

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA
SOUTH CALIFORNIA ST., SUITE 200
TURA, CA 93001
(805) 585 - 1800

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Commission Action:



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STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-01-160
APPLICANT: Bill Chadwick
AGENT: Lynn Heacox
PROJECT LOCATION: 21804 Pacific Coast Highway, Malibu (Los Angeles County)

PROJECT DESCRIPTION: Proposal to demolish an existing single family residence, septic system, and portions of an existing seawall; construct a new 28 ft. high, two-story 10,446 sq. ft single family residence with attached four-car garage, terrace, swimming pool and spa, new seawall approximately 20-25 feet landward of the existing seawall, secondary treatment septic system, and approximately 850 cu. yds. grading (all cut). The proposal also includes a 20% view corridor and an offer to dedicate a lateral access easement over the southern beachfront portion of the site.

Lot area	23, 520 sq. ft.
Building coverage	5,346 sq. ft.
Pavement coverage	5,284 sq. ft.
Landscape coverage	0
Height Above Finished Grade	28 ft.
Parking spaces	4

LOCAL APPROVALS RECEIVED: City of Malibu Planning Department, Approval in Concept, August 2, 2001; City of Malibu Coastal Engineering Review, Approval in Concept, July 19, 2001; City of Malibu Geological Review, Approval in Concept, July 10, 2001; City of Malibu Environmental Health, Approval in Concept, September 29, 2000; City of Malibu Biological Review, Approval in Concept, July 24, 2001.

SUBSTANTIVE FILE DOCUMENTS: "Wave Uprush Study," Pacific Engineering Group, October 21, 1999; "Coastal Review Response," Pacific Engineering Group, July 16, 2001; "Seawall Conformance," Pacific Engineering Group, March 4, 2002; "Preliminary Geotechnical Engineering Investigation," Southwest Geotechnical, Inc., June 10, 1999; "Addendum #1," Southwest Geotechnical, Inc., May 10, 2001. Coastal Development Permit (CDP) # P-1832 (Adler); CDP # P-4826 (Adler); CDP #5-87-809 (Chamberlin).

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **approval** of the proposed project with **thirteen (13) special conditions** regarding (1) geologic, geotechnical, and coastal engineering recommendations, (2) drainage and polluted runoff, (3) assumption of risk, (4) offer to dedicate lateral public access, (5) public view corridor, (6) removal of existing seawall, (7) limited term for shoreline protective structure, (8) pool maintenance, (9) construction responsibilities, (10) sign restriction, (11) revised plans, (12) no future seaward extension of shoreline protective device, and (13) deed restriction.

I. STAFF RECOMMENDATION

MOTION: *I move that the Commission approve Coastal Development Permit No. 4-01-160 pursuant to the staff recommendation.*

Staff Recommendation of Approval:

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 the Commissioners present.

Resolution to Approve the Permit:

The Commission hereby approves a coastal development permit for the proposed development 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 permittee 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 term or 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 permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. Plans Conforming to Geologic, Geotechnical, and Coastal Engineering Recommendations

All recommendations contained in the reports prepared for the site by Pacific Engineering Group ("Wave Uprush Study," dated October 21, 1999; "Coastal Review Response," dated July 16, 2001; and "Bulkhead Conformance," dated March 4, 2002) and Southwest Geotechnical, Inc. ("Preliminary Geotechnical Engineering Investigation," dated June 10, 1999 and "Addendum #1," dated May 10, 2001) shall be incorporated into all final design and construction. Final plans must be reviewed and approved by the consultants. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for review and approval by the Executive Director, two sets of plans with evidence of the consultants' review and approval of all project plans.

The final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission relative to construction, grading, sewage disposal and drainage. Any substantial changes in the proposed development approved by the Commission that may be required by the consultants shall require an amendment to the permit or a new coastal permit.

2. Drainage and Polluted Runoff Control Plans

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, two sets of final drainage and runoff control plans, including supporting calculations. The plan shall be prepared by a licensed engineer and shall incorporate structural and non-structural Best Management Practices (BMPs) designed to control the volume, velocity and pollutant load of stormwater leaving the developed site. The plan shall be reviewed and approved by the consulting geotechnical engineer and geologist to ensure the plan is in conformance with consultant's recommendations. In addition to the specifications above, the plan shall be in substantial conformance with the following requirements:

- (a) Selected BMPs (or suites of BMPs) shall be designed to treat or filter stormwater from each runoff event, up to and including the 85th percentile, 24-hour runoff event for volume-based BMPs, and/or the 85th percentile, 1-hour runoff event, with an appropriate safety factor, for flow-based BMPs.
- (b) Runoff shall be conveyed off site in a non-erosive manner.
- (c) Energy dissipating measures shall be installed at the terminus of outflow drains.
- (d) The plan shall include provisions for maintaining the drainage system, including structural BMPs, in a functional condition throughout the life of the approved development. Such maintenance shall include the following: (1) BMPs shall be inspected, cleaned and repaired when necessary prior to the onset of the storm season, no later than September 30th each year and (2) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system or BMPs and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.

3. Assumption of Risk, Waiver of Liability and Indemnity

By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from liquefaction, storm waves, surges, erosion, landslide, flooding, and wildfire; (ii) to assume the risks to the applicant 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; and (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.

4. Offer to Dedicate Lateral Public Access

In order to implement the applicant's proposal of an offer to dedicate an easement for lateral public access and passive recreational use along the shoreline as part of this project, the applicant agrees to complete the following **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**: the landowner shall execute and record a document, in a form and content acceptable to the Executive Director, irrevocably offering to dedicate to a public agency or private association approved by the Executive Director an easement for lateral public access and passive recreational use along the shoreline. The document shall provide that the offer of dedication shall not be used or construed to allow anyone, prior to acceptance of the offer, to interfere with any rights of public access acquired through use which may exist on the property. Such easement shall be located along the entire width of the property (Assessor's

Parcel Number 4451-006-012) from the ambulatory mean high tide line landward to the approved deck dripline.

The document shall be recorded free of prior liens that the Executive Director determines may affect the interest being conveyed, and free of any other encumbrances that may affect said interest. The offer shall run with the land in favor of the People of the State of California, binding all successors and assignees, and shall be irrevocable for a period of 21 years, such period running from the date of recording. The recording document shall include legal descriptions and graphic depiction of both the applicant's entire parcel and the easement area. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

5. Public View Corridor

By acceptance of this coastal development permit, the applicant agrees, on behalf of itself and its successors and assigns that:

- 1) No less than 20 percent of the lineal frontage of the project site shall be maintained as a public view corridor from Pacific Coast Highway to the Pacific Ocean.
- 2) No structures, vegetation, or obstacles which result in an obstruction of public views of the Pacific Ocean from Pacific Coast Highway shall be permitted within the public view corridor as shown on Exhibit 3.
- 3) Fencing within the public view corridor shall be limited to visually permeable designs and materials, such as wrought iron or non-tinted glass materials. Fencing shall be limited to no more than six feet in height. All bars, beams, or other non-visually permeable materials used in the construction of the proposed fence shall be no more than one inch in thickness/width and shall be placed no less than 12 inches apart in distance. Alternative designs may be allowed only if the Executive Director determines that such designs are consistent with the intent of this condition and serve to minimize adverse effects to public views.
- 4) Vegetation within the public view corridor shall be limited to low-lying vegetation of no more than two feet in height.

6. Removal of Existing Seawall

The applicant shall remove the existing seawall located on the subject site, as shown in Exhibit 7, with the exception of that portion that serves as the west abutment to the Coal Creek outfall, prior to the construction of the proposed residence.

7. Limited Term for Shoreline Protective Structure

By acceptance of this coastal development permit, the applicant agrees and acknowledges, on behalf of itself and its successors and assigns that the purpose of the shoreline protective

device authorized by this permit is solely to protect the septic system on site and that no shoreline protective device is required to protect the residence authorized by this permit. If the proposed septic system is replaced or abandoned for any reason (including the installation of a new sewer system along Pacific Coast Highway) then a new coastal development permit for the shoreline protective device authorized by Coastal Development Permit 4-01-160 shall be required. If a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system, then the shoreline protective device authorized by this permit shall be removed. Removal of the shoreline protective device shall require a coastal development permit or other authorization under the Coastal Act.

8. Pool and Spa Drainage and Maintenance

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit, for review and approval of the Executive Director, a written pool and spa maintenance plan, that contains an agreement to install and use a no chlorine or low chlorine purification system. The plan shall identify methods of pool and spa maintenance that will ensure that any runoff or drainage from the pool or spa will not include excessive amounts of chemicals that may adversely affect water quality or environmentally sensitive habitat area. In addition, the plan shall, at a minimum prohibit discharge of chlorinated or non-chlorinated pool water into a street, storm drain, creek, canyon, drainage channel, or other location where it could enter receiving waters. The Permittees shall undertake development and maintenance in compliance with this pool and spa maintenance agreement and program approved by the Executive Director. No changes shall be made to the agreement or plan unless they are approved by the Executive Director.

9. Construction Responsibilities and Debris Removal

The applicant shall, by accepting this permit, agree: a) that no stockpiling of dirt or construction materials shall occur on the beach; b) that all grading shall be properly covered and sand bags and/or ditches shall be used to prevent runoff and siltation; and, c) that measures to control erosion must be implemented at the end of each day's work. In addition, no machinery will be allowed in the intertidal zone at any time. The permittee shall remove from the beach area any and all debris that result from the construction period.

10. Sign Restriction

No signs shall be posted on the property subject to this permit unless they are authorized by a coastal development permit or an amendment to this coastal development permit.

11. Revised Plans

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, revised project plans prepared by a registered engineer and architect, which shows the residence relocated landward of the structural stringline shown in Exhibit 5.

12. No Future Seaward Extension of Shoreline Protective Device

A. By acceptance of this Permit, the applicant agrees, on behalf of itself (or himself or herself, as applicable) and all successors and assigns, that no future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to Coastal Development Permit No. 4-01-160, as described and depicted on an Exhibit attached to the Notice of Intent to Issue Permit (NOI) that the Executive Director issues for this permit, shall be undertaken if such activity extends the footprint seaward of the subject shoreline protective device. By acceptance of this Permit, the applicant waives, on behalf of himself and all successors and assigns, any rights to such activity that may exist under Public Resources Code Section 30235.

B. Prior to the issuance by the Executive Director of the **Notice of Intent to Issue the Permit** (NOI), the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an Exhibit to the NOI, a formal legal description and graphic depiction of the shoreline protective device approved by this permit, as generally described above and shown on Exhibit 6 attached to this staff report, showing the footprint of the device and the elevation of the device referenced to NGVD (National Geodetic Vertical Datum).

13. 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 applicant has executed and recorded against the parcel(s) 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

The Commission hereby finds and declares:

A. Project Description and Background

The applicant is proposing to demolish an existing single family residence, septic system, and portions of an existing seawall and to construct a new 28 ft. high, two-story 10,446 sq. ft single

family residence with attached four-car garage, terrace, swimming pool and spa, new seawall approximately 20-25 feet landward of the existing seawall, secondary treatment septic system, and approximately 850 cu. yds. grading (all cut). The applicant's proposal also includes a 20% view corridor and an offer to dedicate a lateral public access easement over the southern beachfront portion of the site.

The project site is located at the eastern end of Carbon Beach adjacent to the outfall of Coal Creek. It is located on a rectangular beachfront parcel of land encompassing approximately 23,520 square feet on Carbon Beach between Pacific Coast Highway and the Pacific Ocean (**Exhibits 1 and 2**). The area surrounding the project site is characterized as a built-out portion of Malibu consisting of residential development. The subject site is currently developed with an existing 3,000 sq. ft. single family residence (**Exhibit 13**). In addition, there is an existing seawall across the subject parcel, with an abutment wall parallel to the outfall of Coal Creek that serves as a return wall.

The proposed project includes the demolition of all existing development on the subject site, including the seawall (with the exception of the abutment noted above), and the construction of a new larger residence. The proposed development will be constructed entirely on a raised concrete platform supported by a caisson/grade beam foundation. Although no shoreline protective devices are necessary to protect the proposed single family residence, a new seawall is necessary to protect the proposed secondary treatment septic system on the project site. The proposed septic system will be located in the most landward position feasible, as will the protective seawall. The applicant also proposes to construct a return wall, which extends 20 feet seaward along the western property line to join with the existing seawall on the neighboring property, and to retain an existing abutment wall parallel to Coal Creek in order to protect the septic system from end scour (**Exhibits 6 and 7**).

The applicant has submitted evidence of review of the proposed project by the California State Lands Commission (CSLC) dated July 21, 2000, which indicates that the CSLC presently asserts no claims that the project is located on public tidelands. The CSLC does, however, reserve the right to any future assertion of state ownership or public rights should circumstances change.

The application was originally submitted by Pepperdine University, and was transferred to the current applicant, Bill Chadwick, on July 18, 2002.

B. Shoreline Processes, Shoreline Protective Devices, and Seaward Encroachment

The proposed project includes the construction of a 120 foot long seawall and a 20 foot long return wall with a maximum height of approximately 18.8 feet. The proposed project also includes the retention of an existing abutment wall parallel to Coal Creek, which serves as the return wall on the east end of the site. The proposed seawall will be located approximately 30-35 feet seaward of the Pacific Coast Highway right-of-way/property line. The proposed seawall will be located entirely beneath the proposed structure, and approximately 57 feet landward of the deck stringline shown in Exhibit 5.

Past Commission review of shoreline residential projects in Malibu has shown that such development results in potential individual and cumulative adverse effects to coastal processes, shoreline sand supply, and public access. Shoreline development, if not properly designed to minimize such adverse effects, may result in encroachment on lands subject to the public trust (thus physically excluding the public), interference with the natural shoreline processes necessary to maintain publicly-owned tidelands and other public beach areas, overcrowding or congestion of such tideland or beach areas, and visual or psychological interference with the public's access to and the ability to use public tideland areas.

As described in the discussion below, there is evidence that the proposed development along this section of Carbon Beach will require a shoreline protective device and that such development has the potential to adversely impact natural shoreline processes. Therefore, it is necessary to review the proposed project for its consistency with Sections 30235, 30250(a), and 30253 of the Coastal Act and with past Commission action.

Section 30235 of the Coastal Act states:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

Section 30253 of the Coastal Act states that new development shall:

- (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) *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 30250(a) of the Coastal Act states, in part:

New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.

To accurately determine what adverse effects to coastal processes may result from the proposed project, it is necessary to analyze the proposed project in relation to characteristics of the project site shoreline, location of the development on the beach, and wave action.

Site Shoreline Characteristics

The proposed project site is located at the far eastern end of Carbon Beach in the City of Malibu. Carbon Beach is characterized as a relatively narrow beach that has been developed with numerous single family residences located to the west of the subject site. The Malibu/Los Angeles County Coastline Reconnaissance Study by the United States Army Corp of Engineers, dated April 1994, indicates that residential development on Carbon Beach is exposed to recurring storm damage because of the absence of a sufficiently wide protective beach. The applicant's coastal engineering consultant has indicated that Carbon Beach is an oscillating (equilibrium) beach that experiences seasonal erosion and recovery. The "Wave Uprush Study" by Pacific Engineering Group, dated October 21, 1999, further indicates that the width of the beach changes seasonally and that the subject beach experiences a seasonal foreshore slope movement (oscillation) by as much as 80 feet.

Stringline

As a means of controlling seaward encroachment of beachfront residential structures to ensure maximum public access and minimize wave hazards, as well as minimize adverse effects to coastal processes, shoreline sand supply, and public views, the Commission has, in past permit actions, developed the "stringline" policy. As applied to beachfront development, the stringline limits the seaward extension of a structure to a line drawn between the nearest corners of adjacent structures and limits decks to a similar line drawn between the nearest corners of the adjacent decks. The Commission has applied this policy to numerous past permits involving infill on sandy beaches and has found it to be an effective policy tool in preventing further encroachments onto sandy beaches.

In the case of the proposed project, the applicant has submitted project plans that show a deck stringline originating at the nearest corner of the neighboring deck immediately upcoast (west) of the project site, and terminating at the nearest corner of a rock seawall immediately downcoast (east) of the project site. Staff investigated the permit history of the downcoast property, to determine if construction of the seawall was authorized under a coastal development permit. Coastal Development Permit (CDP) #1832, issued in May 1974, permitted a patio, swimming pool, and sauna cove on the site (**Exhibit 14**). These amenities are located directly behind the seawall. Plans and documents found in the CDP File #1832 indicate that a seawall existed on the site prior to the review of CDP Application #1832, and was possibly repaired, replaced, and/or reconfigured as part of CDP #1832. However, no approved plans were found in the file. Because the record suggests that the rock seawall was constructed either before the effectiveness of the Coastal Act, and/or with the knowledge and approval of the Commission, the deck stringline as submitted by the applicant is the appropriate stringline in this case.

The applicant has submitted project plans that show a structural stringline originating, correctly, at the nearest corner of the neighboring structure located immediately upcoast (west) of the project site. However, the stringline then incorrectly leapfrogs the adjacent residence to the west and extends to the southwestern corner of the next house downcoast (east). As stated above, the Commission has typically required the structural stringline to be drawn from the nearest adjacent corners of the adjacent structures. However, in past permit actions there have been cases where the Commission has found that the typical stringline policy is not appropriate due to some unique or unusual circumstance. There are situations where an adjacent residence is setback landward a significant distance than adjacent residences on a beach or the adjacent residence is of a unique architectural design in which the nearest adjacent corner

is located significantly landward of other portions of the residence. These circumstances sometime result in stringline that creates an unfair and unreasonable development setback requirement. In such cases, the Commission has typically utilized another corner of the adjacent residence that represents a more reasonable stringline that also minimizes residential encroachment on to sandy beach.

In this case, the adjacent downcoast structure is not only setback further landward than the adjacent residences on the beach the design of this structure is such that the nearest adjacent corner is located significantly landward of the majority of the residence. To draw the stringline from the nearest adjacent corner of the downcoast residence would create an unreasonable development setback requirement. In this case, due to the unique design and location of the downcoast residence the appropriate stringline should be drawn from the most seaward corner of the this residence, as shown on Exhibit Five (5). This stringline is a more equitable and reasonable stringline given the design and location of the adjacent residence and development pattern of this beach. In addition, this stringline will not result in any additional encroachment of residential development on to sandy beach from either an individual or cumulative standpoint.

Therefore, to ensure that the proposed development is located landward of the correct stringline, **Special Condition Eleven (11)** requires the applicant to submit revised project plans deleting all portions of the proposed development that would be located seaward of the correct stringline as shown on Exhibit 5. The Commission notes that this restriction will only require a minor modification to the proposed residence to comply with this stringline. As such, the Commission finds that the proposed project, only as conditioned to revise the location of the proposed residence, will not result in the seaward encroachment of development on Carbon Beach and will serve to minimize adverse effects to coastal resources.

Location of Proposed Shoreline Protective Device in Relation to the Mean High Tide Line & Wave Action

The Commission notes that many studies performed on both equilibrium and eroding beaches have concluded that loss of beach occurs on both types of beaches where a shoreline protective device exists. In order to determine the impacts of the proposed seawall on the shoreline, the location of the proposed protective device in relationship to the expected wave runoff, as calculated by the location of the Mean High Tide Line, must be analyzed.

1. Mean High Tide Line

The "Wave Uprush Study," prepared by Pacific Engineering Group, dated October 21, 1999 represents that based on a list of historical mean high tide lines, the most landward known measurement of the ambulatory mean high tide line on the project site was approximately 121 feet seaward of the Pacific Coast Highway right-of-way line, in March of 1967. The seaward most extension of the proposed development (the dripline of the proposed deck) will be located approximately 94 feet seaward of the Pacific Coast Highway right-of-way line and approximately 28 feet landward of the March 1967 mean high tide line. Based on the submitted information, the Commission notes that the proposed development will be located landward of the March 1967 mean high tide line. However, this mean high tide line measurement represents only one measurement and does not provide adequate information for a definitive determination of the location of the mean high tide line at this site. Furthermore, the location of the mean high tide line at this site is ambulatory in nature.

2. Wave Uprush

Although the proposed structure will be located landward of the March 1967 mean high tide line, the "Wave Uprush Study," prepared by Pacific Engineering Group, dated October 21, 1999 indicates that the maximum wave uprush at the subject site will occur approximately six feet landward of the Pacific Coast Highway right-of-way line (landward of the proposed residence). This wave uprush analysis was based on the use of a +6.0 foot tide with a one foot storm surge resulting in a still water line (SWL) at the elevation of +7.0 Ft. MLLW datum. The applicant's engineering consultant has indicated that although the proposed residence will be constructed seaward of the maximum wave uprush limit, the residence will be supported on concrete friction piles and will not require any form of shoreline protection to ensure structural stability.

The Wave Uprush Study by Pacific Engineering Group dated October 21, 1999 states that the entire residence must be supported on concrete friction piles with a minimum diameter of 30 inches and that the bottom of any structural horizontal member should be no lower than elevation +17.0 ft. MSL for that portion of the residence located 25 feet or more seaward of the Pacific Coast Highway right-of-way line. The Commission notes that the proposed project plans indicate that the lowest horizontal structural member of the proposed development will be located at elevation +19.3 ft. MSL, consistent with the engineering consultant's recommendations.

In addition, the proposed project includes the installation of a new secondary treatment septic system, which uses a MicroFast secondary treatment tank. The Commission notes that the proposed septic system is located as landward as feasible. However, the seaward extent of the septic system and leachfield (located within the first 20 feet seaward of the Pacific Coast Highway right-of-way line) will still be located within the wave uprush zone and will require a shoreline protection device to ensure the stability of the system. The Commission notes that the maximum wave uprush limit line is located six feet landward of the Pacific Coast Highway right-of-way line/property line and that, therefore, it is not possible to construct any type of septic system that would not be subject to periodic wave action without the construction of some form of shoreline protection. Therefore, the Commission notes that the proposed seawall and return wall, as well as the existing return wall parallel to the western abutment of Coal Creek, are necessary to protect the proposed septic system and leachfield from wave uprush and erosion.

Based on the above discussion, the Commission finds that the proposed seawall is required to protect the septic system for the proposed residential development. The Commission further finds that the proposed seawall and return walls, which will be located as far landward as feasible, will be subject to wave action during storm and high tide events. Therefore, the following discussion is intended to evaluate the impacts of the proposed seawall on the beach, based on the above information which identified the specific structural design, location of the structure, and shoreline geomorphology.

Effects of Shoreline Protective Device on Beach

It is important to accurately calculate the potential of wave runup and wave energy that the shoreline protection device will be subjected to. Dr. Douglas Inman, renowned authority on Southern California beaches finds that, "the likely detrimental effect of the seawall on the beach

can usually be determined in advance by competent analysis." Dr. Inman further explains the importance of a seawall's design and location as it relates to predicting the degree of erosion that will be caused by the shoreline protection device. He states:

While natural sand beaches respond to wave forces by changing their configuration into a form that dissipates the energy of the waves forming them, seawalls are rigid and fixed, and at best can only be designed for a single wave condition. Thus, seawalls introduce a disequilibrium that usually results in the reflection of wave energy and increased erosion seaward of the wall. The degree of erosion caused by the seawall is mostly a function of its reflectivity, which depends upon its design and location.¹

In past permit actions, the Commission has found that one of the most critical factors controlling the impact of a shoreline protection device on the beach is its position on the beach profile relative to the surf zone. Generally, the further seaward that a shoreline protective device is located, the more frequently and more vigorously waves will interact with it. If a shoreline protective device is in fact necessary, the best location for it is at the back of the beach, where it may provide protection from the most severe storms. In contrast, a shoreline protective device constructed too close to the mean high tide line may constantly create problems related to frontal and end scour erosion, as well as upcoast sand impoundment.

Although the precise impacts of a structure located on the beach are a continual subject of debate within the discipline of coastal engineering, particularly between coastal engineers and marine geologists, it is generally agreed that a shoreline protective device will affect the configuration of the shoreline and beach profile, whether it is a vertical seawall or a rock revetment seawall. The main difference between a vertical seawall and rock revetment seawall is their relative physical encroachment onto the beach. It has been well documented by coastal engineers and coastal geologists that shoreline protective devices and structures, in the form of either a rock revetment or vertical seawall, will adversely impact the shoreline as a result of beach scour, end scour (the beach areas at the end of the seawall), retention of potential beach material behind the wall, fixing of the back beach, and interruption of alongshore processes. In order to evaluate these potential impacts relative to the proposed structure and its location on Carbon Beach, each of the identified effects will be evaluated below.

1. Beach Scour

Scour is the removal of beach material from the base of a cliff, seawall, or revetment due to wave action. The scouring of beaches as a result of seawalls is a frequently observed occurrence. When waves impact a hard surface such as a coastal bluff, rock revetment, or vertical seawall, some of the energy from the wave will be absorbed, but much of it will be reflected back seaward. This reflected wave energy in conjunction with incoming wave energy, will disturb the material at the base of the seawall and cause erosion to occur in front and down coast of the hard structure. This phenomenon has been recognized for many years and the literature on the subject acknowledges that seawalls affect the supply of beach sand.

The "Wave Uprush Study," prepared by Pacific Engineering Group, dated October 21, 1999 indicates that the proposed seawall will be located seaward of the maximum wave uprush limit and will, therefore, periodically be subject to wave action. In past permit actions, the

¹ Letter from Dr. Douglas Inman to California Coastal Commission staff member and senior engineer, Lesley Ewing, February 25, 1991.

Commission has found that shoreline protective devices that are subject to wave action tend to exacerbate or increase beach erosion. The following quotation summarizes a generally accepted opinion within the discipline of coastal engineering: "Seawalls usually cause accelerated erosion of the beaches fronting them and an increase in the transport rate of sand along them."² In addition, experts in the field of coastal geology, who view beach processes from the perspective of geologic time, signed the following succinct statement regarding the adverse effects of shoreline protective devices:

These structures are fixed in space and represent considerable effort and expense to construct and maintain. They are designed for as long a life as possible and hence are not easily moved or replaced. They become permanent fixtures in our coastal scenery but their performance is poor in protecting community and municipalities from beach retreat and destruction. Even more damaging is the fact that these shoreline defense structures frequently enhance erosion by reducing beach width, steepening offshore gradients, and increasing wave heights. As a result, they seriously degrade the environment and eventually help to destroy the areas they were designed to protect.³

The above statement, which was made in 1981 and signed by 94 respected coastal geologists, indicates that sandy beach areas available for public use can be harmed through the introduction of seawalls. Thus, in evaluating an individual project, the Commission assumes that the principles reflected in that statement are applicable. To do otherwise would be inconsistent with the Commission's responsibilities under the Coastal Act to protect the public's interest in shoreline resources and to protect the public's access along the ocean and to the water.

The impact of seawalls as they relate to sand removal on the sandy beaches is further documented by the State of California, Department of Boating and Waterways, which stated:

While seawalls may protect the upland, they do not hold or protect the beach which is the greatest asset of shorefront property. In some cases, the seawall may be detrimental to the beach in that the downward forces of water, created by the waves striking the wall, rapidly remove sand from the beach.⁴

Finally, Robert G. Dean underscored this observation more recently in 1987 in "Coastal Sediment Processes: Toward Engineering Solutions:"

Armoring can cause localized additional storm scour, both in front of and at the ends of the armoring . . . Under normal wave and tide conditions, armoring can contribute to the downdrift deficit of sediment through decreasing the supply on an eroding coast and interruption of supply if the armoring projects into the active littoral zone.⁵

2 "Saving the American Beach: A Position Paper by Concerned Coastal Geologists," Skidaway Institute of Oceanography, March 1981, page 4.

3 "Saving the American Beach: A Position Paper by Concerned Coastal Geologists," Skidaway Institute of Oceanography, March 1981, page 4.

4 "Shore Protection in California," State Department of Boating and Waterways (formerly Navigation and Ocean Development), 1976, page 30.

5 "Coastal Sediment Processes: Toward Engineering Solutions," Robert G. Dean, 1987.

Dr. Craig Everts found that on narrow beaches where the shoreline is not armored, the most important element of sustaining the beach width over a long period of time is the retreat of the back beach and of the beach itself. He concludes:

Seawalls inhibit erosion that naturally occurs and sustains the beach. The two most important aspects of beach behavior are changes in width and changes in the position of the beach. On narrow, natural beaches, the retreat of the back beach, and hence the beach itself, is the most important element in sustaining the width of the beach over a long time period. Narrow beaches, typical of most of the California coast, do not provide enough sacrificial sand during storms to provide protection against scour caused by breaking waves at the back beach line. This is the reason the back boundary of our beaches retreats during storms.⁶

Dr. Everts further asserts that armoring in the form of a shoreline protection device interrupts the natural process of beach retreat during a storm event and that, "a beach with a fixed landward boundary is not maintained on a recessional coast because the beach can no longer retreat."

The Commission has observed this phenomenon up and down the California coast, where shoreline protection devices have successfully halted the retreat of the shoreline, at the cost of usurping the beach. For example, at La Conchita Beach in Ventura County, placement of a rock revetment to protect an existing roadway has caused narrowing of the existing beach. Likewise, at beaches in the City of Encinitas, in San Diego County, construction of vertical seawalls along the base of the bluffs to protect existing residential development at the top of the bluffs has resulted in preventing the bluffs' contribution of sand to the beaches. This has resulted in a narrowing of those beaches.

As set forth previously, the subject site is located on Carbon Beach, a narrow, oscillating (equilibrium) beach that experiences seasonal erosion and recovery. The applicant's coastal engineering consultant has indicated that the proposed seawall and return walls will be acted upon by waves during storm conditions. The applicant's consultant has also indicated that seasonal foreshore slope movement can be as much as 80 feet. In addition, if a seasonal eroded beach condition occurs with greater frequency due to the placement of a seawall and return walls on the subject site, then the subject beach would also accrete at a slower rate. The Commission notes that many studies performed on both oscillating and eroding beaches have concluded that a loss of beach occurs on both types of beaches where a shoreline protective device exists. Therefore, the Commission notes that the proposed seawall, over time, will result in potential adverse effects to the beach sand supply, resulting in increased seasonal erosion of the beach, and longer recovery periods.

In addition, the impacts of potential beach scour are important relative to beach use for two primary reasons. The first reason involves public access. The proposed project is located approximately one mile east (downcoast) of the nearest open public vertical coastal accessway and approximately 1,500 feet to the east (downcoast) and 1500 feet to the west (upcoast) of two vertical accessways, which have been offered for dedication by the landowners for public use, but have not been accepted or opened up for public use. If the beach scours at the base of the seawall, even minimal scouring in front of the 120 foot long seawall or along the return walls will translate into a loss of beach sand available through erosion than would otherwise

⁶ Letter Report from Dr. Craig Everts, Moffatt and Nichol Engineers, to California Coastal Commission staff member and senior engineer, Lesley Ewing, March 14, 1994.

occur under a normal winter season if the beach were unaltered. The second impact relates to the potential turbulent ocean condition that may be created. Scour at the face of a seawall will result in greater interaction with the wall and, thus, make the ocean along Carbon Beach more turbulent than it would be normally be along an unarmored beach area. Thus, the Commission has ordinarily required that shoreline protection devices be located as far landward as possible, in order to reduce adverse effects from scour and erosion. In the case of this project, the Commission notes that the proposed seawall will be located as far landward as feasible in order to provide protection for the proposed septic system, which has also been located as far landward as feasible, in order to minimize adverse effects from scour and erosion.

As discussed above, the Commission notes that the new seawall and septic system will be located as far landward as possible. However, the Commission further notes that the purpose of the shoreline protective device authorized by this permit is solely to protect the septic system on site and that no shoreline protective device is required to protect the residence authorized by this permit. If the septic system approved under this permit were replaced or abandoned, however, then the seawall approved under this permit to protect the septic system might no longer be necessary and the adverse impacts of the shoreline protective device on public access could be eliminated through its removal or by locating the shoreline protective device further landward. Additionally, any future improvements to the proposed seawall that might result in the seaward extension of the shoreline protection device would result in increased adverse effects to shoreline sand supply and public access.

Therefore, to ensure that the proposed project does not result in new future adverse effects to shoreline sand supply and public access and that future impacts are reduced or eliminated, **Special Condition Seven (7)** requires the applicant to obtain a new coastal development permit for the shoreline protective device authorized this permit if the proposed septic system is replaced or abandoned for any reason, including the installation of a new sewer system along Pacific Coast Highway. If a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system, **Special Condition Seven (7)** requires the shoreline protective device authorized by this permit to be removed. In addition, **Special Condition Twelve (12)** prohibits any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit, if such activity extends the seaward footprint of the subject shoreline protective device. This will prevent adverse impacts to shoreline processes from seaward extensions of the seawall.

In addition, in past permit actions, the Commission has required that new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. In this case, the Commission notes that the applicant is proposing to dedicate a lateral public access easement that would provide for public access along the entire beach under all tidal conditions, as measured seaward from the approved deck dripline. The Commission notes that the lateral public access easement, which the applicant has offered to dedicate as part of this project, will be consistent with other lateral public access easements that have been recorded on properties along Carbon Beach and in the Malibu area.

In order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline processes, a historical shoreline analysis based on site specific studies would be necessary. Although this level of analysis has not been submitted by

the applicant, the Commission notes that because the applicant has proposed, as part of the project, an offer to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the deck dripline to the ambulatory mean high tide line, it has not been necessary for Commission staff to engage in an extensive analysis as to whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition Four (4)** is required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

2. End Effects

End scour effects involve the changes to the beach profile adjacent to the shoreline protection device at either end. One of the more common end effects comes from the reflection of waves off of the shoreline protection device in such a way that they add to the wave energy which is impacting the unprotected coastal areas on either end. In addition, the Commission notes that the literature on coastal engineering repeatedly warns that unprotected properties adjacent to any shoreline protective device may experience increased erosion. Field observations have verified this concern. Although it is difficult to quantify the exact loss of material due to end effects, in a paper written by Gerald G. Kuhn of the Scripps Institute of Oceanography, it is concluded that erosion on properties adjacent to a rock seawall is intensified when wave runup is high.⁷

An extensive literature search on the interaction of seawalls and beaches was performed by Nicholas Kraus in which he found that seawalls will have effects on narrow beaches or beaches eroded by storm activity. His research indicated that the form of the erosional response to storms that occurs on beaches without seawalls which are adjacent to beaches with seawalls is manifested as more localized toe scour, with end effects of flanking and impoundment at the seawall.⁸ Dr. Kraus' key conclusions were that seawalls could be accountable for retention of sediment, increased local erosion and increased end erosion. Kraus states:

At the present time, three mechanisms can be firmly identified by which seawalls may contribute to erosion at the coast. The most obvious is retention of sediment behind the wall which would otherwise be released to the littoral system. The second mechanism, which could increase local erosion on downdrift beaches, is for the updrift side of the wall to act as a groin and impound sand. This effect appears to be primarily theoretical rather than actualized in the field, as a wall would probably fail if isolated in the surf zone. The third mechanism is flanking i.e. increased local erosion at the ends of walls.

In addition, preliminary results of researchers investigating the length of shoreline affected by heightened erosion adjacent to seawalls concluded that:

Results to date indicate that erosion at the ends of seawalls increases as the structure length increases. It was observed in both the experimental results and the field data of Walton and Sensabaugh (1978) that the depth of excess erosion is approximately 10% of the seawall length. The laboratory data also revealed that

7 "Coastal Erosion along Oceanside Littoral Cell, San Diego County, California," Gerald G. Kuhn, Scripps Institute of Oceanography, 1981.

8 "Effects of Seawalls on the Beach," Nicholas Kraus, Ph.D., Journal of Coastal Research, Special Issue #4, 1988.

the along-coast length of excess erosion at each end of the structure is approximately 70% of the structure length.⁹

A more comprehensive study was performed over several years by Gary Griggs, which concluded that beach profiles at the end of a seawall are further landward than natural profiles.¹⁰ This effect appears to extend for a distance of about six-tenths of the length of the seawall and represents both a spatial and temporal loss of beach width directly attributable to seawall construction. These end effects would be expected only when the seawall was exposed to wave attack. Under equilibrium or accreting beach conditions, this scour will likely eventually disappear during post-storm recovery. The Commission notes that end effect erosion may be minimized by locating a proposed shoreline protection device as far landward as possible in order to reduce the frequency that the seawall is subject to wave action. In the case of this project, the Commission notes that the proposed seawall will be located as far landward as feasible in order to minimize adverse effects to shoreline sand supply from end effects.

3. Retention of Potential Beach Material

A shoreline protective device's retention of potential beach material inherently impacts shoreline processes. One of the main functions of a seawall or revetment is upland stabilization, protecting upland sediments from being carried to the beach by wave action, and prevention of bluff retreat. In the case of Carbon Beach, which is located in the Santa Monica Cell, the back of the beach is fixed at Pacific Coast Highway. One of the main sources of sediment for beaches are the bluffs themselves, as well as the material that has eroded from inland sources and is carried to the beach by coastal streams. The National Academy of Sciences found that retention of material behind a shoreline protective device may be linked to increased loss of material in front of that device. The net effect is documented in "Responding to Changes in Sea Level, Engineering Implications," which provides:

A common result of sea wall and seawall placement along the open coastline is the loss of the beach fronting the structure. This phenomenon, however, is not well understood. It appears that during a storm the volume of sand eroded at the base of a sea wall is nearly equivalent to the volume of upland erosion prevented by the sea wall. Thus, the offshore profile has a certain "demand" for sand and this is "satisfied" by erosion of the upland on a natural beach or as close as possible to the natural area of erosion on an armored shoreline...¹¹

As explained, the proposed seawall and return walls will protect the secondary treatment septic system from continued loss of sediment. However, the result of this protection, particularly on a narrow beach, is a loss of sediment on the sandy beach area that fronts the seawall. Furthermore, as explained previously, this loss of sediment from the active beach leads to a lower beach profile, seaward of the protective device, where the seawall will have greater exposure to wave attack.

⁹ "Laboratory and Field Investigations of the Impact of Shoreline Stabilization Structures on Adjacent Properties," W. G. McDougal, M. A. Sturtevant, and P. D. Komar, Coastal Sediments, 1987.

¹⁰ "The Interaction of Seawalls and Beaches: Seven Years of Field Monitoring, Monterey Bay, California," G. Griggs, J. Tait, and W. Corona, Shore and Beach, Vol. 62, No. 3, July 1994.

¹¹ "Responding to Changes in Sea Level: Engineering Implications," National Academy of Sciences, National Academy Press, Washington D.C., 1987, page 74.

In past permit actions, the Commission has required new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. The applicant is proposing to dedicate a lateral public access easement which would provide for public access along the entire beach under all tidal conditions as measured seaward from the approved deck dripline to the mean high tide line. The Commission notes that the lateral public access easement which the applicant has offered to dedicate as part of this project will be consistent with other lateral public access easements which have been recorded on properties along Carbon Beach and in the Malibu area.

As stated previously, in order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline processes, a historical shoreline analysis based on site specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, the Commission notes that because the applicant has proposed as part of the project an offer to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the deck dripline, it has not been necessary for Commission staff to engage in an extensive analysis as to whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition Four (4)** has been required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

Past Commission Actions on Residential Shoreline Development

Many portions of the Malibu coastline are intensely developed with single family residences. The eastern portion of the Malibu coastline, including Las Tunas, Big Rock, La Costa, and Carbon beaches form an almost solid wall of residential development along a five mile stretch of the shoreline. This residential development extends over the sandy and rocky beach in many areas and most of the residences have shoreline protective devices such as rock revetments and concrete or timber seawalls. This residential development and their associated protective devices prevent access to the coast, obscure the views to the beach and water from Pacific Coast Highway, interrupt shoreline processes, and impact the fragile biological resources in these areas.

Given Malibu's close proximity to the Los Angeles metropolitan area, it is understandable why the Malibu coastline has experienced such intensive development of its coastline over the past 50 years. The vast majority of this development took place prior to the passage of Proposition 20, which established the Coastal Commission and the Coastal Act of 1976. As stated previously, Section 30235 of the Coastal requires the Commission to approve construction of protective devices if the device serves to protect coastal dependent uses, or to protect existing structures or public beaches in danger from erosion. Approval of construction of protective devices to for new residential development is not required under this section of the Coastal Act. The majority of the residential development described above required some type of shoreline protective device in order to be developed, however. Therefore, it is safe to assume under this policy and the other resource protection policies of the Coastal Act, that this type of development along Malibu's coastline would either not have been approved or would be developed in a much different configuration or design than it is today.

Infill development

The Commission has previously permitted a number of new residential developments with protective devices on the Malibu coast, but only when that development was considered infill development. The developed portions of the Malibu coastline include a number of vacant parcels between existing structures. Typically, there are no more than one or two vacant lots between existing structures.

The term "infill development," as applied by the Commission in past permit decisions, refers to a situation where the construction of a single family residence (and in limited situations a duplex) on a vacant lot or the demolition of an existing single family residence and construction of a new single family residence is proposed in an existing geographically definable residential community which is already largely developed or built out with similar structures. When applied to beachfront development, this situation typically is applied to an existing linear community of beachfront residences where the majority of lots are developed with single family residences and relatively few vacant lots exist. In other words, within the linear stretch of developed beachfront lots, there is an occasional undeveloped lot or two that one may expect to be developed in a similar fashion. By nature of this description, an infill development situation can occur only in instances where roads and other services are already existing and available within the developed community or stretch of beach. Typically, the term infill development would not be applied to a large or long stretch of undeveloped beach (i.e., several lots or a large lot that is not similar in size and character to developed lots in the community or areas which do not contain existing roads and infrastructure).

Another characteristic of largely developed beachfront communities is that many, but not all, existing single family residences have some form of shoreline protective device. In Malibu, all beachfront homes utilize a septic system which, when determined to be subject to wave uprush by a coastal engineer, are required to have a shoreline protective device to protect the system. This requirement of assessing the wave uprush applies to all new development, extensive remodels, reconstruction, as well as any changes to an existing septic system or proposals for a new septic system.

In infill development situations only, as described above, the Commission has found in past permit actions in Malibu that, if it is consistent with Section 30253 of the Coastal Act, seawalls, revetments, or other types of shoreline protective devices can be permitted to protect existing structures or new structures which constitute infill development and when designed and engineered to eliminate or mitigate adverse impacts on the shoreline. The Commission has also found, in past permit actions in Malibu, that in beach areas largely committed to residential development having shoreline protective devices, the construction of shoreline protective devices should tie into adjacent seawalls where appropriate or possible.

The Commission recognized that the infilling of residential development between existing structures would not result in significant adverse effects to coastal resources within these existing developed shoreline areas. The Commission has approved infill development through permit actions on beachfront lots in Malibu. The Commission has found that infilling these gaps would not cause significant further impacts on shoreline processes or adverse impacts on other coastal resources given the prevailing development pattern along these sections of the Malibu coast.

The Commission notes that the area surrounding the subject site is characterized as a substantially developed beach. In the case of the proposed development, one single family residence with a seawall, return walls, and septic system can clearly be considered as infill development within an existing developed area.

Conclusion

In past permit actions, the Commission has approved the construction of shoreline protection devices in conjunction with new development only when: (1) such development is consistent with the Commission's treatment of infill development, and (2) the shoreline protection device is required to protect a septic system (no feasible alternatives exist), and (3) the shoreline protection device is located as far landward as possible in order to minimize any adverse effects to shoreline sand supply and public access.

The Commission notes that the proposed project constitutes infill development as previously defined in the preceding sections. In addition, the applicant's engineering consultant has indicated that although the proposed residence will be constructed on a concrete pile foundation and will not require a shoreline protection device to ensure stability, a seawall and return walls will be required to protect the proposed septic system. The Commission notes that the proposed secondary treatment septic system has been designed to minimize both the size and seaward extent of the system. However, the seaward extent of the septic system and leachfield, located approximately 20 feet seaward of the Pacific Coast Highway right-of-way line, will still be located within the wave uprush limit and will require a shoreline protection device to ensure the stability of the system. Further, the Commission notes that since no part of the subject site will be located landward of the maximum wave uprush limit, it is, therefore, not possible to construct any type of septic system that would not be subject to periodic wave action without the construction of some form of shoreline protection. Therefore, the Commission notes that the proposed seawall and return walls are necessary to protect the proposed septic system and leachfield from wave uprush and erosion as stated in the Wave Uprush Study.

As discussed above, the Commission notes that the new seawall and septic system will be located as far landward as possible. However, the Commission further notes that the purpose of the seawall and return walls authorized by this permit is solely to protect the septic system on the subject site and that no shoreline protective device is required to protect the residence authorized by this permit. However, if the septic system approved under this permit were replaced or abandoned, then the seawall and return walls approved under this permit to protect the septic system might no longer be necessary and the adverse impacts of the shoreline protective device on public access could be eliminated through its removal or by locating it further landward. Additionally, any future improvements to the proposed seawall that might result in the seaward extension of the shoreline protection device would result in increased adverse effects to shoreline sand supply and public access.

Therefore, to ensure that the proposed project does not result in new future adverse effects on shoreline sand supply and public access and that future impacts are reduced or eliminated, **Special Condition Seven (7)** requires the applicant to obtain a new coastal development permit for the shoreline protective device authorized this permit if the proposed septic system is replaced or abandoned for any reason, including the installation of a new sewer system along Pacific Coast Highway. **Special Condition Seven (7)** further requires removal of the shoreline protective device authorized by this permit if a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic

system. Likewise, **Special Condition Twelve (12)** prohibits any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit, if such activity extends the seaward footprint of the subject shoreline protective device.

In past permit actions, the Commission has required that new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. As stated previously, in this case, the applicant is proposing to dedicate a lateral public access easement, which would provide for public access along the entire beach under all tidal conditions as measured seaward from the deck dripline. The Commission notes that the lateral public access easement that the applicant has offered to dedicate as part of this project will be consistent with other lateral public access easements which have been recorded on properties along Carbon Beach and in the Malibu area.

In order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline, a historical shoreline analysis based on site specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, the Commission notes that because the applicant has proposed as part of the project an offer to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the deck dripline to the mean high tide line, it has not been necessary for Commission staff to engage in an extensive analysis as to whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition Four (4)** has been required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

As discussed previously, the proposed project includes the removal of the existing seawall on the subject site (with the exception of that portion that serves as the west abutment to the Coal Creek outfall as shown in **Exhibit 6**). The Commission notes that removal of the existing seawall, as proposed, will serve to minimize adverse effects to shoreline sand supply and coastal processes. Therefore, in addition, in order to ensure that the existing seawall is removed as proposed by the applicant in a timely manner, **Special Condition Six (6)** requires the applicant to remove the existing seawall prior to the construction of the proposed residence.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30235, 30250, and 30253 of the Coastal Act.

C. Hazards and Geologic Stability

Section 30253 of the Coastal Act states, in pertinent part, that new development shall:

- (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) *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.*

The proposed development is located in the Santa Monica Mountains, an area that is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Even beachfront properties have been subject to wildfires. Finally, beachfront sites are subject to flooding and erosion from storm waves.

The applicant has submitted the following documents: "Wave Uprush Study," Pacific Engineering Group, October 21, 1999; "Coastal Review Response," Pacific Engineering Group, July 16, 2001; "Seawall Conformance," Pacific Engineering Group, March 4, 2002; "Preliminary Geotechnical Engineering Investigation," Southwest Geotechnical, Inc., June 10, 1999; "Addendum #1," Southwest Geotechnical, Inc., May 10, 2001. These reports include a number of geotechnical and engineering recommendations to ensure the stability and geotechnical safety of the site. The consultants have determined that the proposed development will serve to ensure geologic and structural stability on the subject site. The Geotechnical Engineering Addendum Report prepared by Southwest Geotechnical, Inc. dated May 10, 2001 concludes:

Based upon the findings summarized in this and our previous report, it is our professional opinion that the proposed building site will not be subject to hazard from settlement, slippage, or landslide provided the recommendations of our project reports are incorporated into the site development and foundation design. It is also our opinion that the proposed site improvements will not adversely affect the geologic stability of the site or adjacent properties provided the recommendations contained within this report are incorporated into site development.

To ensure that the recommendations of the geotechnical and coastal engineering consultants have been incorporated into all proposed development, **Special Condition One (1)** requires the applicant to submit project plans certified by both the consulting geotechnical and geologic engineer and the coastal engineering consultants as conforming to all recommendations to ensure structural and site stability. The final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission. Any substantial changes to the proposed development approved by the Commission which may be recommended by the consultants shall require an amendment to the permit or a new coastal permit.

As discussed above, the Commission notes that the applicant's engineering consultants have indicated that the proposed development will serve to ensure relative geologic and structural stability on the subject site. However, the proposed development is located on a beachfront lot in the City of Malibu and will be subject to some inherent potential hazards. The Malibu coast has historically been subject to substantial damage as the result of storm and flood occurrences--most recently, and perhaps most dramatically, during the 1998 severe El Nino winter storm season. The subject site is clearly susceptible to flooding and/or wave damage from storm waves, storm surges and high tides. Past occurrences have caused property damage resulting in public costs through emergency responses and low-interest, publicly-subsidized reconstruction loans in the millions of dollars in Malibu area alone from last year's storms.

In the winter of 1977-1978, storm waves, storm-triggered mudslides and landslides caused extensive damage along the Malibu coast. According to the National Research Council, damage to Malibu beaches, seawalls, and other structures during that season caused damages of as much as almost \$5 million to private property alone.

The El Nino storms recorded in 1982-1983 caused high tides of over 7 feet, which were combined with storm waves of up to 15 feet. These storms caused over \$12.8 million to structures in Los Angeles County, many located in Malibu. The severity of the 1982-1983 El Nino storm events are often used to illustrate the extreme storm event potential of the California, and in particular, Malibu coast. The 1998 El Nino storms also resulted in widespread damage to residences, public facilities and infrastructure along the Malibu Coast.

Thus, ample evidence exists that all beachfront development in the Malibu area is subject to an unusually high degree of risk due to storm waves and surges, high surf conditions, erosion, and flooding. The proposed development will continue to be subject to the high degree of risk posed by the hazards of oceanfront development in the future. The Coastal Act recognizes that development, even as designed and constructed to incorporate all recommendations of the consulting coastal engineer, may still involve the taking of some risk. When development in areas of identified hazards is proposed, the Commission considers the hazard associated with the project site and the potential cost to the public, as well as the individual's right to use the subject property.

The Commission finds that due to the possibility of liquefaction, storm waves, surges, erosion, landslide, flooding, and wildfire, the applicant shall assume these risks as conditions of approval. Because this risk of harm cannot be completely eliminated, the Commission requires the applicant to waive any claim of liability against the Commission for damage to life or property that may occur as a result of the permitted development. The applicant's assumption of risk, as required by **Special Condition Three (3)**, when executed and recorded on the property deed pursuant to **Special Condition Thirteen (13)**, will show that the applicant is aware of and appreciates the nature of the hazards which exist on the site, and that may adversely affect the stability or safety of the proposed development.

In addition, the Commission notes that the proposed development includes the demolition of an existing residence and seawall and the construction of a new residence on a concrete pile foundation. The Commission further notes that construction/demolition activity on a sandy beach, such as the proposed project, will result in the potential generation of debris and or presence of equipment and materials that could be subject to tidal action. The presence of construction equipment, building materials, and excavated materials on the subject site could pose hazards to beachgoers or swimmers if construction site materials were discharged into the marine environment or left inappropriately/unsafely exposed on the project site. In addition, such discharge to the marine environment would result in adverse effects to offshore habitat from increased turbidity caused by erosion and siltation of coastal waters. To ensure adverse effects to the marine environment are minimized, **Special Condition Nine (9)** requires the applicant to ensure that stockpiling of dirt or materials shall not occur on the beach, that no machinery will be allowed in the intertidal zone at any time, that all debris resulting from the construction period is promptly removed from the sandy beach area, and that sand bags and/or ditches shall be used to prevent runoff and siltation.

Therefore, the Commission finds, for the reasons set forth above, that the proposed development, as conditioned, is consistent with Section 30253 of the Coastal Act.

D. Public Access and Recreation

The Coastal Act mandates the provision of maximum public access and recreational opportunities along the coast. The Coastal Act contains several policies that address the issues of public access and recreation along the coast.

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.

Coastal Act Section 30211 states:

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

Coastal Act Section 30212(a) provides that in new shoreline development projects, access to the shoreline and along the coast shall be provided except in specified circumstances, when:

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

Section 30220 of the Coastal Act states:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such use.

Sections 30210 and 30211 of the Coastal Act mandate that maximum public access and recreational opportunities be provided and that development not interfere with the public's right to access the coast. Likewise, Section 30212 of the Coastal Act requires that adequate public access to the sea be provided to allow use of dry sand and rocky coastal beaches.

All projects requiring a coastal development permit must be reviewed for compliance with the public access and recreation provisions of Chapter 3 of the Coastal Act. Based on the access, recreation and development sections of the Coastal Act, the Commission has required public access to and along the shoreline in new development projects and has required design changes in other projects to reduce interference with access to and along the shoreline.

The major access issue in this permit application is the occupation of sandy beach area by a structure and potential effects on shoreline sand supply and public access in contradiction of Coastal Act policies 30211 and 30221. As stated previously, no shoreline protective device is

required, or proposed, to protect the proposed residence. However, a seawall is proposed to protect the septic system. The proposed project is located on Carbon Beach, approximately one mile east (downcoast) of the nearest open public vertical coastal accessway and approximately 1,500 feet to the east (downcoast) and 1500 feet to the west (upcoast) of two vertical accessways, which have been offered for dedication by the landowners for public use, but have not been accepted or opened up for public use. There are also several existing and potential lateral public access easements across several lots near the project site.

The State of California owns tidelands, which are those lands located seaward the mean high tide line as it exists from time to time. By virtue of its admission into the Union, California became the owner of all tidelands and all lands lying beneath inland navigable waters. These lands are held in the State's sovereign capacity and are subject to the common law public trust. The public trust doctrine restricts uses of sovereign lands to public trust purposes, such as navigation, fisheries, commerce, public access, water oriented recreation, open space, and environmental protection. The public trust doctrine also severely limits the ability of the State to alienate these sovereign lands into private ownership and use free of the public trust. Consequently, the Commission must avoid decisions that improperly compromise public ownership and use of sovereign tidelands.

Where development is proposed that may impair public use and ownership of tidelands, the Commission must consider where the development will be located in relation to tidelands. The legal boundary between public tidelands and private uplands is relation to the ordinary high water mark. In California, where the shoreline has not been affected by fill or artificial accretion, the ordinary high water mark of tidelands is determined by locating the existing "mean high tide line." The mean high tide line is the intersection of the elevation of mean high tide with the shore profile. Where the shore is composed of sandy beach whose profile changes as a result of wave action, the location at which the elevation of mean high tide line intersects the shore is subject to change. The result is that the mean high tide line (and therefore the boundary) is an "ambulatory" or moving line that moves seaward through the process known as accretion and landward through the process known as erosion.

Consequently, the position of the mean high tide line fluctuates seasonally as high wave energy (usually but not necessarily) in the winter months causes the mean high tide line to move landward through erosion, and as milder wave conditions (generally associated with the summer) cause the mean high tide line to move seaward through accretion. In addition to ordinary seasonal changes, the location of the mean high tide line is affected by long term changes such as sea level rise and diminution of sand supply.

The Commission must consider a project's direct and indirect effect on public tidelands. To protect public tidelands when beachfront development is proposed, the Commission must consider (1) whether the development or some portion of it will encroach on public tidelands (i.e., will the development be located below the mean high tide line as it may exist at some point throughout the year) and (2) if not located on tidelands, whether the development will indirectly affect tidelands by causing physical impacts to tidelands. In the case of the proposed project, the State Lands Commission presently does not assert a claim that the project intrudes onto sovereign lands (**Exhibit 15**).

Even structures located above the mean high tide line, however, may have an adverse effect on shoreline processes as wave energy reflected by those structures contributes to erosion and steepening of the shore profile, and ultimately to the extent and availability of tidelands. That is

why the Commission also must consider whether a project will have indirect effects on public ownership and public use of shorelands. The applicants seek Commission approval of a new beachfront residence supported on friction pile foundation. As previously discussed in detail, although the proposed project will not include the construction of a shoreline protection device to protect the residence, the direct occupation of sandy area by the proposed residence, will result in potential adverse effects to public access along the sandy beach.

The Commission notes that a shoreline protective device is proposed as a part of this project to protect the proposed septic system. The Commission further notes that interference by a shoreline protective device has a number of adverse effects on the dynamic shoreline system and the public's beach ownership interests. First, changes in the shoreline profile, particularly changes in the slope of the profile, which results from reduced beach width, alter the usable area under public ownership. A beach that rests either temporarily or permanently at a steeper angle than under natural conditions will have less horizontal distance between the mean low water and mean high water lines. This reduces the actual area of public property available for public use. The second effect on access is through a progressive loss of sand as shore material is not available to nourish the bar. The lack of an effective bar can allow such high wave energy on the shoreline that materials may be lost far offshore where it is no longer available to nourish the beach. The effect of this on the public is again a loss of area between the mean high water line and the actual water. Third, shoreline protective devices such as revetments and seawalls cumulatively affect public access by causing accelerated and increased erosion on adjacent public beaches. This effect may not become clear until such devices are constructed individually along a shoreline and they eventually affect the profile of a public beach. Fourth, if not sited landward in a location that insures that the revetment is only acted upon during severe storm events, beach scour during the winter season will be accelerated because there is less beach area to dissipate the wave' energy. Finally, revetments and seawalls interfere directly with public access by their occupation of beach area that will not only be unavailable during high tide and severe storm events but also potentially throughout the winter season.

In past permit actions, the Commission has required new shoreline protection devices to be located as far landward as possible in order to reduce adverse effects on sand supply and public access from the development. In the case of this project, the Commission notes that the new seawall and septic system will be located as far landward as possible. However, the Commission further notes that any future improvements to the proposed seawall that might result in the seaward extension of the shoreline protection device would result in increased adverse effects to shoreline sand supply and public access. Therefore, to ensure that the proposed project does not result in new future adverse effects to public access, **Special Condition Twelve (12)** prohibits any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit if such activity extends the seaward footprint of the subject shoreline protective device.

Likewise, the Commission further notes that the purpose of the shoreline protective device authorized by this permit is solely to protect the septic system on the subject site and that no shoreline protective device is required to protect the residence authorized by this permit. If the septic system approved under this permit were replaced or abandoned, then the seawall approved under this permit to protect the septic system might no longer be necessary and the adverse impacts of the shoreline protective device on public access could be eliminated through its removal or by locating it further landward. As a result, **Special Condition Seven (7)**

requires the applicant to obtain a new coastal development permit for the shoreline protective device authorized this permit if the proposed septic system is replaced or abandoned for any reason (including the installation of a new sewer system along Pacific Coast Highway). **Special Condition Seven (7)** further requires removal of the shoreline protective device authorized by this permit if a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system.

The Commission notes that removal of the existing seawall, as proposed, will serve to minimize adverse effects to shoreline sand supply and coastal processes. Therefore, in addition, in order to ensure that the existing seawall is removed as proposed by the applicant in a timely manner, **Special Condition Six (6)** requires the applicant to remove the existing seawall prior to the construction of the proposed residence.

Furthermore, the Commission must also consider whether a project affects any public right to use shorelands that exist independently of the public's ownership of tidelands. In addition to a new development's effects on tidelands and on public rights which are protected by the common law public trust doctrine, the Commission must consider whether the project will affect a public right to use beachfront property, independent of the ownership underlying the land on which the public use takes place. Generally, there are three additional types of public uses, which are identified as: (1) the public's recreational rights in navigable waters guaranteed to the public under the California Constitution and State common law, (2) any rights that the public might have acquired under the doctrine of implied dedication based on continuous public use over a five year period, and (3) any additional rights that the public might have acquired through public purchase or offers to dedicate.

These use rights are implicated when the public walks on the wet or dry sandy beach below the mean high tide plane. This area of use, in turn, moves across the face of the beach as the beach changes in depth on a daily basis. The free movement of sand on the beach is an integral part of this process, which is why the effects of structures constructed on the beach are of particular concern.

The beaches of Malibu are extensively used by visitors of both local and regional origin and most planning studies indicate that attendance at recreational sites will continue to increase significantly in the future. The public has a right to use the shoreline under the public trust doctrine, the California Constitution, and State common law. The Commission must protect those public rights by assuring that any proposed shoreline development does not interfere with or will only minimally interfere with those rights. In the case of the proposed project, the potential for the permanent loss of sandy beach as a result of the change in the beach profile, steepening from potential scour effects, and presence of a residential structure out over the sandy beach does exist.

In past permit actions, the Commission has required that all new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. The applicant is proposing to dedicate a lateral public access easement across the property that would provide for public access along the entire beach under all tidal conditions as measured seaward from the deck dripline to the mean high tide line. The Commission notes that the lateral public access easement that the applicant has offered to dedicate as part of this project will be consistent with other lateral public access easements that have been recorded on properties along Carbon Beach and in the Malibu area.

In order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline, a historical shoreline analysis based on site-specific studies would be necessary. Although the applicant has not submitted this level of analysis, the Commission notes that because the applicant has proposed as part of the project an offer to dedicate a lateral public access easement along the entire southern portion of the lots, as measured from the deck dripline, it has not been necessary for Commission staff to engage in an extensive analysis as to the adequacy of the original easement or whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition Four (4)** has been required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

In addition, through past permit actions the Commission has required that new residential development on Carbon Beach include a sidewalk along Pacific Coast Highway to facilitate public pedestrian access along Pacific Coast Highway. In this case, there is an existing four foot wide sidewalk along Pacific Coast Highway which will be retained and improved by the applicant. Therefore, the proposed project will not adversely impact public pedestrian access along Pacific Coast Highway.

Furthermore, the Commission notes that chronic unauthorized postings of signs illegally attempting to limit, or erroneously noticing restrictions on, public access have occurred on beachfront private properties in the Malibu area. These signs have an adverse effect on the ability of the public to access public trust lands. The Commission has determined, therefore, that to ensure that the applicants clearly understand that such postings are not permitted without a separate coastal development permit, it is necessary to impose **Special Condition Ten (10)** to ensure that similar signs are not posted on or near the proposed project site and that a coastal development permit or amendment to this coastal development permit shall be required prior to the posting of signs on the subject property. The Commission finds that if implemented, **Special Condition Ten (10)** will protect the public's right of access to the sandy beach below the mean high tide line.

For all of these reasons, therefore, the Commission finds that as conditioned, the proposed project is consistent with Sections 30210, 30211, 30212, and 30220 of the Coastal Act.

E. Water Quality

The Commission recognizes that new development in the Santa Monica Mountains has the potential to adversely impact coastal water quality through the removal of native vegetation, increase of impervious surfaces, increase of runoff, erosion, and sedimentation, introduction of pollutants such as petroleum, cleaning products, pesticides, and other pollutant sources, as well as effluent from septic systems. 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, minimizing alteration of natural streams.

As described above, the proposed project includes the demolition of an existing single family residence, septic system, and portions of an existing seawall and to construct a new 28 ft. high, two-story 10,446 sq. ft single family residence with attached four-car garage, terrace, swimming pool and spa, new seawall approximately 20-25 feet landward of the existing seawall, secondary treatment septic system, and approximately 850 cu. yds. grading (all cut). The applicant's proposal also includes a 20% view corridor and an offer to dedicate a lateral access easement over the southern beachfront portion of the site. The site is considered a beachfront development, and is located between Pacific Coast Highway and the Pacific Ocean on Carbon Beach, with a sandy beach area that is susceptible to erosion. The site is also adjacent to the Coal Creek outfall.

The proposed development will result in an increase in impervious surface, which in turn will decrease the infiltrative function and capacity of existing permeable land on site. The reduction in permeable space therefore leads to an increase in the volume and velocity of stormwater runoff that can be expected to leave the site. Further, pollutants commonly found in runoff associated with residential use include petroleum hydrocarbons such as oil and grease from vehicles, heavy metals, synthetic organic chemicals such as paint and household cleaners, soap and dirt from the washing of vehicles, dirt and vegetation from yard maintenance, litter, fertilizers, herbicides, pesticides, and bacteria and pathogens from animal waste. The discharge of these pollutants into coastal waters can cause cumulative impacts such as eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation which provide food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; and acute and sublethal toxicity in marine organisms, leading to adverse changes in reproduction and feeding behavior. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes; reduce optimum populations of marine organisms; and have adverse impacts on human health.

Therefore, in order to find the proposed development consistent with the water and marine resource policies of the Coastal Act, the Commission finds it necessary to require the incorporation of Best Management Practices (BMPs) designed to control the volume, velocity, and pollutant load of stormwater leaving the developed site. Critical to the successful function of post-construction structural BMPs in removing pollutants in stormwater to the Maximum Extent Practicable (MEP), is the application of appropriate design standards for sizing BMPs. The majority of runoff is generated from small storms because most storms are small. Additionally, storm water runoff typically conveys a disproportionate amount of pollutants in the initial period that runoff is generated during a storm event. Designing BMPs for the small, more frequent storms, rather than for the large infrequent storms, results in improved BMP performance at lower cost.

The Commission finds that sizing post-construction structural BMPs to accommodate (filter or treat) the runoff from the 85th percentile storm runoff event, in this case, is equivalent to sizing BMPs based on the point of diminishing returns (i.e., the BMP capacity beyond which, insignificant increases in pollutants removal (and hence water quality protection) will occur, relative to the additional costs. Therefore, the Commission requires the selected post-construction structural BMPs to be sized based on design criteria specified in **Special**

Condition Two (2), and finds this will ensure the proposed development will be designed to minimize adverse impacts to coastal resources, in a manner consistent with the water and marine policies of the Coastal Act.

As stated previously, the proposed project includes a swimming pool. There is the potential for swimming pools to have deleterious effects on aquatic habitat if not properly maintained and drained. In addition, chlorine and other chemicals are commonly added to pools and spas to maintain water clarity, quality, and pH levels. Further, both leakage and periodic maintenance of the proposed pool, if not monitored and/or conducted in a controlled manner, may result in excess runoff and erosion potentially causing instability of the site and adjacent properties and may result in the transport of chemicals, such as chlorine, into coastal waters, adversely impacting intertidal and marine habitats. In order to minimize potential adverse impacts from the proposed swimming pool, the Commission requires the applicant to submit a pool drainage and maintenance plan, as detailed in **Special Condition Eight (8)**. The Commission finds that, as conditioned to minimize potential impacts of the proposed pool and spa, the project is consistent with Sections 30230, 30231, and 30240 of the Coastal Act.

Finally, the proposed development includes the installation of a new septic system that includes a 2,500 gallon MicroFast treatment tank, a 2,500 gallon dosing tank, and a leachfield to serve the residence that will be located no further than 20 feet seaward of the Pacific Coast Highway right-of-way line. The proposed septic system will provide for secondary treatment of the sewage effluent. Further, as proposed, the septic system will be located as landward as possible. The applicants' geologic and environmental health consultants performed percolation tests and evaluated the proposed septic system. The report concludes that the site is suitable for the septic system and there would be no adverse impact to the site or surrounding areas from the use of a septic system. Finally, the City of Malibu Environmental Health Department has given in-concept approval of the proposed septic system, determining that the system meets the requirements of the plumbing code. The Commission has found that conformance with the provisions of the plumbing code is protective of resources.

Therefore, the Commission finds that the proposed project, as conditioned to incorporate and maintain a drainage and polluted runoff control plan, is consistent with Section 30231 of the Coastal Act.

F. Visual Resources

Section 30251 of the Coastal Act states that:

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. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinated to the character of its setting.

Section 30251 of the Coastal Act requires that visual qualities of coastal areas shall be considered and protected, landform alteration shall be minimized, and where feasible, degraded areas shall be enhanced and restored.

The project site is located on Carbon Beach, a built-out area of Malibu primarily consisting of residential development. The Commission notes that the visual quality of the Carbon Beach area in relation to public views from Pacific Coast Highway have been significantly degraded from past residential development. Pacific Coast Highway is a major coastal access route, not only utilized by local residents, but also heavily used by tourists and visitors to access several public beaches located in the surrounding area which are only accessible from Pacific Coast Highway. Public views of the beach and water from Pacific Coast Highway have been substantially reduced, or completely blocked, in many areas by the construction of single family residences, privacy walls, fencing, landscaping, and other residential related development between Pacific Coast Highway and the ocean. Specifically, the Commission notes that when residential structures are located immediately adjacent to each other, or when large individual residential structures are constructed across several contiguous lots, such development creates a wall-like effect when viewed from Pacific Coast Highway. This type of development limits the public's ability to view the coast or ocean to only those few parcels that have not yet been developed.

The Commission notes that the construction of large individual residential structures, or large residential projects including one or more structures, extending across multiple beachfront parcels, similar to the proposed project, is becoming increasingly common in the Malibu area and that several applications for similar development have recently been approved. As such, the Commission notes that such development, when viewed on a regional basis, will result in potential cumulative adverse effects to public views and to the visual quality of coastal areas.

Currently, the residential development on site blocks public views of the coastline from Pacific Coast Highway. In this case, the proposed project will involve the demolition of all existing development on the subject parcel, including an approximately 3,000 sq. ft. residence. Following this demolition, the applicant is proposing the construction of a new residential structure with an attached garage. As stated above, Coastal Act Section 30251 requires that new development be sited and designed to protect views to and along the ocean and scenic coastal areas and, where feasible, to restore and enhance visual quality in visually degraded areas. The Commission notes that the construction of new residential development provides for the opportunity to enhance public views, where such views have been significantly degraded by past development, through the creation and maintenance of public view corridors, consistent with Section 30251 of the Coastal Act. Further, in past permit actions, in order to protect public views of the ocean from public viewing areas and to enhance visual quality along the coast, the Commission has required that new residential development, such as that proposed, be designed to provide for a public view corridor of no less than 20 percent of the width of the lineal frontage of the subject site to provide for views of the beach and ocean from Pacific Coast Highway, as seen in CDP 4-99-155 (Ioki), CDP 4-00-015 (Gallin), CDP 4-00-057 (Morton), and CDP 4-00-176 (Ann Walker Trust).

In the case of the proposed project, the Commission notes that the subject site is 120 feet in width and that a public view corridor of no less than 20 percent of the width of the site's lineal frontage would be 24 feet in width. The proposed project plans provide for a 24 foot wide public view corridor, including a five foot wide corridor on the western portion of the subject site and a 19 foot wide public view corridor on the western portion of the subject site (**Exhibit 4**).

To ensure that public coastal views will be protected, **Special Condition Five (5)** requires the applicant to maintain no less than 20 percent of the lineal frontage of the project site as a public

view corridor. Development within the public view corridor shall be limited to fencing of visually permeable designs and materials, such as wrought iron or non-tinted glass materials. In addition, the Commission also notes that the proposed site plan indicates that an iron gate will be constructed within each public view corridor. The Commission notes that certain types of visually permeable fencing, including certain types of glass walls, may be allowed within a public view corridor if such structures do not interfere with public views of the beach and ocean from Pacific Coast Highway. In addition, **Special Condition Eleven (11)**, which requires all development to be located landward of the stringline shown in **Exhibit 5**, will minimize the adverse impacts to public views from the beach that result from the seaward encroachment of development.

Therefore, the Commission finds that the proposed project, as conditioned above, is consistent with Section 30251 of the Coastal Act.

G. Local Coastal Program

Section 30604(a) of the Coastal Act states:

Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the Commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicant. As conditioned, the proposed project will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3 of the Coastal Act. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the City's ability to prepare a Local Coastal Program for Malibu which is consistent with the policies of Chapter 3 of the Coastal Act as required by §30604(a).

H. California Environmental Quality Act

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, 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 that the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned, will not have any significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.

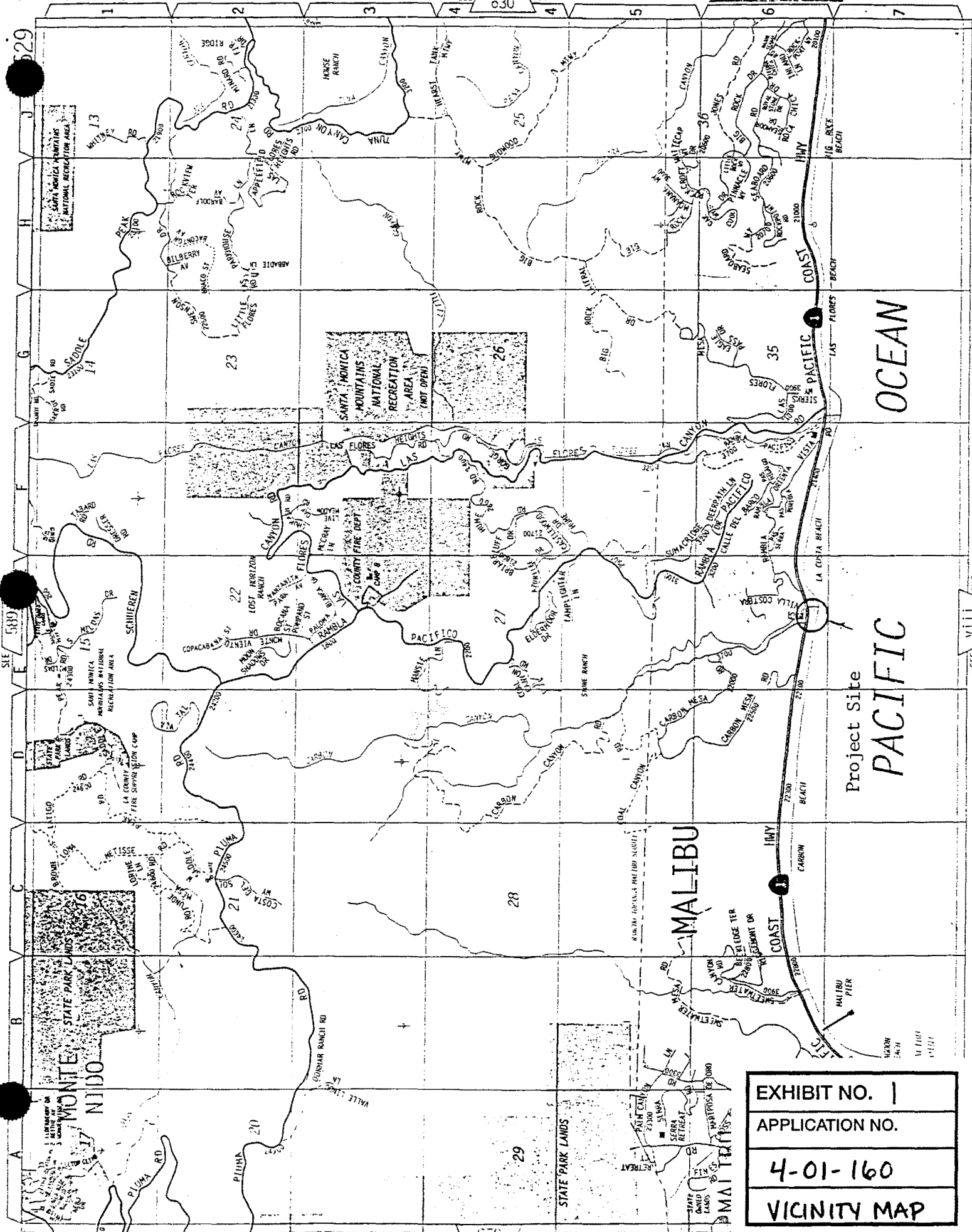
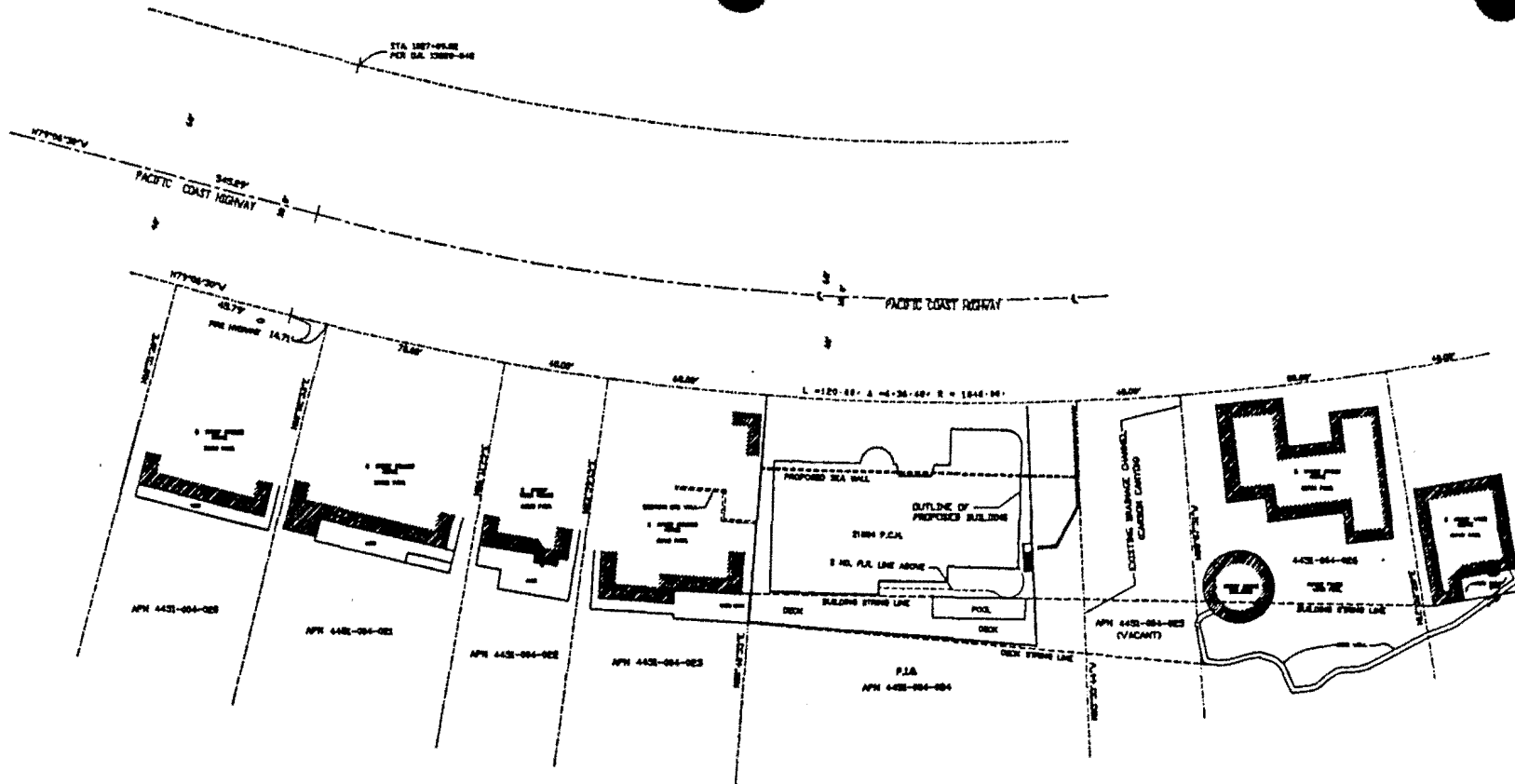


EXHIBIT NO. 1

APPLICATION NO.

4-01-160

VICINITY MAP



EXCEPTING FROM THE WESTERLY 40 FEET OF SAID LAND ALL MINERALS, OIL, PETROLEUM, ASPHALT, GAS COAL AND OTHER HYDROCARBON SUBSTANCES CONTAINED IN, ON, WITHIN AND UNDER SAID REALTY AND EVERY PART THEREOF, BUT WITHOUT RIGHT OF ENTRY, AS RESERVED BY MARBLEHEAD LAND COMPANY, IN DEED RECORDED IN BOOK 19127 PAGE 263, OFFICIAL RECORDS.

EXCEPT ANY PORTION OF SAID LAND LYING OUTSIDE OF THE PATENT LINES OF THE RANCHO TOPANGA MALIBU SEQUIT, AS SUCH LINES EXISTED AT THE TIME OF ISSUANCE OF THE PATENT, WHICH WAS NOT FORMED BY THE DEPOSIT OF ALLUVION FROM NATURAL CAUSES AND ALL OTHER POSSIBLE DEGREES.

WITH 68° 12' 30" EAST ALONG THE CENTERLINE HIGHWAY FROM ENGINEER'S CENTER LINE AS SHOWN ON F.M. 11260-3 IN THE OFFICE OF THE COUNTY CLERK OF LOS ANGELES COUNTY WAS OF BEARINGS FOR THIS SURVEY.

B) ELEVATION = 21.135' (V)

SURVEY AND TOPO MAP, IF RETAINING WALLS ARE TO BE DESIGNED FROM CONTOURS, GROUND ELEVATIONS AT CRITICAL POINTS SHOULD BE VERIFIED BY DIRECT LS PRIOR TO FINAL DESIGN ADOPTION.

NOTED, ARE BY SURFACE EVIDENCE ONLY. (METERS, GAS METERS, POWER POLES, ETC.)

LEGEND:

PROPERTY LINE: ————

STREET CENTERLINE (C) ————

MONUMENT: ————

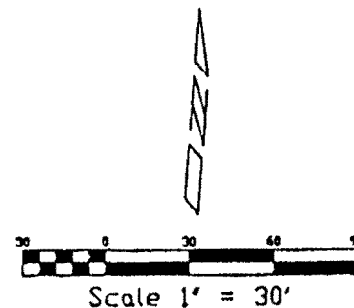
ASPHALT (A/C): ————

BUILDING: ————

CONCRETE (CONC.): ————

MANHOLE (M.H.): ————

—————



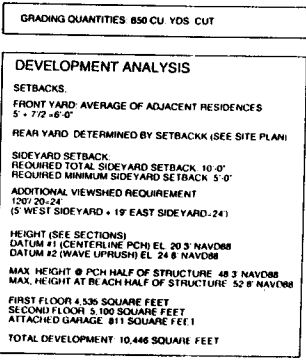
ARCHITECTURAL SURVEY

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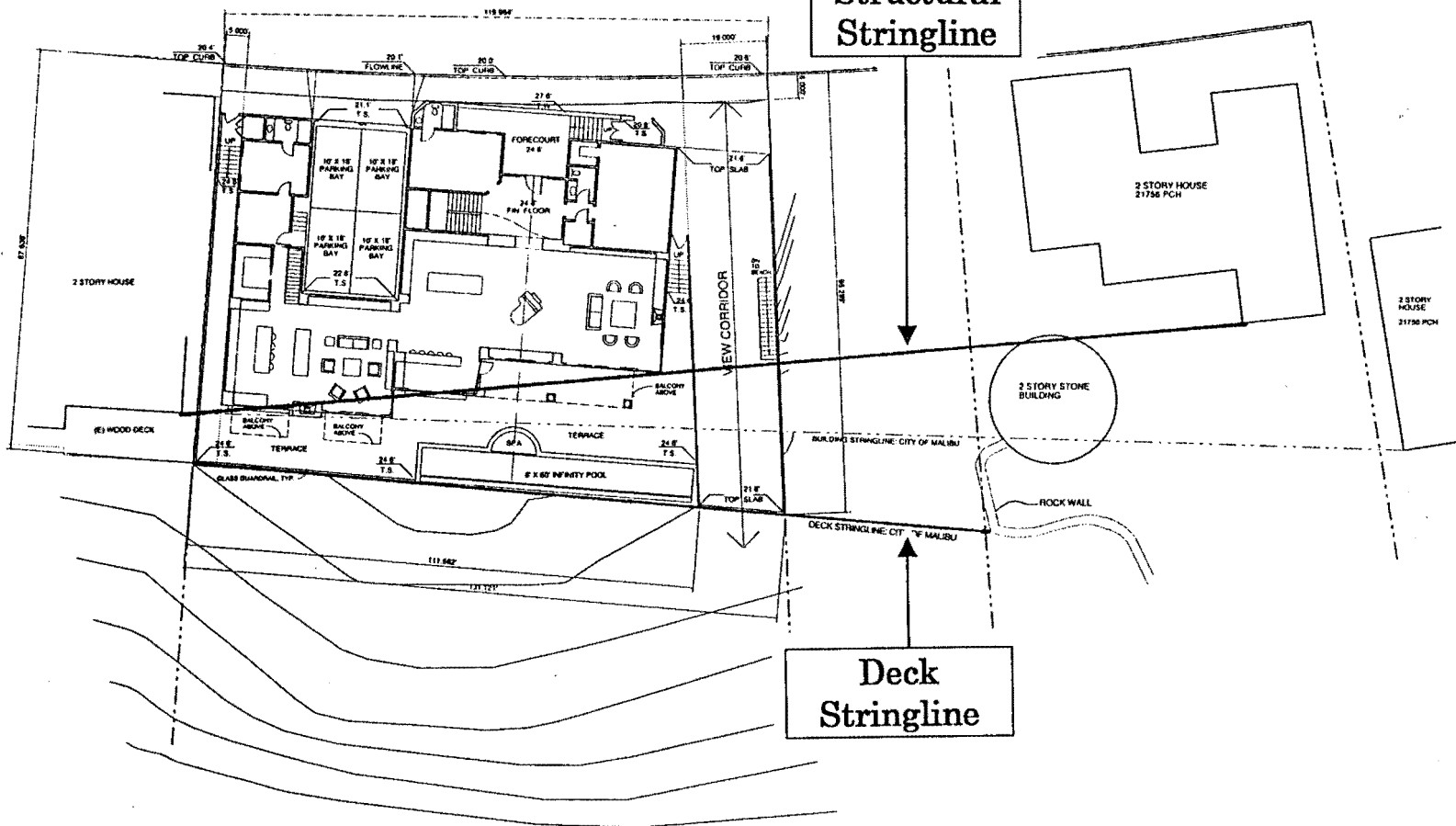
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EXHIBIT NO. 3
APPLICATION NO.
4-01-160
ARCHITECTURAL SURVEY



SITE PLAN

EXHIBIT NO. 5
APPLICATION NO.
4-01-160
STK INCLINE



GRADING QUANTITIES: #50 CU YDS CUT	
DEVELOPMENT ANALYSIS	
SETBACKS:	
FRONT YARD: AVERAGE OF ADJACENT RESIDENCES 5' - 7'2" - 8'0"	
REAR YARD: DETERMINED BY SETBACKS (SEE SITE PLAN)	
SIDEYARD SETBACK:	
REQUIRED TOTAL SIDEYARD SETBACK: 10'-0"	
REQUIRED MINIMUM SIDEYARD SETBACK: 5'-0"	
ADDITIONAL VIEWSHED REQUIREMENT:	
120' 20" x 24"	
(5' WEST SIDEYARD - 15' EAST SIDEYARD-24')	
HEIGHT (SEE SECTIONS)	
DATUM #1 (CENTERLINE PCH) EL. 20.3' NAVD88	
DATUM #2 (WAVE UPPER) EL. 24.8' NAVD88	
MAX HEIGHT @ PCH HALF OF STRUCTURE 48.3' NAVD88	
MAX HEIGHT AT BEACH HALF OF STRUCTURE 52.8' NAVD88	
FIRST FLOOR 4,535 SQUARE FEET	
SECOND FLOOR 5,100 SQUARE FEET	
ATTACHED GARAGE: 811 SQUARE FEET	
TOTAL DEVELOPMENT: 10,446 SQUARE FEET	

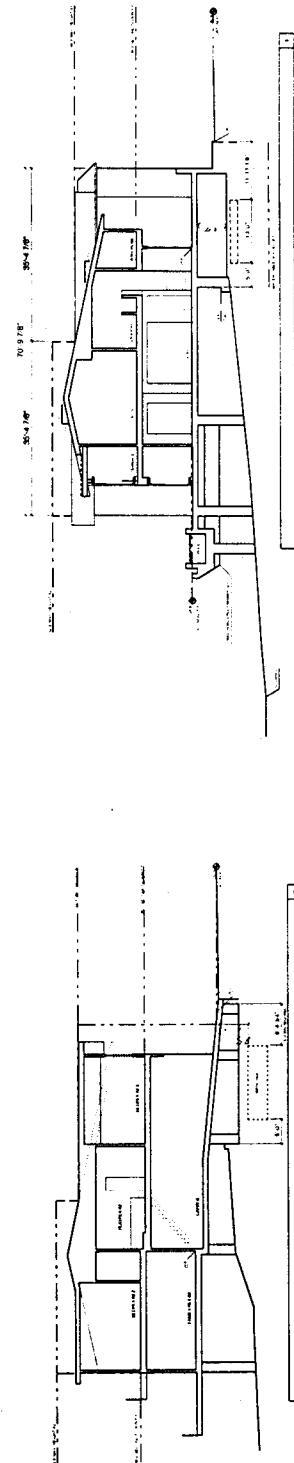
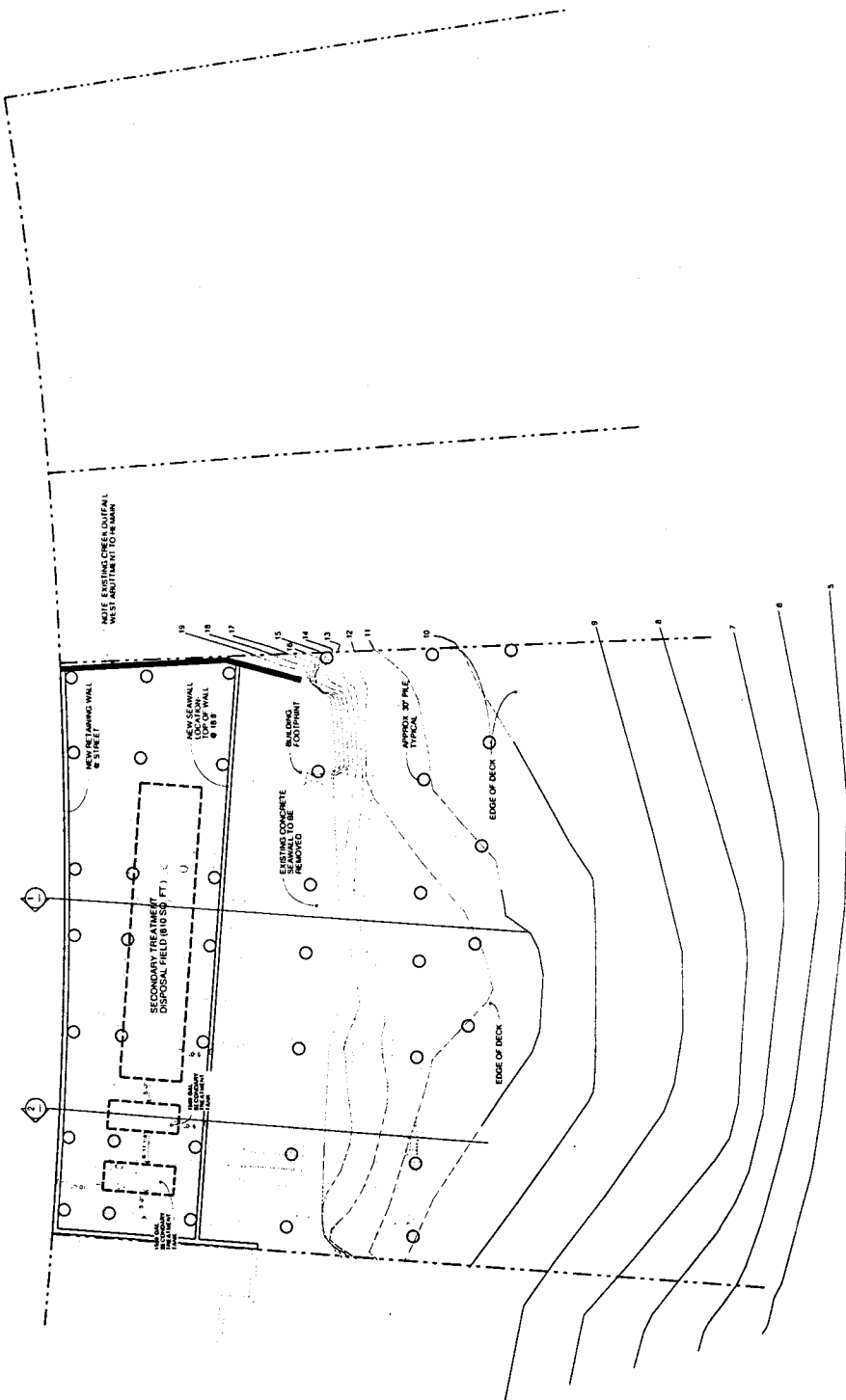


EXHIBIT NO. 6
APPLICATION NO.

4-01-160
SEAWALL/SEPTIC



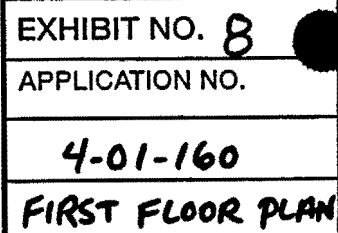
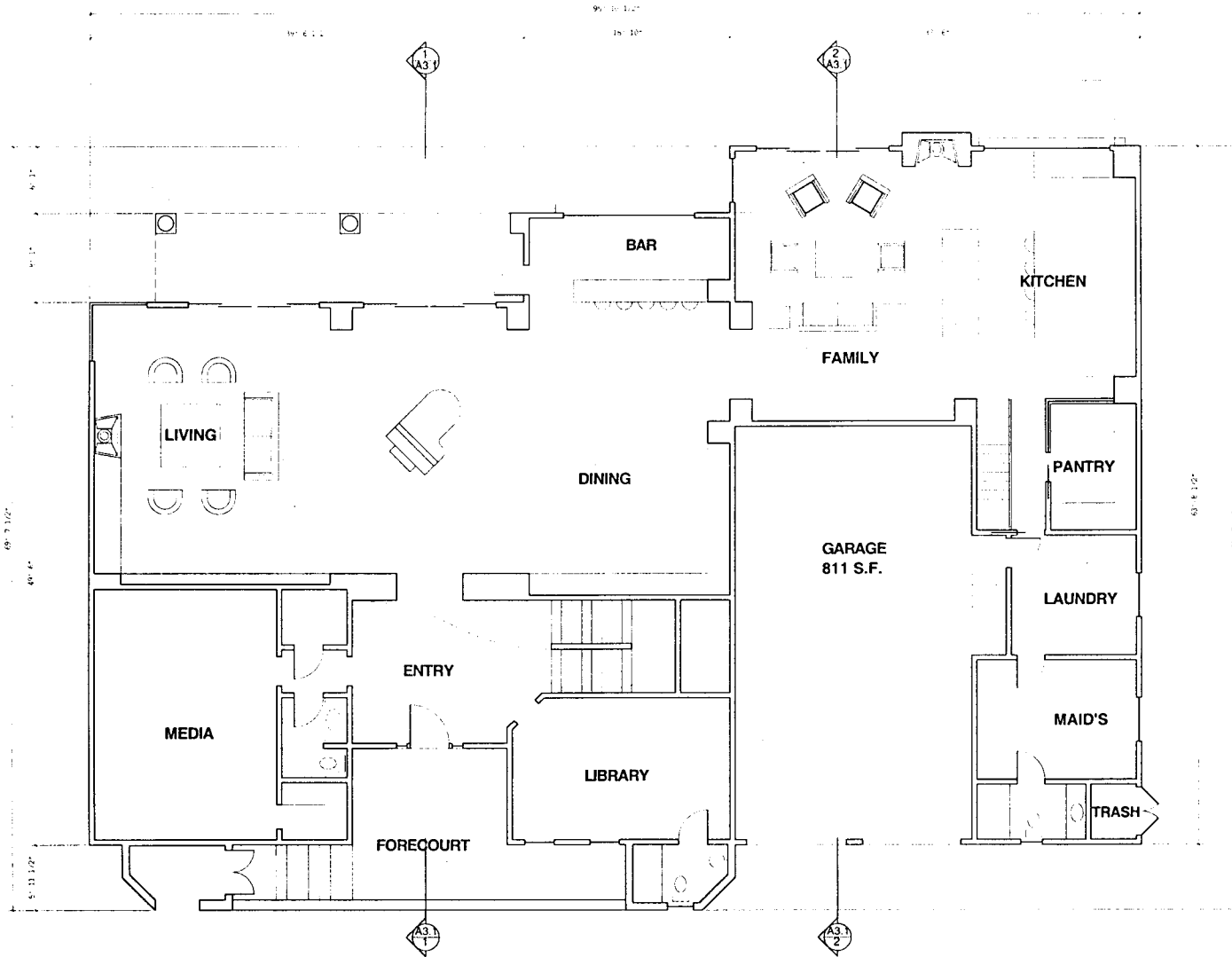


EXHIBIT NO. 9
APPLICATION NO.
4-01-160
SECOND FLOOR PLAN



FIRST FLOOR PLAN
A2.1

1/4" = 1'-0"
6/30/02

TOBIAS
Tobias & Associates, Inc.

22233 Pacific Coast Highway
Pacific Palisades, CA 90274
310.317.0607 FAX 310.317.0607

THE DRAWING, SPECIFICATIONS, SCHEDULES, AND CONDITIONS ARE PREPARED BY THE ARCHITECT AND HIS ASSOCIATES. THE ARCHITECT'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT. THE ARCHITECT DOES NOT WARRANT THE ACCURACY OF THE INFORMATION PROVIDED BY OTHERS. THE ARCHITECT'S LIABILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT.

PRIVATE RESIDENCE
21604 PACIFIC COAST HIGHWAY
MALIBU, CALIFORNIA 90265

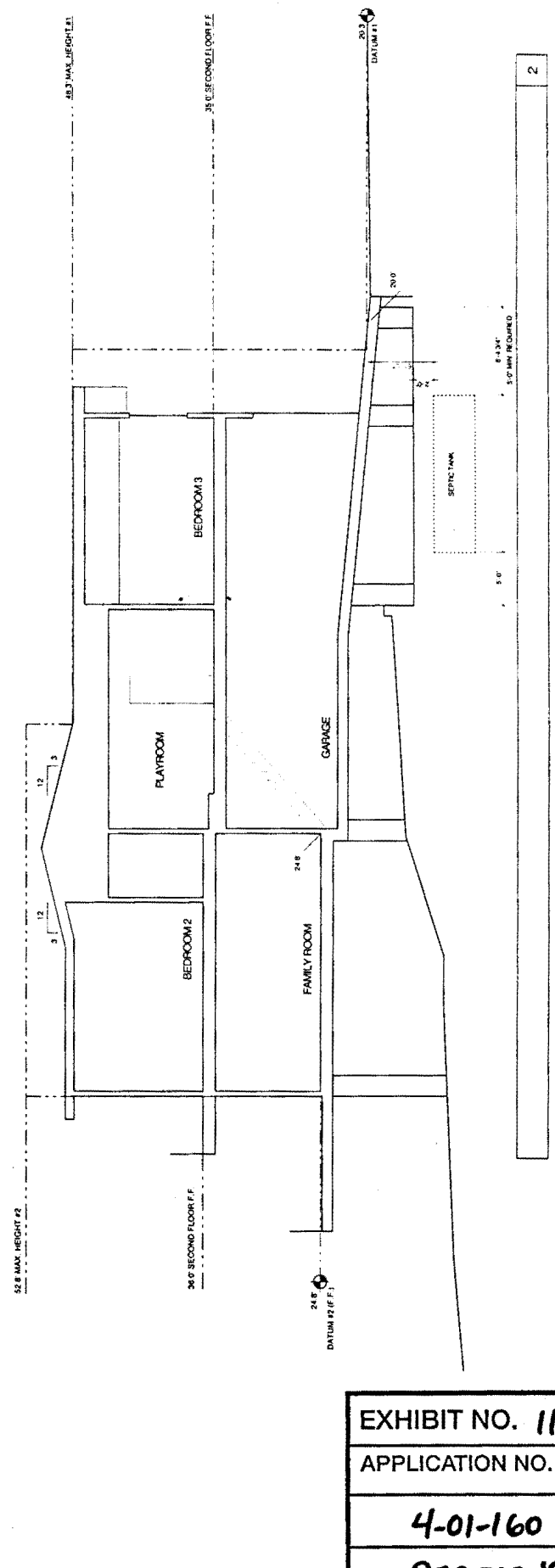
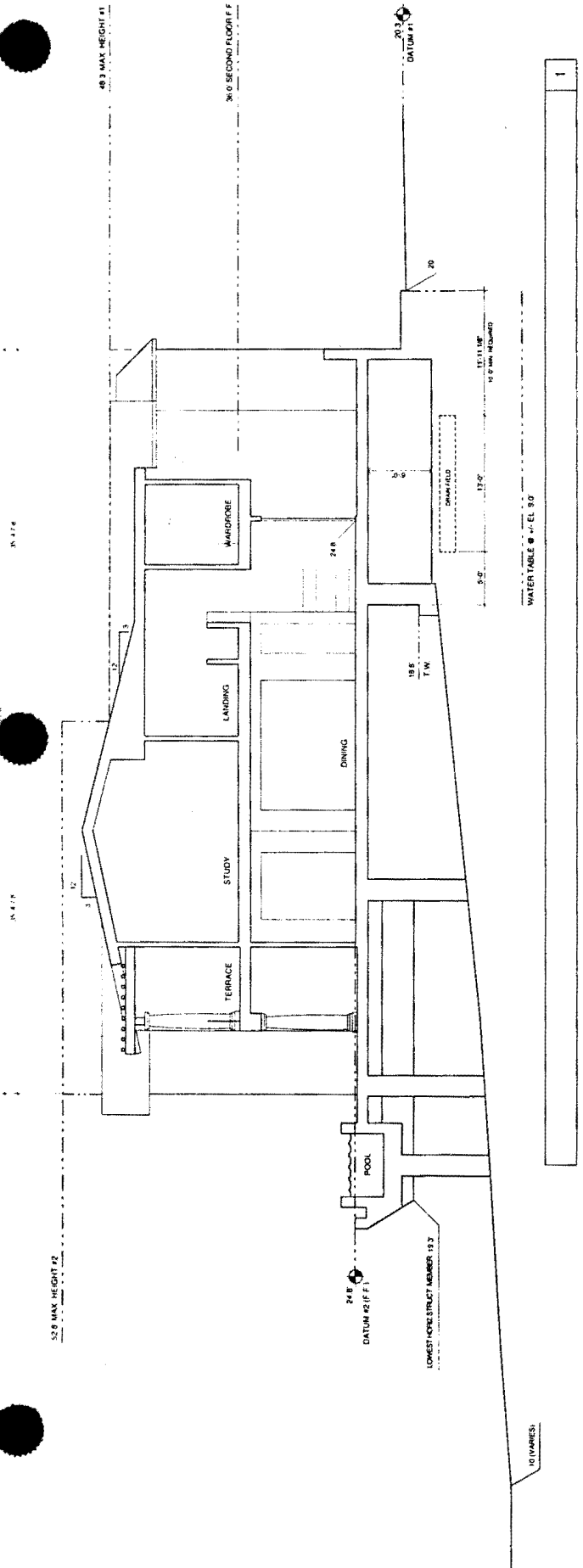
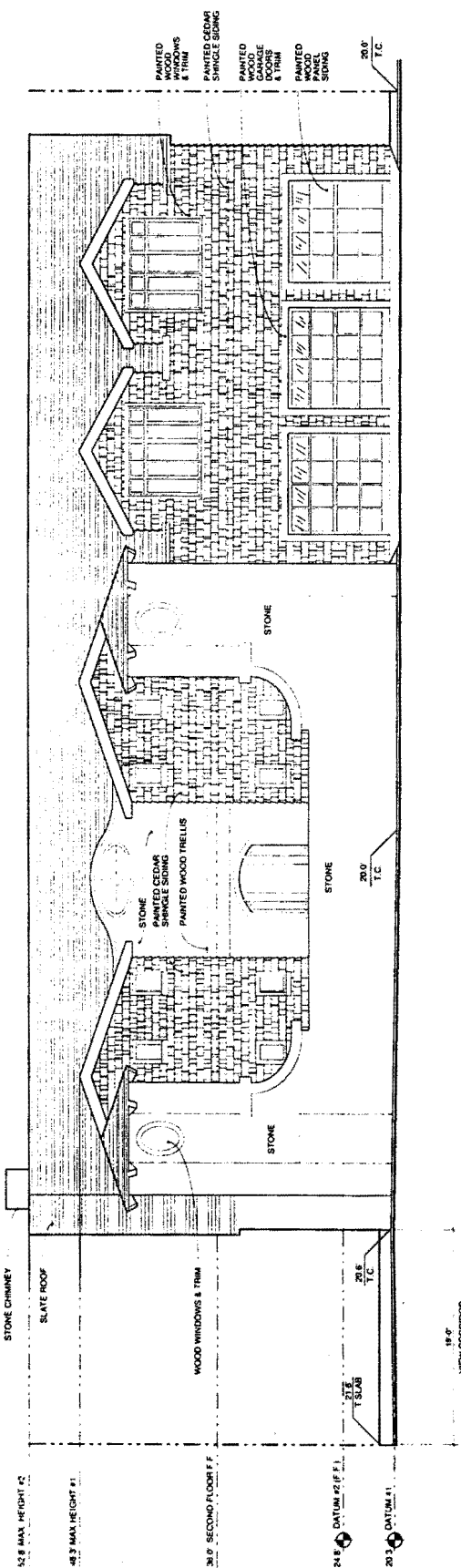
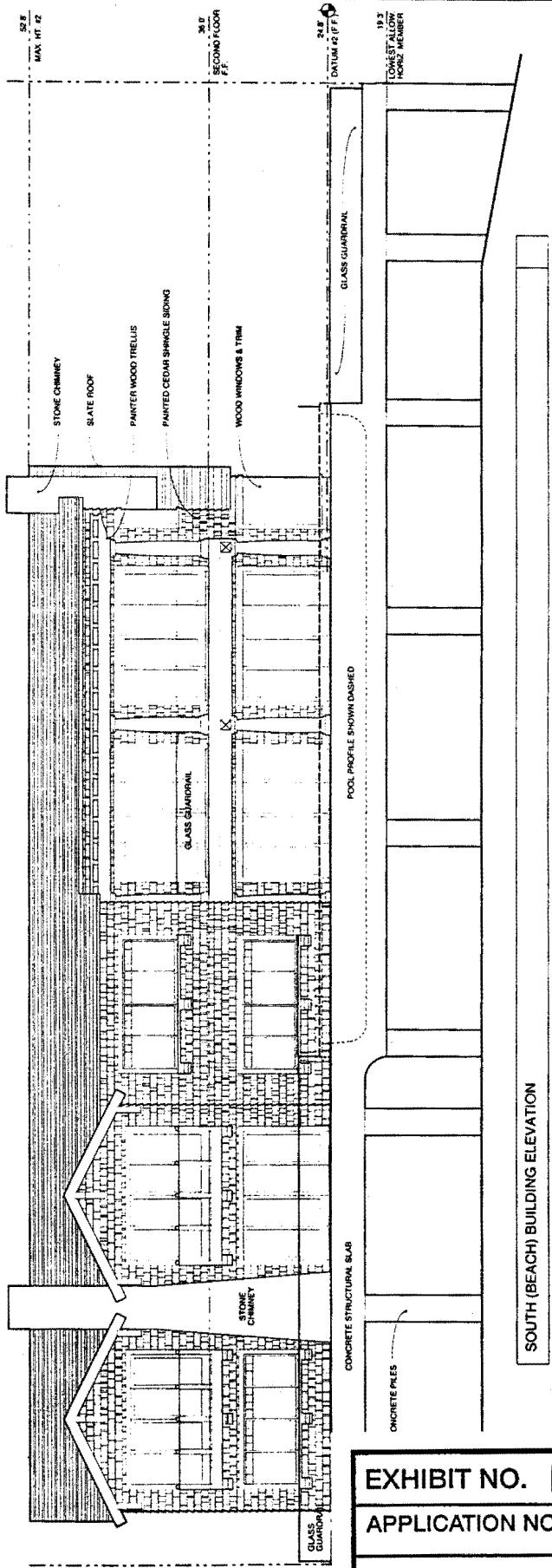


EXHIBIT NO. 11
APPLICATION NO.
4-01-160
SECTIONS



NORTH (STREET) BUILDING ELEVATION



SOUTH (BEACH) BUILDING ELEVATION

EXHIBIT NO. 12
APPLICATION NO.
4-01-160
ELEVATIONS

Photo 1. Existing home to be demolished.



Photo 2. Coal Creek outfall, immediately east of subject site.



EXHIBIT NO. 13

APPLICATION NO.

4-01-160

PHOTOS (1 of 2)

Photo 3. Residence to west of
subject site.



Photo 4. Residence to east of
subject site.



EXHIBIT NO. 13
APPLICATION NO.
4-01-160
PHOTOS (2 of 2)

CALIFORNIA COASTAL ZONE CONSERVATION COMMISSION

SOUTH COAST REGIONAL COMMISSION

666 E. OCEAN BOULEVARD, SUITE 3107

BOX 1450

MALIBU BEACH, CALIFORNIA 90801

(213) 436-4201 (714) 846-0648

RESOLUTION OF APPROVAL AND PERMITApplication Number: P-8-30-73-1832Name of Applicant: Lou Adler21756 Pacific Coast Hwy., Malibu

Permit Type: ☒ Standard
☐ Administrative
☐ Emergency

Development Location: 21756 Pacific Coast Highway, Malibu

Development Description: Remodel and addition to one-story single-
family dwelling including remodeling kitchen, garage, adding 2
bedrooms and a maids room on the new 2nd floor plus patio and
swimming pool.

+ Replace existing primary walls because of questionable structural value. JRC
Eliminate pavilion - substitute sauna cover - max. 19' (not to exceed 2' from existing ground level).
 Commission Resolution: *19' (not to exceed 2' from existing ground level).*

- I. The South Coast Conservation Commission finds that the proposed development: *Sauna cover not to extend more than 16' from secondary level.*
- A. ~~Will~~/will not have a substantial adverse environmental or ecological effect in that: *retaining wall.*

it does not represent an irreversible commitment of coastal

This certifies that the material contained herein is a
 true and correct copy of material contained in the
 actual file of the South Coast Regional Commission.

By Jean A. ChamberlinTitle PlannerDate 5/3/74EXHIBIT NO. 14

APPLICATION NO.

4-01-160

CDP 1832 (5pp)

KRANZ ENGINEERING CO.

619 EUCLID STREET
LONG BEACH, CALIFORNIA 90814
PHONE (213) 434-7584

MOBILE HOME PARKS
SUBDIVISIONS

LAND SURVEYS

STRUCTURAL ANALYSIS
BUILDING DESIGN

Ref. A Shore Protection, Planning and
Design, Technical Report No. 4,
Army Corps of Engineers.

Feb. 21, 1974

Alie Chang Ma, Environmental Designer
1752 Federal Ave.
Los Angeles, Calif.

Dear Mrs. Ma;

As you requested, I calculated the water pressure loading for the seawall for the residence at 21756 Pacific Coast Highway in Malibu. The analysis and resulting loads are discussed below and included in this report.

SITE REVIEW

I visited the site on Feb. 18, 1974. The beach is covered with natural rocks and boulders. Near the existing wall and deck the natural rocks are covered with about one foot of sand. This beach is very well armored with natural stone and little additional erosion is expected. I determined the elevation at a number of points and confirmed the beach elevations shown on your survey map dated Oct. 1969 (LS 2614).

WAVE RUNUP AND WALL HEIGHTS

Wave runups were calculated for walls 1 and 3 (see sheet 1) and are shown on sheet 3. On wall 3 runup is expected to reach elevations of 13.5 feet with splash and spray above that elevation. On wall 1 wave runup is expected to reach elevations of 12.5 feet with splash and spray above that elevation. The concrete wall above elevation 12.0 around the deck (on wall 1) may be eliminated if adequate drainage is provided for this area, however, the Cabana walls on the South and West sides should be adequate to withstand the loading for wall 1 and 4 respectively. The walls could be built as shown on sheet A-11 of your plans.

WAVE LOADING

The wave loading for walls 1, 2, 3 and around the stairway were calculated and are shown on sheets 4 and 5. It is difficult to determine accurately the loading for wall 4; however, a design load of 300 PSF over the wall from 4 feet to 12.5 feet above MSL and extending shoreward a minimum of 25 feet from it's seaward edge is recommended and is considered conservative.

FOOTING ELEVATIONS

The footings for walls 1, 2, 3 and around the stairway should

21756 PCH
21 Feb. 1974

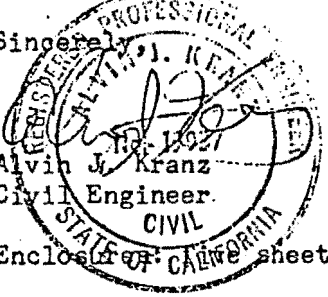
be continuous and extend to 3 feet above MSL. The footing for wall 4 should extend 5 foot minimum into the existing grade and can be sloped upward as you proceed shoreward along the West property line. The actual elevations of your footings should be shown on your plans.

DESIGN DETAILS

Care should be taken to minimize holes and get a good structural connection where the old walls and the new walls are joined. a 1 foot minimum thickness filter gravel layer should be placed behind the walls wherever the possibility of cracks in the wall exists. This filter blanket should extend one foot minimum on each side of possible cracks. Some possible crack locations are where the old and new walls are joined and around the joints in the concrete stairway which leads to the beach. The filter gravel should contain approximately half stones less than one inch in diameter and half from one to two inches in diameter.

If you have any further questions on this or other locations, please give me a call.

Sincerely,


Alvin J. Kranz
Civil Engineer.

Enclosure: sheets of calculations

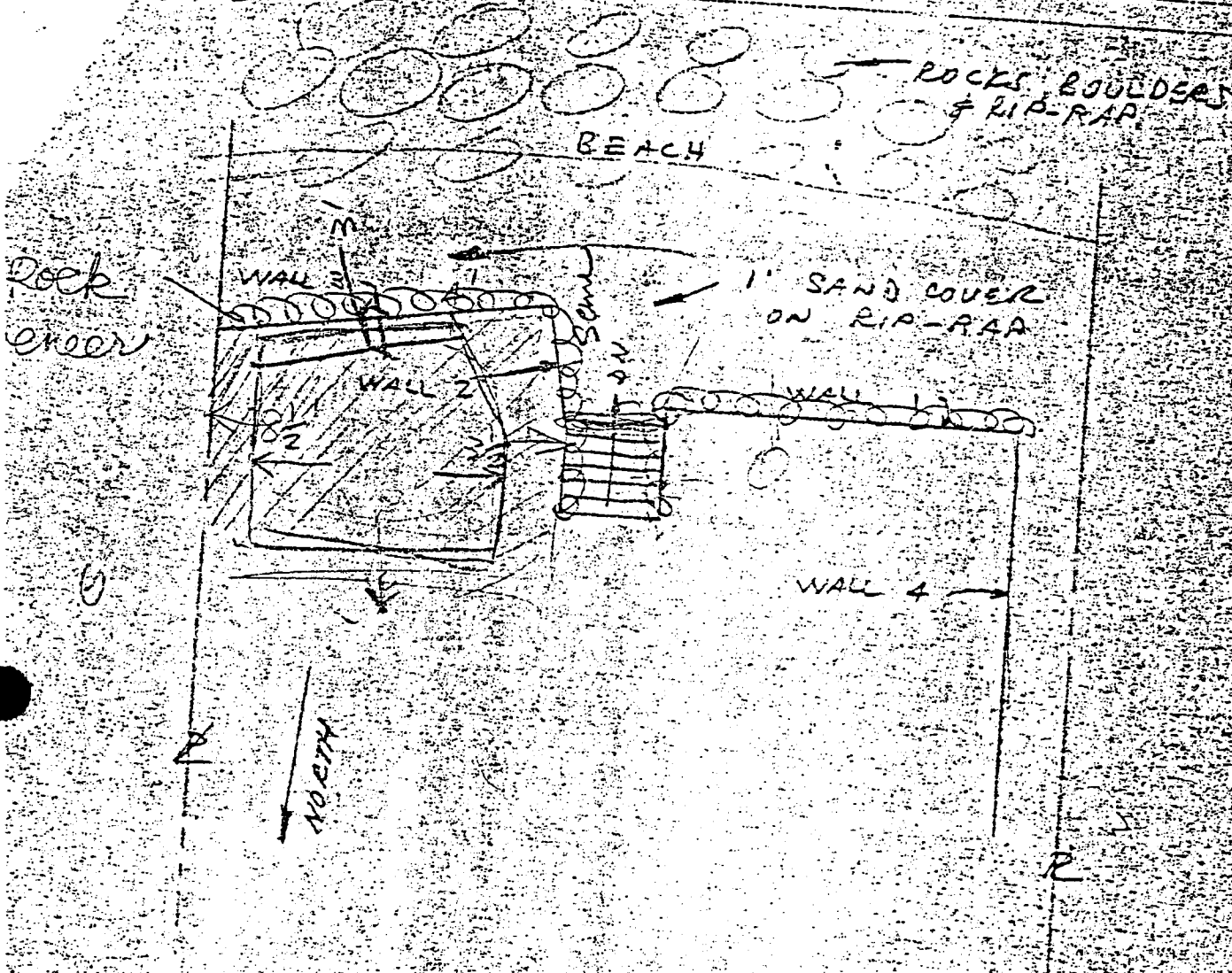
cc: Don Lee, County Engineers Office, 108 W. Second St., Los Angeles

DATE 20 FEB 79

SUBJECT SEAWALL LOADS -
21756 P.C.H., MALIBU

SHEET NO. 1 OF 5
JOB NO. 21756

SCALE





CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202



PAUL D. THAYER, Executive Officer
California Relay Service: From TDD Phone 1-800-735-2922
from Voice Phone 1-800-735-2929

Contact Phone: (916) 574-1892
Contact FAX: (916) 574-1925

July 21, 2000

File Ref: SD 99-10-12.6

Lynn Heacox
The Land and Water Company
18822 Beach Blvd., Suite 209
Huntington Beach CA 92646

Dear Mr. Heacox:

SUBJECT: Coastal Development Project Review for Demolition of Existing
Single Family Residence and Construction of a New Single Family
Residence at 21804 Pacific Coast Highway, Malibu

This is in response to your request on behalf of your client, Pepperdine University, for a determination by the California State Lands Commission (CSLC) whether it asserts a sovereign title interest in the property that the subject project will occupy and whether it asserts that the project will intrude into an area that is subject to the public easement in navigable waters.

The facts pertaining to your client's project, as we understand them, are these:

Your client proposes to demolish an existing single family residence and build a new single family residence with a deck/swimming pool at 21804 Pacific Coast Highway in the La Costa Beach area of Malibu. The project will also involve the demolition of an existing concrete and stone ~~seawall and the construction~~ of a new seawall that will be located well underneath the residence. To the west, the beach is well developed with numerous residences. To the east, three of the four immediately adjacent lots are developed. Continuing east are two vacant properties, with residential development resuming thereafter. Based on the April 22, 2000 plans prepared by Lester Tobias/Architect, the proposed residence and deck are sited above the ten foot contour elevation and appear to be in conformance with the string lines established by the residences/decks on either side.

We do not at this time have sufficient information to determine whether this project will intrude upon state sovereign lands. Development of information sufficient to make such a determination would be expensive and time-consuming. We do not think such an expenditure of time, effort and money is warranted in this situation, given the limited resources of this agency and the circumstances set forth above. This conclusion

EXHIBIT NO. 15

APPLICATION NO.

4-01-160

LANDS COMMISSION

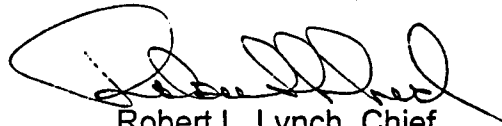
July 21, 2000

is based on the location of the property, the character and history of the adjacent development, and the minimal potential benefit to the public, even if such an inquiry were to reveal the basis for the assertion of public claims and those claims were to be pursued to an ultimate resolution in the state's favor through litigation or otherwise.

Accordingly, the CSLC presently asserts no claims that the project intrudes onto sovereign lands or that it would lie in an area that is subject to the public easement in navigable waters. This conclusion is without prejudice to any future assertion of state ownership or public rights, should circumstances change, or should additional information come to our attention.

If you have any questions, please contact Jane E. Smith, Public Land Management Specialist, at (916) 574-1892.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert L. Lynch", written over a horizontal line.

Robert L. Lynch, Chief
Division of Land Management

cc: Craig Ewing, City of Malibu