potential for future bluff erosion and instability at the project site are (a) the continued presence of the OCTA railroad and any future measures undertaken to protect the railroad from coastal hazards; and (b) the course of future sea level rise (SLR) related to global climate change. The Commission's analysis of future erosion hazards does not make assumptions about possible future actions to protect the railroad, but rather examines the potential for erosion and bluff retreat under a range of SLR scenarios with the currently unprotected railroad berm and bluff toe.

The applicant's coastal hazards studies<sup>2</sup> generally concluded that significant bluff toe erosion would not occur in the next 75 years, and that any minor erosion that does occur would have no effect on the upper bluff and the position of the top of the slope. In combination, the two provided studies considered scenarios with up to 6.3 feet of SLR and evaluated wave runup under 100-year storm conditions or greater. In general, maximum wave runup was not projected to overtop the railroad berm under most future SLR conditions. However, with 6.3 feet of SLR, storm wave runup could reach +22 feet NAVD88 and result in modest overtopping of the berm. The applicant's coastal hazards studies also considered the potential for future shoreline retreat, but relied only on observed historical retreat rates (0.25 – 1 ft/yr) to project future shoreline retreat of up to

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<sup>2</sup> May 26 2020 Geofirm study and April 14 2021 GeoSoils study

75 feet over the project life. These shoreline retreat estimates did not account for future SLR. The April 2021 study from GeoSoils concluded that wave overtopping “will likely not reach beyond the Beach Trail location even if the beach is 40 feet or more narrower due to long-term erosion,” and that “the area between the top of the back beach and the bluff will effectively dissipate any overtopping waters well before the water impacts the site bluff.”

The applicant’s studies provided strong evidence that the proposed project is not in acute danger from renewed marine erosion at the bluff toe, and that even occasional wave contact with the bluff toe beyond the railroad is unlikely without a large amount of SLR. However, these studies did not explicitly consider the likelihood that SLR will accelerate shoreline erosion and retreat above historical rates. In contrast, the recent 2019 City of San Clemente Sea Level Rise Vulnerability Assessment (“City VA”) examined future shoreline evolution in the project vicinity using USGS Coastal Storm Modeling System (“CoSMoS”) projections of future flooding, wave runup, and shoreline retreat. The City VA analysis indicated that 3.3 ft (1 m) of SLR could result in 95 feet of shoreline retreat (up to 150 feet under winter eroded conditions), increasing to 165 feet (to 272 ft with winter erosion) with 4.9 ft (1.5 m) of SLR. These projections greatly exceed the magnitudes of shoreline retreat considered in the applicant’s analyses and would place the mean high tide line near or beyond the line of the railroad. Moreover, under the precautionary “medium-high risk aversion” SLR scenario, 3.3 feet of SLR could occur by the late 2060s and 4.9 feet by the 2080s, both within the assumed 75-year economic life of the proposed project. In short, the CoSMoS shoreline retreat projections relied on in the City VA suggest that renewed bluff toe erosion is a possibility under the higher SLR scenarios and needs to be examined more closely in relation to the project site.

At the request of Commission staff, the applicant provided a supplemental analysis (Geofirm 5/3/21) examining the stability of the bluff under future high SLR conditions (stated to represent 6+ feet of SLR and a 100-year storm) in which the railroad berm and lowest, most seaward portion of the bluff toe (to an elevation of approx. +23 ft NAVD88) had been eroded away. This relatively modest erosion and change to the slope profile did not affect the stability of the bluff and calculated factors of safety, indicating that it would take a substantial amount of new marine erosion at the bluff toe to threaten the proposed house.

In order to probe this issue further, the Commission staff geologist applied CoSMoS shoreline retreat projections and evaluated the potential for future bluff erosion and retreat under a high SLR scenario (6.6 ft by 2100) (see **Exhibit #7**). Under this scenario, CoSMoS projects that the “winter eroded shoreline” could reach the base of the railroad berm as early as 2069, and that the shoreline would continue to retreat landward at a rapid rate (average of 4 ft/yr) through 2100. On the ground, however, further shoreline retreat and bluff toe retreat beyond the railroad berm would have to be accomplished through the erosion of a large amount of increasingly resistant materials, including the railroad berm itself (~21 ft thick), the landslide materials at the base of the bluff (~65 ft thick) and, eventually, Capistrano Formation bedrock. In combination, the large horizontal distance and the bluff materials themselves would provide a substantial “buffer” for accommodating shoreline retreat and bluff erosion. Moreover, because the

new home would be built on a pier foundation embedded in stable marine terrace materials on top of intact Capistrano Formation bedrock, the house would be unaffected by new movement on the old landslide, and would not be threatened until a substantial amount of new erosion and retreat had occurred in the Capistrano Formation bedrock itself, inland of the old landslide materials. Dr. Street estimates that approximately 115 horizontal feet of Capistrano Formation bedrock would need to be eroded before the bluff would again be steep enough for there to be a significant risk of new landslides that could threaten the proposed home. Even at an unrealistically high bluff toe erosion rate of 4 ft/year, it would take an additional 30 years for such erosion to occur. In conclusion, Dr. Street's analysis of potential bluff erosion under a high SLR scenario (6.6 ft by 2100) supports the applicant's contention that the proposed house, with the proposed pier foundations, would not be threatened by erosion and bluff instability within a 75-year project life.

In summary, the available evidence and analysis supports the conclusion that as conditioned, with a 25-foot setback from the natural buried bluff edge as depicted on **Exhibit #5** along with the use of the pier foundation system, the project would assure stability and protect against future bluff retreat over the full 75-year life of the project. Therefore, **Special Condition 1** requires final revised plans requiring a minimum 25-foot setback from the bluff edge as depicted on **Exhibit #5** for the proposed new residence and its foundations and a 10-foot bluff edge setback for proposed accessory structures. Due to the more landward position of the bluff edge, accessory development and the primary residence will need to be set back up to 7 feet farther landward on the southern bluff-facing half of the lot than currently proposed. The revised plans required by **Special Condition 1** can therefore result in a smaller residence or the same size residence with a smaller street side setback. According to certified LUP Policy GEN-7, setback requirements from bluff edges and biological resources have priority over street setback requirements, and per LUP Policy HAZ-41, no variance or other additional permit shall be required for a reduction in the street side setback (while maintaining a minimum 5-foot street setback).

### **Existing Caissons and Grade Beams**

The bluff top at the subject site is currently stabilized by two rows of caissons and grade beams that were permitted in 1983 (**Exhibit #4**). The first row of caissons and the associated grade beam, located about 6 ft seaward of the existing (circa 1959) residence (with a permitted second story addition in 1976), supports the rear patio area, while a second row and associated grade beam is located beneath the seaward edge of the existing house. Geotechnical reports provided by the applicant indicate the caissons are embedded in Capistrano Formation rock to an unknown depth (>30 ft below ground surface). Given that the first row of caissons and associated grade beam is located only six feet from the edge of the fill slope, there is some potential that surficial erosion and shallow failures could expose the tops of these existing caissons and the grade beam during the life of the proposed project. Additionally, a major reactivation of the old landslide (such as during an earthquake or if there is new marine erosion at the bluff toe) could expose the existing caissons. Therefore, **Special Condition 5** requires that the applicant and/or future property owners address the potential exposure of the previously installed caissons and grade beams. In the event any of the permitted (circa

1983) subsurface caissons or grade beams on the subject site become exposed to public view from the public beach and/or trail below the site, the permittee shall submit plans to the Executive Director, for review and concurrence, that provide for the removal of the exposed portions of the existing buried caissons and recontouring of the bluff face grade/bluff revegetation to the extent feasible and that minimizes the visual impact of the exposed features. The Executive Director shall determine whether the proposed work will require an amendment to this coastal development permit, a new coastal development permit, or whether no amendment or new permit is legally required.

### **Proposed New Foundation**

As discussed above, a major reactivation of the old landslide the failure surface could expose the first row of the existing caisson support system. However, unless the caissons were completely destabilized, they would probably limit the propagation of the landslide farther landward. Subsequent erosion of a steep headscarp over a period of years or decades would be expected until the upper bluff slope reached a more stable angle. Depending on the rate at which this “layback” of the headscarp occurred, there is some potential for the exposure of the seawardmost of the proposed foundation piers within the project’s 75-year design life.

As development on coastal bluff sites is inherently dangerous, and the proposed development may be subject to unforeseen or underestimated geologic hazards in the future, which could lead to proposals for new shoreline or bluff protective devices to protect the proposed new development, there is a potential for adverse coastal resource impacts. Therefore, the Commission imposes **Special Condition 7** which prohibits construction of any future bluff or shoreline protective device(s) to protect the development approved pursuant to Coastal Development Permit No. 5-20-0476 including the proposed new residential structures, foundations, patio, pool, and spa, in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides, sea level rise or other natural coastal hazards in the future. Thus, pursuant to **Special Condition 7**, the applicants must agree to waive any right to construct any future bluff or shoreline protective devices such as revetments, seawalls, caissons, cliff retaining walls, shotcrete walls, and other such construction that armors or otherwise substantially alters the bluff. In the unlikely event that future erosion results in exposure of the proposed piers, conversion of the piers into an upper bluff retaining wall would constitute a bluff protective device, inconsistent with this condition. **Special Condition 7** does not preclude the applicant from applying for future coastal development permits for maintenance or future improvements to the site including improvements aimed to prevent slope and bluff instability. The Commission would determine the consistency of such proposals with the Coastal Act in its review of such an application.

### **Future Development**

The proposed development is located within an existing developed area and is compatible with the character and scale of the surrounding area. However, simply due to its bluff top location, the proposed project raises concerns that future development at the project site potentially may result in development which is not consistent with the Chapter 3 policies of the Coastal Act. In order to ensure that future development on the

site does not occur which could potentially adversely impact the geologic stability concerns expressed in this staff report, the Commission imposes **Special Condition 8**. This condition informs the applicant that future development at the bluff top site, pursuant to sections 13250 and 13252 of the Commission's regulations, requires an amendment to this permit (5-20-0476) or a new coastal development permit. Future development includes, but is not limited to, structural additions, landscaping, and fencing.

To ensure that any prospective future owners of the property are made aware of the applicability of the conditions of this permit, the Commission imposes **Special Condition 9** requiring that the property owner record a deed restriction against the property, referencing all of the above Special Conditions of this permit and imposing them as covenants, conditions and restrictions on the use and enjoyment of the Property. Thus, as conditioned, this permit ensures that any prospective future owner will receive actual notice of the restrictions and/or obligations imposed on the use and enjoyment of the land in connection with the authorized development, including the risks of the development and/or geologic and coastal hazards to which the site is subject, and the Commission's immunity from liability.

### **Site Drainage**

As previously stated, though currently not subject to direct wave attack, the San Clemente coastal bluffs are subject to natural erosion caused by other factors such as wind and rain, soils conducive to erosion, and rodent burrowing. Bluffs are also subject to erosion from human activities, such as irrigation, improper site drainage and grading. Therefore, adequate site drainage and construction phase erosion control measures are also necessary for new bluff top development.

The proposed preliminary grading plan and an erosion control plan prepared by Toal Engineering and included in **Exhibit #2** depicts surface water runoff from the rear and side yards directed away from the bluff toward the frontage road, via new drainage inlets that collect water runoff and directs it to existing City storm drains, per City requirements in a manner that would avoid surface run off from the rear/ocean facing deck to sheet flow toward the bluff potentially causing damaging erosion to the bluff.

The proposed project includes construction of a new pool/spa and koi pond on the subject bluff top lot. If the proposed pool is not properly maintained, there is a potential that water leakage from the pool/spa could adversely impact slope stability on this and adjacent properties. Constant, undetected infiltration of water into the slope could contribute to slope failure. The potential for water infiltration into the slope should be minimized to the greatest extent possible. This can be achieved by various methods, including installation of a pool double liner, appropriate drainage under these various water bodies to capture any water that could leak despite preventative efforts, and/or installation of a pool leak detection system. **Special Condition 3** requires the applicant to submit a pool protection plan for review and approval by the Executive Director prior to permit issuance. The plan must incorporate adequate mitigation against potential for geologic instability caused by leakage from the proposed pool.

### **Landscaping**

The Commission also finds that, for the residential bluff top project to ensure stability and avoid contributing significantly to erosion, landscaping on the bluff top should be primarily with native plants to avoid overwatering and possible slope destabilization. City of San Clemente LUP Policy HAZ-46 also requires new development on oceanfront bluff top lots to incorporate drainage improvements, removal of and/or revisions to irrigation systems, and/or use of native or drought-tolerant vegetation into the design to minimize threats to oceanfront bluff recession. Therefore, the Commission imposes **Special Condition 1** requiring a landscape plan utilizing native, non-invasive and drought-tolerant vegetation.

### **Conclusion**

Based on a review of the applicant's geotechnical reports and other relevant information, staff established the bluff edge on the subject site based on the specific certified LUP definition of bluff edge, evaluated the present-day bluff stability of the project site, the potential for future bluff erosion, and the adequacy of the proposed 25-foot bluff edge setback over a 75-year project life. The bluff face at the site consists of a prehistoric landslide that has been partially overlain by bluff top fill. Slope stability analyses indicate that the bluff is currently stable against deep-seated landslides but may be vulnerable to future movement along the plane of the old landslide, such as during an earthquake or if future sea level rise (SLR) allows for renewed marine erosion at the bluff toe. However, the proposed setback, combined with the use of a pier foundation embedded in stable materials landward of the landslide plane, would assure present-day stability. Future bluff retreat at the site will depend in part on future efforts to protect or relocate the existing OCTA railroad corridor, but the available evidence indicates that substantial new erosion at the bluff toe is only a possibility with higher levels of SLR (>3.3 ft) in the latter decades of the project life, and that even with 6+ feet of SLR, future bluff erosion would not threaten new development given a 25-ft setback from the bluff edge and the proposed pier foundation. If the old landslide were to reactivate, there is some potential for existing bluff top caissons to become exposed and a smaller risk that the proposed pier foundations could be exposed.

As conditioned, the project is required to provide an appropriate setback from the bluff edge; to prohibit construction of protective devices (such as blufftop or shoreline protective devices) in the future; and to require that the landowner and any successor-in-interest assume the risk of undertaking the development. Only as conditioned does the Commission find that the development conforms to the requirements of Section 30253 of the Coastal Act regarding the siting of development in a hazardous location.

### **C. Visual Resources**

Section 30251 of the Coastal Act states, in part:

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 land forms, to be visually compatible

with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

Coastal Act Section 30251 requires that development minimize alteration of natural landforms (such as coastal bluffs), and also requires that scenic and visual qualities be protected. The City's certified LUP also includes similar policies that require landform alteration be minimized, and that scenic qualities be protected. The proposed development is located on the bluff top and face immediately adjacent to the public beach. The site is highly visible from the shoreline along the public beach below and from the Coastal Trail located immediately at the bluff toe. The bluffs along this stretch of shoreline in San Clemente extend about 90 feet above beach level. From the beach, residential development along the blufftop are visible.

Section 30251 of the Coastal Act protects the scenic and visual qualities of coastal areas as a resource of public importance. Development is required to be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. The proposed residence must be sited and designed to be visually compatible with the relatively undisturbed character of the surrounding natural coastal bluffs, protect views to and along the beach area, and minimize the alteration of existing landforms. As previously discussed, the existing pre-Coastal Act residence is non-conforming to the current certified LUP coastal bluff setback policies. As conditioned, per **Special Condition 1**, the proposed new development would comply with the LUP policy requiring a minimum 25-ft. setback from the bluff edge as defined in the LUP, and would protect visual resources at the site.

As discussed previously, **Special Condition 8** ensures that any future development on the site, which may affect the stability or appearance of the bluff, requires a coastal development permit. The "future development" condition will also ensure that improvements are not made at the site that could affect the visual appearance of the coastal bluff or affect the stability of the bluff. Therefore, the Commission finds that, as conditioned, the proposed project is consistent with the visual resource protection policies of Section 30251 of the Coastal Act.

## **D. Public Access and Recreation**

Section 30210 of the Coastal Act states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.



Section 30212 of the Coastal Act states, in part:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: [...]

(2) Adequate access exists nearby[.]

Adequate public access to the beach exists nearby, approximately 250 feet south (downcoast) of the subject lot at the Lost Winds public beach access stairway leading down the bluff face to a protected at-grade railroad crossing and the public beach beyond. The proposed development, which consists of demolition of a single family residence and construction of a new single family residence on a coastal bluff top lot, will not create any new adverse impacts on coastal access and recreation.

Therefore, the Commission finds that the proposed development does not adversely impact public access and recreation and there is adequate, safe public access to the beach in the vicinity.

## **E. Biological Resources**

Section 30240(b) of the Coastal Act states:

Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

### **City of San Clemente LUP Policies**

**RES-72 Native Landscaping.** Drought-tolerant native landscaping specific to the habitat type/vegetation community is required in coastal canyon and bluff areas, to reduce erosion and maintain natural open space areas. Invasive plant species are prohibited in all landscaping.

**RES-84 Bird-Safe Buildings.** All new buildings, and major renovations/remodels of existing buildings, shall be required to provide bird-safe building façade treatments in order to reduce potential for bird-strikes. Landscaping around buildings, including patios and courtyards, shall be designed and sited to avoid or minimize bird-strike hazards caused by reflective surfaces such as glass fencing/railing. Buildings shall be designed to use minimal exterior lighting and minimize light pollution from interior lighting to the maximum extent feasible to minimize nighttime bird-strike hazards.

**RES-85 Minimization of Lighting Impacts.** Eliminate or shield and direct exterior lighting away from biological resources to minimize adverse impacts to wildlife. There shall be no spillover of light into the identified biological resource. Buildings shall be designed to use minimal exterior lighting (limited to pedestrian safety needs) and to

minimize direct upward light, spill light, glare and artificial night sky glow.

The City of San Clemente Certified LUP includes the coastal bluff at the subject site and adjacent vicinity as Potential Sensitive Habitat in Figure 4-2-B of the certified Land Use Plan. The LUP reads,

“Several natural communities designated rare by CDFW occur in the City of San Clemente. Potential areas supporting sensitive habitat are shown on Figures 4-2 (A thru D). Development projects in or adjacent to these potential sensitive habitat areas will require site specific focused surveys to determine if ESHA exists, evaluate potential impacts, and determine appropriate setbacks. In the City, potentially sensitive habitat areas include, but are not limited to, the following:

- a. Coastal scrub communities.
- b. Coastal canyons and bluffs/coastal bluff scrub.
- c. Native grasslands.
- d. Creek/stream and associated riparian habitat.
- e. Monarch butterfly aggregation sites, including autumnal and winter roost sites and related habitat areas.
- f. Wetlands, including vernal pools and emergent wetlands.”

San Clemente’s certified LUP advocates for the preservation of native vegetation and discourages the introduction of non-native vegetation in coastal canyons and along coastal bluffs. Coastal Act policies aim to prevent impacts which would significantly degrade those areas, and ensure that development shall be compatible with the continuance of those habitat areas. Decreases in the amount of native vegetation along the coastal bluffs due to displacement by development or introduction of non-native vegetation have resulted in cumulative adverse impacts upon the habitat value of the coastal bluffs. The LUP coastal bluff setback policies also aim to protect the biological value of bluff habitat and preserve the visual qualities of bluff landforms.

Unpermitted development has occurred on the subject consisting of construction of an unpermitted wooden soldier-pile type garden retaining wall constructed on the bluff slope, an area that the Coastal Act and City’s certified LUP policies aim to protect, enhance, and prevent impacts which would significantly degrade those areas. The applicant has modified the project description to include removal of the unpermitted development as part of the complete redevelopment of the site. Since development is proposed along and beyond the edge of the coastal bluff where the protection and enhancement of its vegetation and habitat values is sought, the area will need to be restored. Placement of vegetation that is considered to be invasive which could supplant native vegetation should not be allowed. Invasive plants have the potential to overcome native plants and spread quickly. Invasive plants are generally those identified by the California Invasive Plant Council (<http://www.cal-ipc.org>) and California Native Plant Society ([www.CNPS.org/](http://www.CNPS.org/)) in their publications. The Commission typically requires that applicants utilize native plant species, particularly along coastal canyons and bluffs. LUP Policy RES-72 requires drought-tolerant native landscaping specific to the habitat type/vegetation community adjacent to coastal bluff areas. The landscape

plan (**Exhibit #2**), submitted by the applicant proposes use of *Sporobolus heterolepis* (aka, dropseed grass), *Calamagrostis foliosa*, (aka Mendocino reed grass) and *Clinopodium douglasii* (aka, yerba Buena) for the rear facing coastal bluff side of the lot; however, although non-invasive and drought tolerant plants, these plant species are not native to coastal Orange County bluff plant communities. Elsewhere on the site, while the use of native plants is still encouraged, non-native plant species that are drought-tolerant and non-invasive may be used. Additionally, deep-rooted, low water use plants, preferably native to coastal Orange County should be selected for general landscaping purposes in order to minimize irrigation requirements and saturation of underlying soils to decrease the potential for slope instability. Low water use, drought tolerant native plants require less water than other types of vegetation, thereby minimizing the amount of water that may be introduced into the bluff slope due to seepage. Drought resistant plantings and minimal irrigation encourage root penetration that increases slope stability. The term 'drought tolerant' is equivalent to the terms 'low water use' and 'ultra low water use' as defined and used by "A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California" (a.k.a. WUCOLS) prepared by University of California Cooperative Extension and the California Department of Water Resources dated August 2000 available at <http://www.owue.water.ca.gov/landscape/pubs/pubs.cfm>.

Additionally, LUP Policies RES-84 and RES-85 aim to minimize adverse impacts to wildlife by requiring new buildings provide bird-safe building façade treatments in order to reduce potential for bird-strikes, landscaping around buildings, including patios and courtyards be designed and sited to avoid or minimize bird-strike hazards caused by reflective surfaces such as glass fencing/railing; and for new structures to be designed to use minimal exterior lighting and minimize light pollution from interior lighting to the maximum extent feasible, and eliminate or shield and direct exterior lighting away from biological resources (i.e., minimize direct upward light, spill light, glare and artificial night sky glow).

Glass walls are known to have adverse impacts upon a variety of bird species. Birds are known to strike glass walls causing their death or stunning them which exposes them to predation. Some authors report that such birds strikes cause between 100 million to 1 billion bird deaths per year in North America alone. Birds strike the glass because they either don't see the glass, or there is some type of reflection in the glass which attracts them (such as the reflection of bushes or trees that the bird might use for habitat).

For these reasons, **Special Condition 1** requires the greater of all possible bluff setbacks, a 25-foot setback from the bluff edge, per the LUP definition, and submittal of a revised landscaping plan depicting the use of native plants appropriate to the habitat type adjacent to the bluff area and revised to include the revegetation of the areas impacted by the removal of the unpermitted wood retaining wall; and non-invasive, drought tolerant plants to minimize the use of water throughout the rest of the site. Temporary above ground irrigation shall be permitted to establish plantings; but no permanent in-ground irrigation system shall be permitted on the rear bluff facing side of the lot. To provide further protection to coastal avian species, **Special Condition 1**

requires the applicant submit final revised plans that minimize bird strike issues, necessary to protect against significant disruption of habitat values. Moreover, as approval of the proposed at-grade deck area and large bluff facing enclosed balcony decks would allow human activity with a very minimal setback from the bluff slope, where the protection and enhancement of its vegetation and habitat values is sought, **Special Condition 1** ensures further protection of the biological resources within the bluff open space through the minimization of light pollution impacts generated by project and the shielding of direct exterior lighting away from the bluff slope.

The special conditions of this staff report are designed to protect the existing and potential habitat value of the coastal bluff. Therefore, the Commission finds that the development, as conditioned, does not pose significant adverse impacts which would significantly degrade habitat, and is compatible with the continuance of those areas consistent with Section 30240 of the Coastal Act.

## **F. Marine Resources and Water Quality**

Section 30230 of the Coastal Act states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

### **Construction Phase Impacts to Water Quality**

Storage or placement of construction materials, debris, or waste in a location subject to erosion and dispersion or which may be discharged into coastal waters via rain or wind could result in adverse impacts upon the marine environment that would reduce the biological productivity of coastal waters. For instance, construction debris entering coastal waters may cover and displace soft bottom habitat. Sediment discharged into coastal waters may cause turbidity, which can shade and reduce the productivity of foraging avian and marine species' ability to see food in the water column.

In order to avoid adverse construction-related impacts upon marine resources, the Commission imposes **Special Condition 4**, which outlines construction-related best management practices (BMPs) to provide for the safe storage of construction materials and the safe disposal of construction debris. During construction, the applicant will be required to implement BMPs designed to minimize erosion, loss of soil materials, and prevent debris and soil from entering the storm drain system.

### **Post-Construction Impacts to Water Quality**

Much of the pollutants entering the ocean come from land-based development. The Commission finds that it is necessary to minimize to the extent feasible within its jurisdiction the cumulative adverse impacts on water quality resulting from incremental increases in impervious surface associated with new development. In order to address post-construction water quality impacts, the applicant provided a Grading/Drainage Plan (**Exhibit #2**). To minimize adverse impacts to water quality the proposed project may have after construction, site runoff is proposed to be collected into area drains and piped directly to the frontage road, away from the coastal bluff edge to existing City storm drains, per City requirements. Sources of additional polluted runoff could include runoff from the large amount of impervious surface in the proposed project and over-watering, which sometimes occurs from installation of landscaping with a high water demand (i.e., sod lawn). Plants with a high-water demand are typically not well-suited to the Mediterranean climate of southern California, and therefore often require intense fertilization and application of pesticides/herbicides as a maintenance regime, in addition to regular irrigation. Thus, this type of landscaping can add pollutants to both dry weather and stormwater runoff. Therefore, the use of drought tolerant plants or low-maintenance landscaping is a preferred alternative.

Therefore, the Commission imposes **Special Condition 1** requiring the applicant to submit a revised landscaping plan which includes non-invasive, drought tolerant and native vegetation in areas adjacent to the coastal bluff and non-invasive, drought tolerant vegetation on the side yards and street-facing portion of the lot. Native, drought tolerant plants are required because they require little to no watering once they are established (1-3 years), they have deep root systems that tend to stabilize the soil, and are spreading plants that tend to minimize erosion impacts of rain and water run-off while continuing to maintain the natural plant communities.

Combined with the proposed use of non-invasive drought tolerant vegetation to reduce water runoff discharged from the site, the project will minimize the project's adverse impact on coastal waters and will not have a significant impact on marine resources, biological productivity or coastal water quality. Therefore, the Commission finds that the proposed development, as conditioned, conforms to Sections 30230 and 30231 of the Coastal Act regarding the protection of water quality to protect marine resources, promote the biological productivity of coastal waters and to protect human health.

## G. Coastal Act Violation

Violations of the Coastal Act have occurred on the subject site including construction of a low wooden soldier pile type wall. The unpermitted work occurred on a coastal bluff slope, beyond the bluff edge. Any nonexempt development activity conducted in the Coastal Zone without a valid coastal development permit, or which does not substantially conform to a previously issued permit, constitutes a violation of the Coastal Act. The proposed development currently before the Commission includes the complete demolition of a single-family residence and construction of a new single-family residence and Accessory Dwelling Unit (ADU), new landscape and hardscape, and the removal of an unpermitted wall structure beyond the bluff edge in the rear yard of the property. The Preliminary Grading Plan (Exhibit 2, page #) submitted by the applicant and a Google Maps aerial image (Exhibit 1, page #) depict a wood soldier pile-type wall structure along the bluff facing side of the property. No Commission-issued permits approving the wood wall structure have been identified. Thus, the construction of the wood wall constitutes a violation of the Coastal Act. To resolve the violation on the property, the applicant proposes to remove the unpermitted wood wall structure as part of the project proposal. Therefore, the Commission imposes **Special Condition 1** requiring the applicant submit final revised plans, reviewed and approved by the City, clearly depicting the removal of the unpermitted wood wall. The staff recommendation for the proposed project is based on protection of all coastal resources present on the site and consideration of those that would be present on site if unpermitted development had not occurred.

Although development has taken place prior to submission of this permit application, consideration of the permit application by the Commission has been based solely on the consistency of the proposed development with the policies of Chapter 3 of the Coastal Act. The certified San Clemente Land Use Plan was used as guidance by the Commission in reaching its decision. Approval of this application pursuant to the staff recommendation, issuance of the permit, and the applicant's subsequent compliance with all terms and conditions of the permit will result in resolution of the above described violations going forward.

## H. Local Coastal Planning

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal permit for development in an area with no certified Local Coastal Program ("LCP") only if the project will not prejudice the ability of the local government having jurisdiction to prepare an LCP that conforms with Chapter 3 policies of the Coastal Act. The Commission certified the Land Use Plan (LUP) for the City of San Clemente on May 11, 1988, and certified an amendment approved in October 1995. On April 10, 1998, the Commission certified with suggested modifications the Implementation Plan (IP) portion of the Local Coastal Program. Approval of the IP with suggested modifications expired on October 10, 1998 without City adoption. The City re-submitted an IP on June 3, 1999, but withdrew the submittal on October 5, 2000. The Commission certified a comprehensive LUP update amendment on August 2, 2018. The City submitted a draft IP in December 2019 but abandoned the certification effort a year later, no formal IP

submittal has been re-submitted. At this time, the City of San Clemente does not have a certified LCP.

As conditioned, the proposed development is consistent with the Chapter 3 policies of the Coastal Act and the policies contained in the certified 2018 Land Use Plan regarding public access, recreation, and environmental protection. Approval of the proposed development will not prejudice the City's ability to prepare a Local Coastal Program for San Clemente that is consistent with the Chapter 3 policies of the Coastal Act as required by Section 30604(a).

## **I. California Environmental Quality Act**

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The City of San Clemente is the lead agency for purposes of CEQA compliance. As determined by the City, this project is statutorily exempt from CEQA. As such, the project is exempt for CEQA's requirements regarding consideration of mitigation measures and alternatives. The Commission, however, has conditioned the proposed project in order to ensure its consistency with Chapter 3 policies of the Coastal Act. Mitigation measures, including conditions addressing: Special Condition 1: Submittal of Revised Final Plans in conformance with geotechnical recommendations; Special Condition 2: Conformance with Geotechnical Recommendations; Special Condition 3: Pool/Spa Protection Plan; Special Condition 4: Revised Landscaping Plan; Special Condition 5: Storage of Construction Materials, Mechanized Equipment and Removal of Construction Debris; Special Condition 6: Caisson Exposure Plan; Special Condition 7: Assumption of Risk and Waiver of Liability; Special Condition 8: No Future Shoreline/Bluff Protection Device; Special Condition 9: Future Improvements; Special Condition 10: Deed Restriction will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

## **APPENDIX A – SUBSTANTIVE FILE DOCUMENTS**

- 1) City of San Clemente LUP
- 2) City of San Clemente Sea Level Rise Vulnerability Study, 2019
- 3) City of San Clemente Approval in Concept dated 8/14/20
- 4) Geofirm, 2013, "Preliminary Geotechnical Investigation, Proposed Residential Remodel and Additions, 1904 Calle de los Alamos, San Clemente, California, report dated June 6, 2013, signed by E. R. Hilde and E. J. Aldrich.
- 5) Geofirm, 2019a, "Geotechnical Analysis of Coastal Hazards Affecting Bluff Retreat, Proposed New Single-Family Residence, 1904 Calle de los Alamos, San Clemente, California", report dated May 21, 2020, signed by E. R. Hilde and Z. Wang.
- 6) Geofirm, 2019b, "Geotechnical Update Report with Supplemental Investigation of Bluff Slope Stability, Proposed New Single-Family Residence, 1904 Calle de los Alamos, San Clemente, California", report dated May 26, 2020, signed by E. R. Hilde and Z. Wang.
- 7) GeoSoils, 2021, "Wave Runup and Coastal Hazard Study for Proposed New Residence, 1904 Calle de Los Alamos, San Clemente, California", report dated April 14, 2021, signed by D. W. Skelly.
- 8) Geofirm, 2021, "Geotechnical Addendum Letter, Supplemental Investigation of Bluff Slope Stability, Proposed New Single-Family Residence, 1904 Calle de los Alamos, San Clemente, California", report dated May 3, 2021, signed by E. R. Hilde and H. H. Richter.
- 9) CDP 5-83-839
- 10) CDP A-5-10-76-7848
- 11) CDP 5-13-0649