

CARMEL WAY TRUST RESIDENTIAL DEVELOPMENT INITIAL STUDY

1. BACKGROUND INFORMATION

Project Title:	Carmel Way Trust Residential Development
Project Location:	7 and 9 Carmel Way, Carmel, Monterey County
Date Prepared:	September 15, 2016
Lead Agency:	City of Carmel P.O. Box G Carmel, California 93921
Project Sponsor:	Jeff and Wendy Hines
Assessor's Parcel Number(s):	010-321-020 and 010-321-021
Acreage of Property:	Three parcels: 1.48 acres combined (0.53 ac. 0.22 ac. and 0.73)
Zoning District:	R1 Single-Family Residential
General Plan Designation:	Single-Family Residential
Coastal Land Use Plan:	Single-Family Residential
Contact Person:	Matthew Sundt, City Planner (831-620-2023)

Introduction

This is an Initial Study that has been prepared in compliance with the California Environmental Quality Act (CEQA). This document is intended to inform public decision-makers and their constituents of the potential environmental impacts of the proposed project.

CEQA Guidelines section 15063(c) states that the purposes of an initial study are to:

- Provide the lead agency the information to decide whether to prepare an environmental impact report (EIR) or a negative declaration;
- Enable the applicant or lead agency to modify a proposed project by mitigating adverse impacts before an EIR is prepared, thereby allowing the project to qualify for a negative declaration;
- Assist in the preparation of an EIR if one is required;
- Facilitate environmental review early in the design of a proposed project;

- Provide documentation of the factual basis for the finding in a negative declaration that a proposed project will not have a significant effect on the environment;
- Eliminate unnecessary EIRs; and
- Determine whether a previously prepared EIR could be used with the project.

If the proposed project, after revisions through implementation of mitigations, will not result in a significant impact on the environment, then a negative declaration can be prepared. Initial studies provide documentation of the factual basis for the findings of a negative declaration. If the proposed project, after revision, will still result in one or more significant impacts on the environment that cannot be mitigated to a less than significant level, an EIR must be prepared. The Initial Study may be used to focus the EIR on only those significant impacts that may result from the proposed project.

CEQA Guidelines Section 15382 states that a significant impact on the environment means a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Per California Public Resources Code (PRC) 21080(c), if a lead agency (i.e., City of Carmel) determines that a proposed project, not otherwise exempt from this division, would not have a significant effect on the environment, the lead agency shall adopt a negative declaration to that effect. The negative declaration shall be prepared for the proposed project in either of the following circumstances:

- (1) There is no substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment.
- (2) An initial study identifies potentially significant effects on the environment, but (A) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (B) there is no substantial evidence, in light of the whole record before the lead agency, that the project, as revised, may have a significant effect on the environment.

This initial study concludes that based on the consultant reports prepared for this project, and discussed and referenced herein, the proposed project does not result in significant impacts to the environment. Therefore, no EIR is required to be prepared and a Negative Declaration will be determined by the lead agency to be appropriate for this project.

Purpose and Document Organization

The purpose of this Initial Study is to evaluate the potential environmental impacts of the proposed project. The document is divided into the following sections:

1. Introduction – This section provides general information regarding the project including the project title, lead agency and address, contact persons, and General Plan land use designation and zoning district,
2. Description of Project and Environmental Setting – This section provides a detailed description of the proposed project
3. Environmental Factors Potentially Affected
4. Evaluation of Environmental Impacts

5. Environmental Discussion – This section described the environmental setting and overview for each of the environmental subject areas, and evaluates a range of impacts classified as “no impact,” “less than significant impact” “less than significant impact with mitigation incorporated” and “potentially significant impact in response to the environmental checklist.

6. Mandatory Findings of Significance

7. Fish and Game Environmental Review

8. Checklist Information References – This section identifies documents, websites, people, and other sources consulted during the preparation of this Initial Study.

9. Persons Contacted

10. Report Preparation

2. DESCRIPTION OF PROJECT AND ENVIRONMENTAL SETTING

PROJECT DESCRIPTION AND PROJECT GOALS

The Carmel Way Trust residential project involves demolition of three residences located on three separate parcels, and construction of two new residences. The project also includes merging two of the three existing parcels into one parcel thereby resulting in two parcels. The subject parcels are located near the north boundary line of the City of Carmel but are only accessible from 17 Mile Drive in Pebble Beach. To the north is the Pescadero Canyon, the Pebble Beach Golf Course and to the west is the Carmel Beach. Refer to Figures 1 and 2 for the project's Regional and Vicinity Maps.

The project goals are as follows:

1. Replace three existing residences (The “Beach House”, “Boardwalk House”, and “Guest House”) with two new residences (The “Beach House” and the “Boardwalk House”);
2. Merge two of three parcels thereby resulting in two parcels;
3. Increase setbacks from the Carmel Beach bluff, the west property boundary and the south property boundary;
4. Reduce visibility of the new residences as seen from public view points on Carmel Beach, the North Carmel Dunes and from the adjacent residences to the east; and
5. Comply with the Local Coastal Plan (LCP), Carmel General Plan, Carmel Residential Design Guidelines and Zoning Regulations.

The three existing residences total 6,612 square feet with one residence (3,883 square feet) located adjacent to the Carmel Beach coastal bluff, one residence (2,142 square feet) situated inland from the coastal bluff and a guest cottage (587 square feet) that is situated between the two aforementioned residences (refer to Figure 3 for proximity of these buildings). After the proposed demolition and merging of lots the property owner will build two new residences with one residence on one lot adjacent to the bluff (The Beach House” – 7,200 square feet) and the second residence (the “Boardwalk House” – 6,000 square feet) on a separate lot situated adjacent and inland. An existing shared driveway on the north side of the property will be removed and a new shared driveway will be constructed on the south and east boundaries of the property connecting to Carmel Way. Refer to Figures 3 thru 8 for the Proposed Site Plan and Landscape Concept Plan, and various building elevations.

Plan Components

Lot Merger – The existing site contains three separate parcels of 0.22 acres (APN 010-321-021), 0.53 acres (APN 010-321-020), and 0.73 acres (APN 010-321-021). The applicant will merge the 0.22 ac.

parcel into what will be called the Beach Parcel (the parcel closest to Carmel Beach) so as to qualify for the 3 percent Floor Area Bonus entitlement established by City Code section 17.10.040(B)(2)(a). Through merger the applicant is able to design the residences and the property in general with greater flexibility in building and driveway location.

Subdivision Deed Restriction – As a condition of project approval, the applicant is also willing to grant a deed restriction prohibiting further subdivision of the entire property. City Code section 17.10.040(C) entitles applicants to utilize the 3 percent Floor Area Bonus in exchange for a permanent deed restriction prohibiting further subdivision. The applicant acknowledges the property is already subject to zoning restrictions prohibiting further subdivision but the deed restriction would remain permanent regardless of any changes to the zoning ordinance that may occur.

Bluff Setback - The plans show that the proposed Beach House will be pulled back from the top of beach bluff from 5 to 8 feet. The proposed setback would be between 2 and 10 feet further than the estimate of bluff retreat over the next 100 years.

Enhancement of Public and Private Views - The turret element of the existing Beach House is visually prominent from the dunes, the beach and neighbor views. The proposed Beach House eliminates the turret and brings the height of the Beach house down from 27 feet to 18 feet. The plans also show the height of the Boardwalk House will be reduced by 2 feet (from 68 to 65 feet) where it is currently visible from the North Dunes Boardwalk. Both the proposed Beach House and the proposed Boardwalk House have been sited and designed to reduce their visibility as seen from adjacent private and public property to include the North Dunes and the Carmel Beach. Refer to Figures 9 thru 21 for a variety of before and after views of the property from various off-site public viewpoints locations, including a bird's-eye view of the existing and proposed structure locations.

Increasing Setbacks from the Environmental Sensitive Habitat Area (ESHA) - Based upon recommendations presented in the Biological Assessment and ESHA Determination prepared by the project biologist (Thomas K. Moss, Coastal Biologist – this report is attached and also available at the City of Carmel Planning Department), the plans show a re-alignment of the existing shared driveway so that the new driveway will be between the North Dunes area and the Boardwalk House thereby tripling the existing setback between the existing residence to the new Boardwalk House from 10.5 feet to 31 feet. Both the Pescadero Canyon and the Dunes are designated Environmental Sensitive Habitat Area (so designated in the Local Coastal Program and the City of Carmel General Plan). However, as the Pescadero Canyon is not directly adjacent to the project site and the project site is not connected directly to Pescadero Canyon by any means such as infrastructure, and as there is an intervening property between Pescadero Canyon and the project site, no environmental concerns are anticipated associated with the Pescadero Canyon.

Quitclaim of Beach Area to the City - As a condition of approval, the applicant is willing to quitclaim to the City that portion of the property which comprises the Carmel Beach below the bluff.

Dune Restoration – The project biologist confirmed the project will not impact dune ESHA and that the Carmel dunes will benefit from the increased setbacks. At the direction of the biologist, the applicant is willing to fund restoration recommendations consistent with the City's Del Mar Master Plan. This includes opportunities to improve the North Dunes by restoring the native plant community, improving protection and enhancement of the Tidestrom's lupine, integrating management of public access to the north dunes, and replacing acacia with native Cypress adjacent to the south property boundary.

Coastal Access

There is currently no public access to the Carmel Beach through the property. However, public access to the coast does exist from San Antonio Street via a boardwalk immediately to the south of the subject property and through the North Dunes area. Additional public access to Carmel Beach exists directly via

Ocean Avenue and Del Mar Parking Lot. The proposed project will not affect in any way the existing access.

Other Public Agencies Whose Approval is Required (e.g., permits, financing approval, or participation agreement): California Coastal Commission.

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES

Site Setting and Surrounding Land Uses

The property is located on the north boundary of the City of Carmel and near to Pescadero Canyon to the north, a riparian habitat, and the North Carmel Dunes area immediately to the south. The setting includes a low density Carmel residential neighborhood to the east and the open space and recreation area of the Carmel North Dunes and Carmel Beach. To the north of Pescadero Canyon is the Pebble Beach Golf Course that is in Monterey County jurisdiction.

Biological Resources

Environmental Sensitive Habitat Area (ESHA)

Based upon the aforementioned Biological Assessment and ESHA Determination prepared by the project biologist, the area of environmental concern is the North Carmel Dunes which includes plant and animal life that are rare and easily disturbed by human activities and development. As defined in the Carmel Coastal Land Use Plan, all lands within 30 feet of an ESHA is within what is called an ESHA Buffer. A portion of the project site is within the Buffer area. Although development is not prohibited within a buffer there is biological review within this area to insure that development projects are designed not to adversely impact the adjacent ESHA.

Per the Biological Assessment, no special status plants or animals were found on the three properties. In addition, based on an analysis of the natural resource values onsite and offsite in the adjacent North Dunes, including plant surveys, soil sampling, and a review of historic and current photographs, no potential habitat occurs on the properties to be redeveloped that could support viable populations of Tidestrom's Lupine or black legless lizards, both of which comprise the two special status species that occur in this region. The Biological Assessment confirms the property was originally pine forest as opposed to unvegetated dunes consistent with the North Dunes. Therefore, per the Biological Assessment, no part of the properties should be considered or reclassified as ESHA.

Forest

As reported by the City Forester in the July 28, 2016, Preliminary Site Assessment, the property contains an upper canopy of Monterey pine and cypress trees, a lower canopy of Coast live oak trees, and three types of non-native species to include Norfolk Island pine, flowering cherry and Leyland Cypress; a total of 33 trees were counted. Of the total number of trees, 13 are not native.

Cultural Resources

As reported in the Preliminary Archaeological Assessment prepared by Archaeological Consulting, dated May 15, 2014 (this report is attached and also available at the City of Carmel Planning Department), the project site lies within the currently recognized ethnographic territory of the Costanoan (often called Ohlone) linguistic group. This group followed a general hunting and gathering subsistence pattern with partial dependence on the natural acorn crop. Habitation is considered to have been semi-sedentary and occupation sites can be expected most often at the confluence of streams, other areas of similar topography along streams, or in the vicinity of springs. These original sources of water may no longer be present or adequate. Resource gathering and processing areas and associated temporary campsites are frequently found on the coast and in other locations containing resources used by the group. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, ecotones, the presence of specific resources (oak groves, marshes,

quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. None of the materials frequently associated with prehistoric cultural resources in this area (dark midden soil, fragments of weather marine shell, flaked or ground stone, bone fragments, fire-affected rock, etc.) were reported to have been observed during the assessment and no surface evidence of potentially significant historic resources were seen on the surface during the assessment.

Soils and Geology

Soils and geology conditions of the property and environs were evaluated by CapRock, Geology, and the results presented in their June 18, 2014 report (this report is attached and also available at the City of Carmel Planning Department). The property is located atop a gently sloping coastal bluff, approximately 45 to 58 feet above sea level. Earth materials on the site consist of vegetation stabilized dune sand overlying marine terrace deposits that in turn overlie Miocene (approximately 5 to 23 million year old) sandstone. Sandstone bedrock is visible at the base of the bluff on the property. Beach sand overlaps onto the sandstone outcrop. Based on the field work several features suggest that the highest elevation of the property, prior to development, was higher than the maximum elevation on the property today. There are several trees on the southeastern part of the property with thick diameters (30 to 40 inches) and are up to six feet higher in elevation as compared to elsewhere on the property. This would indicate that the property had been graded probably associated with construction. In addition, the Carmel North Dunes immediately to the south of the project are higher than the maximum elevation on the property. Based on field observations, the predevelopment maximum elevation on the property could easily have been six feet higher than it is today.

Another indicator that the pre-development elevation of the property was higher than today was found on USGS 15 minute topographic map of Monterey Quadrangle, 1913, which shows the highest elevation on the subject property as falling between 75 and 100 feet above sea level.

There is also evidence from the record that the bluffs have not eroded significantly since 1939. This is likely the result of vegetated dunes being more stable in general than unvegetated dunes and are also more resistant to erosion from waves.

Coastal Bluffs

Per the CapRock report of June 2014, there is evidence from the record that the bluffs at the project site have not eroded significantly since 1939. This is likely the result of vegetated dunes being more stable in general than unvegetated dunes and are also more resistant to erosion from waves. The coastal bluff erosion study was conducted by analyzing stereographic aerial photos and reviewing published coastal bluff retreat rates in the Carmel Beach area.

The morphology of the cliff has also not changed significantly during the study period, 1939 - 2012. This lack of change in the shape of the cliff suggests that there have been no large scale erosional events on the project site during the study period. This observation is significant, because during the El Nino winter storms of 1982-83, substantial cliff retreat was documented further south along the shore of Carmel Bay. Analyzed maps and aerial photographs spanning a 75-year period (1908-1983) indicated that for the northern section of Carmel Beach the average yearly rate of coastal bluff erosion was 0.4 feet per year, while the erosion rate for the southern portion of Carmel Beach was between 0.3 and 0.7 feet per year.

The most dramatic erosion of coastal bluffs in Carmel during the 1982-83 El Nino storms was along the stretch of land south of the subject property, starting around Eighth Avenue and continuing further south to the area around Eleventh Avenue and Santa Lucia Avenue. Comparing the coastline along this stretch of Carmel Beach as it appears in aerial photographs from 1970 and 1990, it is readily apparent that there has been significant erosion along the section of beach.

The project site lies approximately 1500 feet north of the point where Eighth Avenue would reach the beach (if the street extended that far seaward), putting the project site over a quarter of a mile north of the area that was severely impacted during the 1982-83 winter storms. Comparing the coastal bluffs on the

project site and the adjacent properties to the north and south, there is little evidence of any significant changes from 1970 to 1990, and there is little discernible evidence of change in the bluffs along the project site between aerial photographs taken in 1939 and 2012, or any of the other sets of stereographic aerial photographs analyzed between those years.

There is evidence that shows an erosion rate on the coast along the northern part of Carmel Bay, just down from Pescadero Point, of 3 inches (0.25 feet) per year. Further to the south, along Cypress Point, there is an erosion rate of less than 1 inch (approximately 0.08 feet) per year. Although an erosion rate specific to the area of the project site is not known, the bluffs along the section of Carmel Beach where the project site lies are backed by vegetated dunes. Vegetated dunes are more stable in general than unvegetated dunes and are also more resistant to erosion from waves.

Carmel Beach Sand Budget

Carmel Beach is a “pocket beach”, meaning that it is largely a beach unto itself, separated by headlands on either side of the beach from the rest of the coastline.

Most beaches are less isolated topographically and are participants in the movement of sand along the coast that results from the prevailing winds and wave directions, which serve to transport sand from one beach to another in the direction of flow of the longshore current.

When a succession of waves strikes the shoreline at an angle, sending some of their energy further down the coast, a longshore current is generated. Along the coastline of central California, the longshore current generally flows in a southerly direction, transporting sand along the coast from north to south. Owing to the prominent headlands on the Monterey Peninsula to the north, such as Cypress Point and Pescadero Point, and the presence of Point Lobos to the south, the longshore currents are effectively held some distance away from the shoreline along Carmel Bay. That distance is thought to keep Carmel Bay from receiving significant inputs of sand from beaches and eroding bluffs further north along the coast. It is thought (Rogers Johnson, 1984) that most of the sand on the beaches within Carmel Bay “is probably derived locally from the erosion of sandstone and granitic bedrock.”

One source of locally derived sand is Pescadero Creek, which flows into Carmel Bay a short distance to the north of the subject property. The drainage basin feeding the creek extends inland over a mile and a half and drains slopes that extend as far inland as Huckleberry Hill, in the center of the Monterey Peninsula, and the interchange of Highways 68 and 1 to the northeast of the property.

The sand Pescadero Creek carries down to Carmel Beach is deposited on the beach just north of the property that lies adjacent to the subject property’s northern boundary. This input of sand helps stabilize the beach in the vicinity of the project site and appears to be of sufficient volume that it may have built up an offshore sandbar. Such a sandbar would provide further protection against storm waves for the subject property.

Alternatively, this shallow area may indicate a rocky outcrop under the water. But regardless of whether the shallow bathymetry offshore from the project site indicates a sandbar or a rocky outcrop, the shallowing of the subsurface topography in this area should help dissipate the energy of incoming waves, reducing their impact in the vicinity of the subject property.

The Impacts of Sea Level Rise and Erosion Rates

Sea level is dynamic and has varied greatly over millions of years. In part this variation is caused by the occurrence of ice ages. Our sea level is at or near the maximum for the last few million years. This is because we are in between ice ages. The lower sea level during ice ages is caused by the existence of continental ice sheets that hold much of Earth’s water. The periodic melting and reformation of these ice sheets has caused sea level to rise and fall by as much as 426 feet during the time frame of hundreds of thousands of years.

Rising sea level will increase coastal bluff exposure to storm waves, which will accelerate erosion in coastal areas. A study of the California coast and the potential for increase in erosion in coastal areas caused by sea level change was performed by Philip Williams and Associates (PWA, 2009). This study covered an area that stretched from Santa Barbara to the Oregon border and is the first study of its kind. The study area was large and the scope of the project did not allow for coastal erosion estimates for specific sites. The results of this study were created into GIS shape files where one can distinguish land features and hazard zones. However, because of the large uncertainty the authors do not wish anyone to use these to assess the risk at a specific location.

This study was the first attempt to perform this analysis of sea level change and erosion. As such its methodologies have not yet been validated by observation. There is at the present time no established method for calculating the increase in erosion caused by sea level rise at the project site.

The coastal bluff on the western end of the property at 10 Carmel Way (APN 010-321-021) is to some degree protected from direct wave impact from southerly and northerly swells by the headlands bounding Carmel Bay – Pescadero Point and Cypress Point on the Monterey Peninsula to the north and Carmel Point and Point Lobos to the south. Historically, the area south of Ocean Avenue has been subject to far greater amounts of cliff retreat than has the area north of Ocean Avenue, where the subject properties lie. In addition, the shallowness of the undersea topography immediately offshore from the project site should help dissipate the energy of incoming waves. These protections should help mitigate any increase in erosion rates.

Recommended Setback From Top Edge of Coastal Bluffs

The California Coastal Commission defines the top edge of a coastal bluff as "...the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff." (California Coastal Commission Memorandum dated 16 January 2014, Mark J. Johnson, Staff Geologist; California Code of Regulations, Title 14 § 13577 (h) (2).)

As one moves seaward from the edge of the present multistory house towards the face of the coastal bluff, the initial slope away from the house is quite gentle. At an elevation of approximately 43 to 44 feet, the land surface begins to slope more noticeably towards the bay and it is approximately along this line of elevation that is interpreted to be the top edge of the bluff. As measured in the field with a tape measure, the distance from the most seaward points of the house to this bluff edge is approximately 30 to 32 feet, although at some points along the edge of the bluff the distance between the house and the bluff edge was determined to be several feet further seaward.

The Carmel Municipal Code section 17.20.160.B.9.a - Bluff Retreat Setback Requirements, states "New structures shall be set back a sufficient distance from any bluff top to be safe from bluff erosion for a minimum of 100 years as determined by a site-specific geology report, prepared in compliance with CMC 17.20.170(B), Geology Report; provided, that in no case shall the minimum setback be less than 25 feet."

To insure the safety of the structures it is necessary to have a safety buffer. Therefore, CapRock recommends that all future construction be setback a minimum of 30 feet from the top of the cliff face, which corresponds to an average erosion rate of 0.3 feet per year (refer to the attached Caprock and Haro, Kasunich Associates reports). Based on the analysis and findings conducted by CapRock, it is entirely possible that the average erosion rate for the project site has been less than 0.3 feet per year over the last 75 years, but in the absence of hard numbers to support that contention and for the sake of providing a sufficient setback incorporating an adequate margin of safety, 0.3 feet per year is the appropriate rate of coastal bluff erosion for the subject property.

It is significant that this study specifically addressed average erosion rates for the coastal bluffs. Average numbers are very useful for long-term planning but the actual process of erosion occurs episodically, not uniformly. This means that a large retreat event could account for most of the erosion in any given area for an interval spanning decades. Such large events do not necessarily invalidate estimates of annual erosion rates.

Land Use

The applicable land use documents include the Carmel General Plan and the Carmel Local Coastal Program (LCP) and its associated Coastal Implementation Plan which governs development in Carmel.

Based on review of the Carmel General Plan/LCP and its Implementation Plan, the proposed project is consistent with the plans, policies, requirements and standards of the LCP. The General Plan designates the properties for single-family residential. The Carmel Zoning Ordinance allows single-family dwellings on each lot with a 3 percent bonus floor area on one of the lots as discussed above. The LCP also allows residential development.

3. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

FACTORS

	Aesthetics		Agricultural and Forestry	X	Air Quality /Greenhouse Gas Emissions
X	Biological Resources	X	Cultural Resources	X	Geology/Soils
	Hazards & Hazardous Materials		Hydrology/Water Quality		Land Use/Planning
	Mineral Resources		Noise		Population/Housing
	Public Services		Recreation		Transportation/Traffic
	Utilities/Service Systems		Mandatory Findings of Significance		

DETERMINATION

On the basis of this initial evaluation:

★ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature of Responsible Lead Agency Person and date

4. EVALUATION OF ENVIRONMENTAL IMPACTS

Notes

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on project-specific screening analysis). Section 8 in this report includes the reference information used throughout the following Environmental Discussion.
- 2) All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review. This document uses a number of documents as a basis for discussion that was prepared by consultants on behalf of the applicant. These reports are incorporated herein and are identified throughout the Environmental Checklist by a number at the end of most of the issue statements. These numbers are contained in parentheses. Refer to the References section at the end of this environmental document for the list of reports used in preparing this environmental document. Said are also on file at the City of Carmel Planning Department.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) This environmental document incorporates into the checklist reference information sources (e.g., "Ref. 1" is related to 'Knowledge of the project site and surrounding area'. "Ref. 2" is related to "Carmel General Plan"). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) The explanation of each issue should identify:
 - a) The significance criteria or threshold, if any, used to evaluate each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less than significance.

5. ENVIRONMENTAL DISCUSSION

(Note: A brief explanation is provided for all answers except “No Impact” answers that are adequately supported by the information sources cited in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone or is not near an airport). The information sources are found below in Section 8 – Checklist Information References).

1. AESTHETICS: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|---|
| a) Have a substantial adverse effect on a scenic vista? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (ref 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |

Discussion: 3D visualizations were prepared by the project architect and are included herein. These visualizations show that the project’s visual impact, as seen from the public view points at Carmel Beach and North Carmel Dunes, will be less than that of existing conditions. The project would not have an adverse impact on any existing views from the property and the design of the building would be consistent with the surrounding residences and the City of Carmel’s Design Guidelines for Single Family Residences.

2. AGRICULTURAL AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|---|
| a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resource Agency, to non-agricultural use? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? (ref 1, 2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |

conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (ref 1, 2)

3. AIR QUALITY:

Where available, the significance criteria established by the applicable air quality management or air pollution control district might be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan? (ref 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? (ref 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursor)? (ref 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations? (ref 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people? (ref 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Generate greenhouse gas emissions, directly or indirectly, that may have a significant impact on the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion (b): Soil disturbance associated with demolition of residences, grading and construction will occur over a period of approximately two months and will affect approximately up to one-third acre at a time (David Stocker, project contractor, personal communication, August 25, 2016). This type of work will create airborne dust particulates that may exit the property (called 'fugitive dust') and affect neighboring properties and residents during the construction phase of the project. Per the Monterey Bay Unified Air Pollution Control District (MBUAPC) CEQA Air Quality Guidelines, Table 5-2, the threshold for significance is 2.2 acres per day. The proposed project is not anticipated to reach this threshold as the approximately 1.48 acre project area will be graded in smaller sections at any one time. However, out of respect for the neighbors, the applicant proposes that the project operations be conducted with zero tolerance for fugitive dust that could affect the neighbors. Therefore, the applicant proposes that the project incorporate dust emission controls during demolition and grading by spraying non-potable water during demolition and grading, that truck-loads of exported soils and materials be wetted and covered with a tarp and health (dust particulate matter – PM 10 and PM 2.5 – is known to affect the lungs). This will be cause for mitigation to reduce the impact to a less-than-significant level.

Mitigation incorporated into project: To address this type of impact the MBUAPCD has a universal requirement for all construction projects that involve grading to mitigate the potential for fugitive dust. The applicant is aware of this universal requirement and has agreed to incorporate

this into the project operations to be implemented and administered by the project's general contractor.

4. BIOLOGICAL RESOURCES: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) <i>Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (ref 3)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) <i>Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (ref 3)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) <i>Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (ref 3)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) <i>Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (ref 3)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) <i>Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (ref 4)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) <i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan. (ref 3)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion (a) and (b): The reader is referred to the Environmental Setting section for a discussion of biological issues.

5. CULTURAL RESOURCES: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) <i>Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Section 15064.5? (ref. 5)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) <i>Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? (ref. 5)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) <i>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (ref. 5)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) <i>Disturb any human remains, including those interred outside of formal cemeteries. (ref. 5)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project site is located within an Archaeologically Sensitive Area where potentially significant archaeological resources and artifacts may exist. Archaeological sites and resources are protected by Federal and State statutes. Proposed projects that require discretionary permits also require an inspection of the project site and an analysis of the observations and/or finds by a qualified archaeologist with local expertise. Archaeological Consulting completed a Preliminary Archaeological Assessment on May 15, 2014 in accordance with Section 15063(a)(2) and (3) of the CEQA Guidelines.

6. GEOLOGY AND SOILS: Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving ...

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 1) <i>Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (ref 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2) <i>Strong seismic ground shaking? (ref 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3) <i>Seismic-related ground failure, including liquefaction? (ref 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4) <i>Landslides? (ref 6)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) <i>Result in substantial soil erosion or the loss of topsoil? (ref 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) <i>Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (ref 6)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) <i>Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1994), creating substantial risks to life or property? (ref 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) <i>Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (ref 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion: California is situated in a seismically active area that lies within the California Coast Ranges geomorphic and physiographic province. The entire California Coast and Coast Range area is prone to earthquakes. The faults that could present a hazard to Carmel during an earthquake event include the following active or potentially active faults: San Andreas, San Gregorio-Palo Colorado, Chupines, Navy, and Cypress Point.

7. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|---|
| a) <i>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| b) <i>Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| c) <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| d) <i>Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environments? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| e) <i>For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| f) <i>For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| g) <i>Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| h) <i>Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |

Discussion: Construction of the proposed project would involve the use of limited amounts of routine hazardous materials, such as gasoline, diesel fuel, oils, and solvents. Contractors would be required to use, store, and dispose of any hazardous materials in accordance with all applicable federal, state, and local regulations. Compliance with existing regulations would minimize potential risks to the public and the environment associated with the proposed project. The proposed project would not use any hazardous materials as part of the project operation.

8. HYDROLOGY AND WATER QUALITY: Would the project:

a) <i>Violate any water quality standards or waste discharge requirements? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) <i>Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) <i>Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
f) <i>Otherwise substantially degrade water quality? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
g) <i>Place housing within a 100-year flood hazard area as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (Ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
h) <i>Place within a 100-year flood hazard area structures that would impede or redirect flood flows? (ref. 1, 2)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
i) <i>Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (Ref. 1, 2)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
j) <i>Inundation by seiche, tsunamis, or mudflow? (ref. 1, 2)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Discussion: The proposed project would require some use of water during the construction phase, such as for dust control, but the quantities would be incidental. The existing use of the project site is consistent with the density requirements and allowable uses in the Single Family Residential zone and the proposal will have no effect on any water quality standards of water discharge requirements. The project site is not located in the Federal Emergency Management Agency (FEMA) 100-year floor zone.

9. LAND USE AND PLANNING: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|---|
| a) <i>Physically divide an established community? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| b) <i>Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| c) <i>Conflict with any applicable habitat conservation plan or natural community conservation plan? (ref. 1, 2, 3)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |

10. MINERAL RESOURCES: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|---|
| a) <i>Result in loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| b) <i>Result in the loss availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |

11. NOISE: Would the project result in:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|---|
| a) <i>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| b) <i>Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| c) <i>A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| d) <i>A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |
| e) <i>For a project located within an airport land use plan or, where such a plan has not been adopted, within two</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ✓ |

miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (ref. 1, 2)

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) <i>For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (ref. 1, 2)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: Noise impacts will occur associated with demolition, grading and construction. Heavy equipment of the type used in demolition and grading will generate the greatest amount of noise and will exceed the max dBA of 45 for residential areas. However, said noise will be short-term and intermittent during the estimated one month period when demolition and grading occurs. Construction noise is the type of noise associated with delivery of construction materials, removal of construction debris, delivery and the pouring concrete, delivery of landscape materials and plants, and building structures – i.e., noise associated with construction workers conversing, the use of nail guns, hammers, saws, etc. Following construction will be the landscaping operation, which will also generate noise but not at the level associated with construction because planting is generally a quieter operation. Although demolition, grading, construction, and landscaping operations creates noise the fact that it is short-term and intermittent and is controlled by the City of Carmel’s noise ordinance that limits construction activities between the hours of 8:00 a.m. and 6:30 p.m., Monday thru Saturday, results in noise impacts being less-than-significant.

12. POPULATION AND HOUSING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) <i>Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) <i>Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) <i>Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

13. PUBLIC SERVICES:

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- | | | | | |
|---------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1) <i>Fire protection? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2) <i>Police protection? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3) <i>Schools? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4) <i>Parks? (ref. 1)</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

5) Other public facilities? (ref. 1) ✓

14. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (ref. 1) ✓

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (ref. 1) ✓

15. TRANSPORTATION/TRAFFIC: Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? (ref. 1) ✓

b) Exceed, either individually or cumulatively, a level or service standard established by the county congestion management agency for designated roads or highways? (ref. 1) ✓

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (ref. 1) ✓

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (ref. 1) ✓

e) Result in inadequate emergency access? (ref. 1) ✓

f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? (ref. 1) ✓

Discussion: The proposed project consists of two new single-family residences that would replace two existing residences and one guest house. Therefore, traffic impacts associated with the new residences are expected to be approximately the same as existing conditions. Traffic impacts associated with construction will increase local traffic and will be short-term and not considered significant.

16. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (ref. 1) ✓

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b) <i>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) <i>Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) <i>Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) <i>Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
f) <i>Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
g) <i>Comply with federal, state, and local statutes and regulation related to solid waste? (ref. 1)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

6. MANDATORY FINDING OF SIGNIFICANCE

a) <i>Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) <i>Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) <i>Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

7. FISH AND GAME ENVIRONMENTAL DOCUMENT FEES

Assessment of Fee: For purposes of implementing Section 735.5 of Title 14, California Code of Regulations: If based on the record as a whole, the Planner determines that implementation of the project described herein will result in changes to resources A-G listed below, then a Fish and Game Document Filing Fee must be assessed. Based upon analysis using criteria A through G below, and information contained in the record, state conclusions with evidence below.

- A) Riparian land, rivers, streams, water courses, and wetlands under state and federal jurisdiction.
- B) Native and non-native plant life and the soil required to sustain habitat for fish and wildlife;
- C) Rare and unique plant life and ecological communities dependent on plant life, and;
- D) Listed threatened and endangered plant and animals and the habitat in which they are believed to reside.
- E) All species of plant or animals listed as protected or identified for special management in the Fish and Game Code, the Public Resources Code, and the Water Code, or regulations adopted thereunder.
- F) All marine terrestrial species subject to the jurisdiction of the Department of Fish and Game and the ecological communities in which they reside.
- G) All air and water resources the degradation of which will individually or cumulatively result in the loss of biological diversity among plants and animals residing in air or water.

De Minimis Fee Exemption: For purposes of implementing Section 735.5 of the California Code of Regulations a De Minimis Exemption may be granted to the Environmental Document Fee only if there is substantial evidence, based on the record as a whole, and subject to approval by the California Department of Fish and Game, that there will not be changes to the above named resources.

Conclusion: The project will be required to pay the current Fish and Game filing fee based on the above criteria at the time the Notice of Determination is filed with the County Clerk.

Evidence: Based on the project definition and the environmental analysis contained herein, the project will directly or indirectly, on a project or cumulative level, impact at least one of the above listed resources.

8. CHECKLIST INFORMATION REFERENCES

The following list of references coincides with the reference numbers used in the Environmental Checklist in Section 5 of this initial study.

1. Knowledge of the project site and surrounding area/Project Plans
2. Carmel General Plan
3. Biological Assessment and ESHA Determination prepared by the project biologist Thomas K. Moss, Coastal Biologist
4. Preliminary Site Assessment. City of Carmel Forester. July 28, 2016 [on file at City of Carmel]
5. Preliminary Archaeological Assessment, Archaeological Consulting, May 15, 2014.
6. Caprock Geology report, June 18, 2014 and Haro, Kasunich Associates Peer Review Report

9. PERSONS CONTACTED

Jeffers, Aengus, Attorney representing property owner

10. REPORT PREPARATION

Matthew Sundt, Contract Planner, City of Carmel



Figure 1 – Regional Map
Source: Google 2016

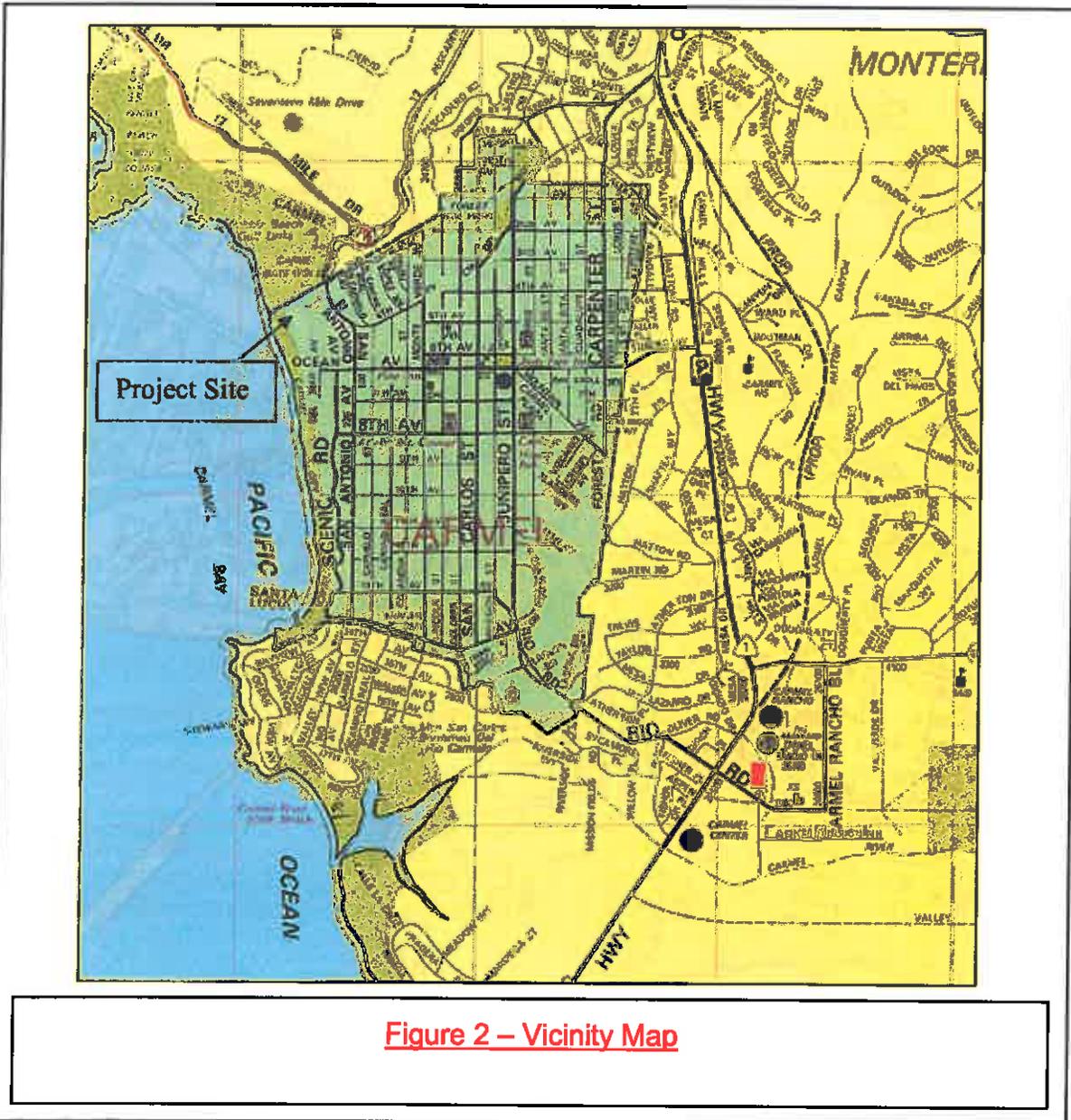
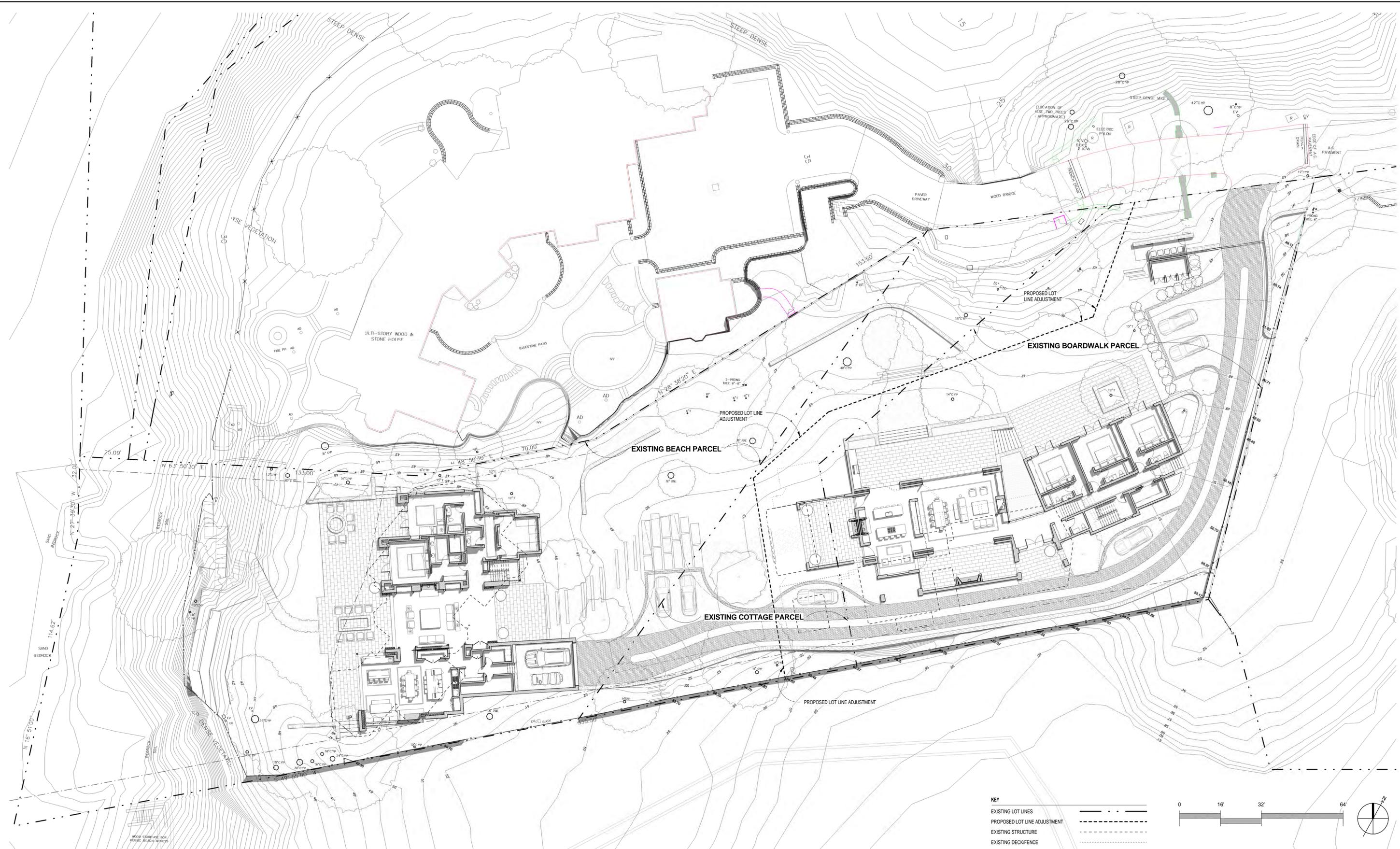


Figure 2 – Vicinity Map

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HINES
CARMEL

PROPOSED SITE PLAN, GROUND FLOOR

Figure 3

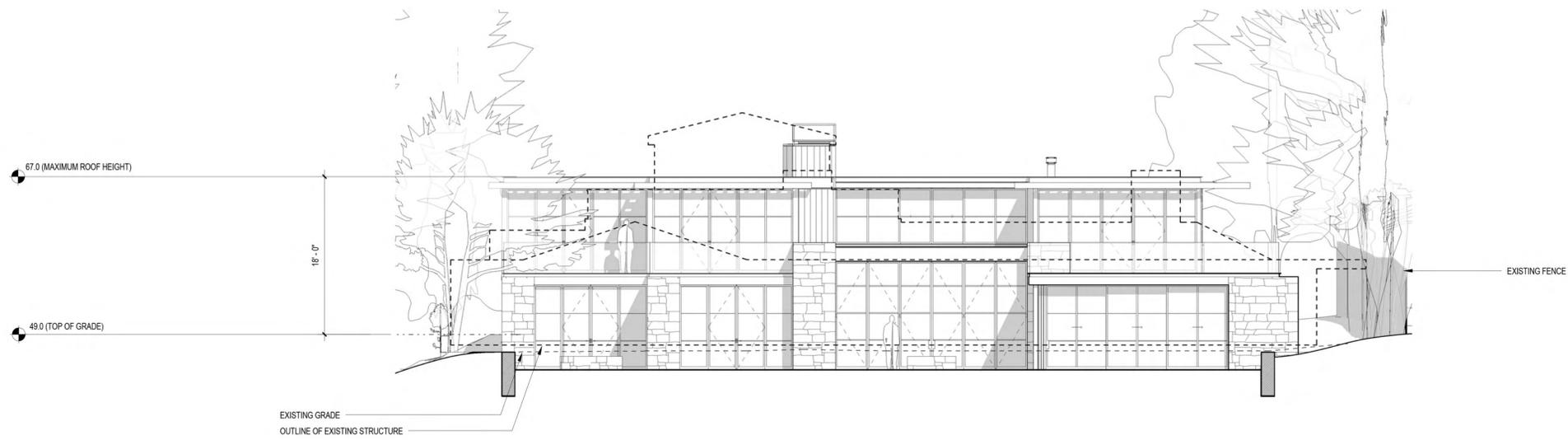
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SCALE: 1/16" = 1'-0"



Figure 4



1
P3.01 BUILDING ELEVATION - WEST
SCALE : 1/8" = 1'-0"



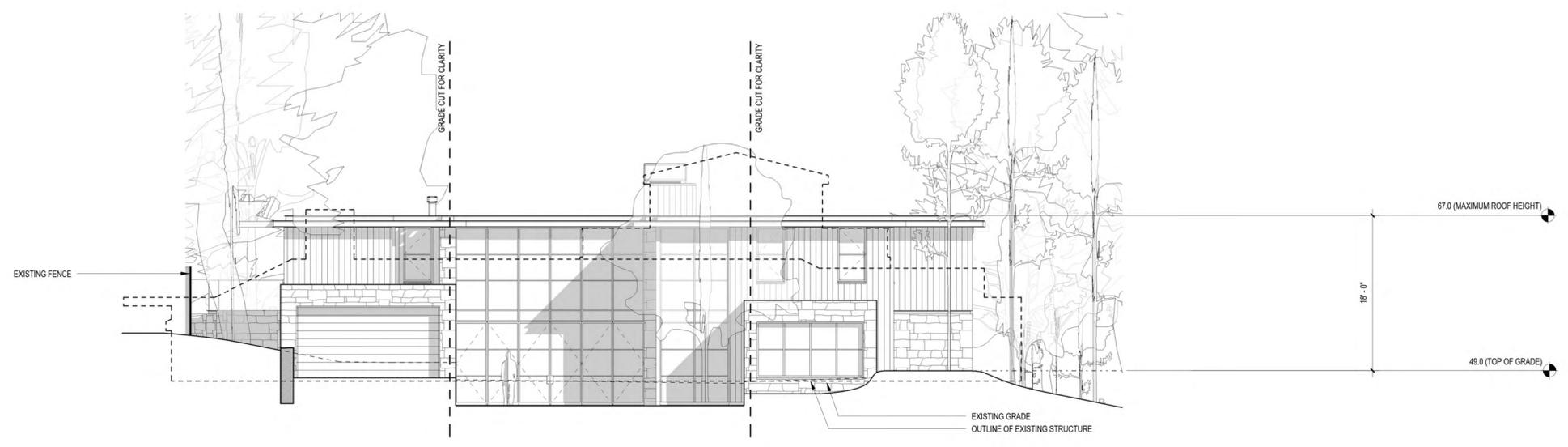
Carmel by the Sea : Beach House

Building Elevations

SCALE : 1/8" = 1'-0"

Figure 5

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1 BUILDING ELEVATION - EAST
SCALE : 1/8" = 1'-0"

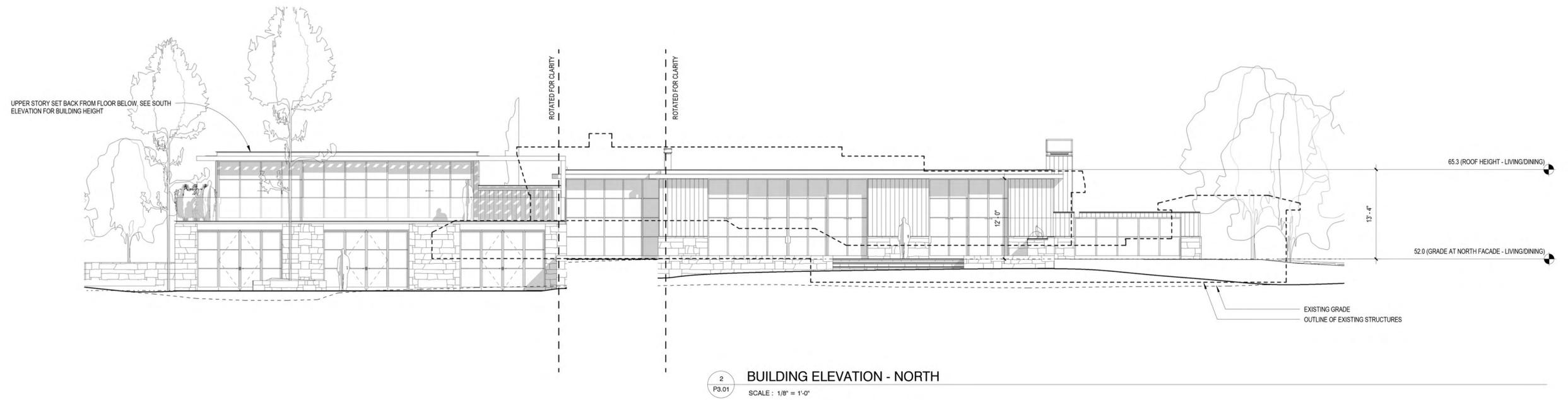


Carmel by the Sea : Beach House

Building Elevations

Figure 6

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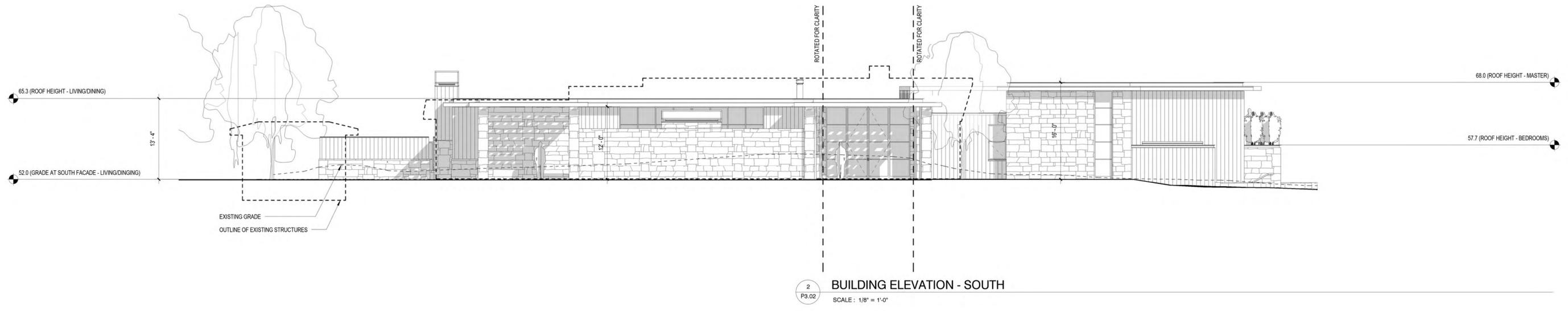


Carmel by the Sea : Boardwalk House

Building Elevations

Figure 7

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Carmel by the Sea : Boardwalk House

Building Elevations

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SCALE : 1/8" = 1'-0"

Figure 8

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View from Beach - Existing

SCALE :

Figure 9

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View from Beach - Proposed

SCALE :

Figure 10

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Carmel by the Sea : Beach House

View From Beach at Bluff - Existing

Figure 11

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Carmel by the Sea : Beach House

View From Beach at Bluff - Proposed

Figure 12

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View from Beach at Stone Wall - Existing

SCALE:

Figure 13

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View from Beach at Stone Wall - Proposed

SCALE:

Figure 14

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View from Boardwalk - Existing

SCALE :

Figure 15

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View from Boardwalk - Proposed

SCALE :

Figure 16

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Carmel by the Sea : Beach House

View from Boardwalk - Existing

Figure 17

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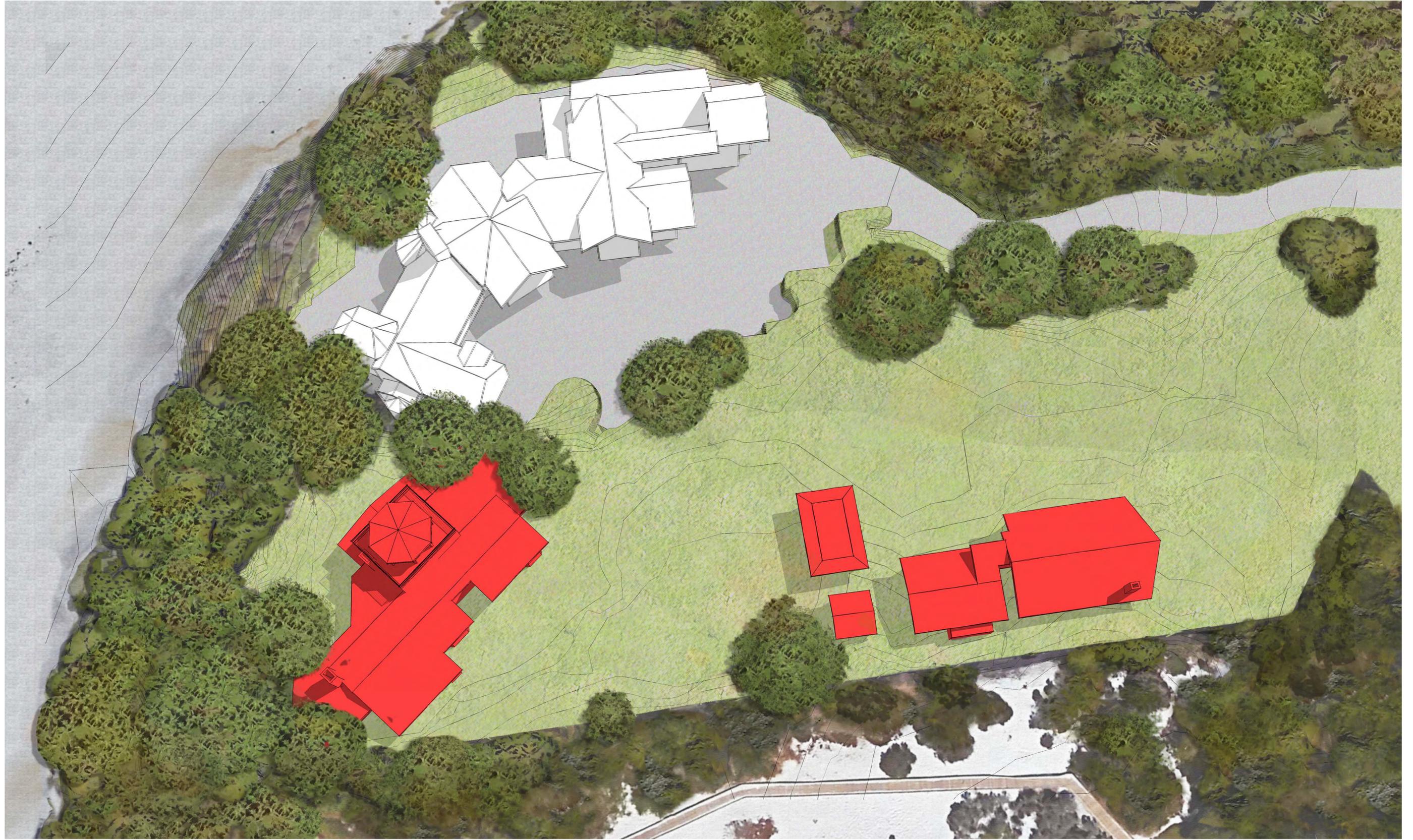


Carmel by the Sea : Beach House

View from Boardwalk - Proposed

Figure 18

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Site - Bird's Eye - Existing Structures

SCALE:

Figure 19

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Site - Bird's Eye - Proposed Structures

SCALE :

Figure 20

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K R O E G E R
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HINES
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Site - Bird's Eye - Existing/Proposed Structures

SCALE:

Figure 21

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K R O E G E R
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THOMAS K. MOSS
Coastal Biologist

**BIOLOGICAL ASSESSMENT AND ESHA DETERMINATION
UPPER ESTATE – 7 AND 9 CARMEL WAY
CARMEL-BY-THE-SEA, CA
(APN 010-321-020 and 010-321-021)**

Owner:

**Carmel Way Trust
7 and 9 Carmel Way
Carmel-By-The-Sea, CA 93920**

January 4, 2016

RECEIVED
JUN 23 2016
City of Carmel-by-the-Sea
Planning & Building Dept.

**508 Crocker Avenue
Pacific Grove, CA 93950**

***setwave@msn.com*
(831) 594-0948**

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	3
EXECUTIVE SUMMARY OF FINDINGS AND RECOMMENDATIONS	6
PROJECT LOCATION	8
PROJECT DESCRIPTION	8
SITE CONDITION	8
HISTORICAL CONDITION	12
SPECIAL STATUS SPECIES	14
SOIL ANALYSIS	16
ESHA AND ESHA BUFFER	16
IMPACTS AND MITIGATION	20
FIGURE 1. PROJECT LOCATION	4
FIGURE 2. ESHA AND ESHA BUFFER	7
FIGURE 3. EXISTING CONDITION	9
FIGURE 4. PROPOSED SITE PLAN	10
FIGURE 5. DISTRIBUTION OF MONTEREY PINE FOREST IN 1956	13
FIGURE 6. SOIL MAP – AREA OF POTENTIAL DUNE SCRUB	19

**BIOLOGICAL ASSESSMENT AND ESHA DETERMINATION
UPPER ESTATE – 7 AND 9 CARMEL WAY, CARMEL-BY-THE-SEA, CA
(APN 010-321-020 and 010-321-021)**

INTRODUCTION

This report has been prepared at the request of Aengus L. Jeffers, a land-use attorney representing Carmel Way Trust, the new owner of the Upper Estate, located at 7 and 9 Carmel Way in the City of Carmel (Figure 1). The Upper Estate comprises three legal parcels of record certified by the City of Carmel. The parcels are referred to as the Beach House parcel, the Cottage House parcel, and the Boardwalk House parcel. The new owner of the Upper Estate is proposing to redevelop the properties, entailing the consolidation and replacement of the three existing houses with two new houses. In addition, a lot line adjustment is proposed, in order to merge one of the three parcels into the other two.

The purpose of this report is to evaluate the re-development feasibility and environmental sensitivity of the three properties, specifically in regards to the presence or absence of rare species or habitat that could potentially support plant and/or animal species of special concern. To make this determination, a biological assessment was performed and soil samples were taken and examined on the properties. The same activities were performed in an area immediately to the south of the properties, called the North Dunes, a 5-acre area of relatively high-quality dune habitat that contains Tidestrom's lupine (*Lupinus tidestromii*), a state- and federal-listed Endangered Species, and black legless lizard (*Anniella pulchra nigra*), an animal listed as a Species of Concern by the State of California. The North Dunes has been designated by the California Coastal Commission as "environmentally sensitive habitat area" (ESHA), because of the presence of rare species and the fragile nature of the habitat. The site-specific comparison of the natural resource values on the subject properties to those on the North Dunes confirmed the accuracy of the City of Carmel Local Coastal Program's conclusion that the North Dunes comprise dune ESHA, while the adjacent private property comprises ESHA Buffer.

The Pescadero Creek riparian area is about 100 feet north of the property and has also been designated as ESHA. Indicator species of this riparian area, particularly arroyo willow, occur near the creek bottom and adjacent slopes. Willows are visible from the northern property line of the Upper Estate at 7 and 9 Carmel Way, below an 8-foot high retaining wall and beyond the neighbor's driveway and landscaping to the north (Stone House property). Because of the distance to the Pescadero Creek ESHA from the subject properties and the presence of significant development barriers, further study of this area as part of this report and as a potential concern for the project planners was considered not relevant or a major factor in effecting the design and evaluation of the proposed project.

FIGURE 1. PROJECT LOCATION

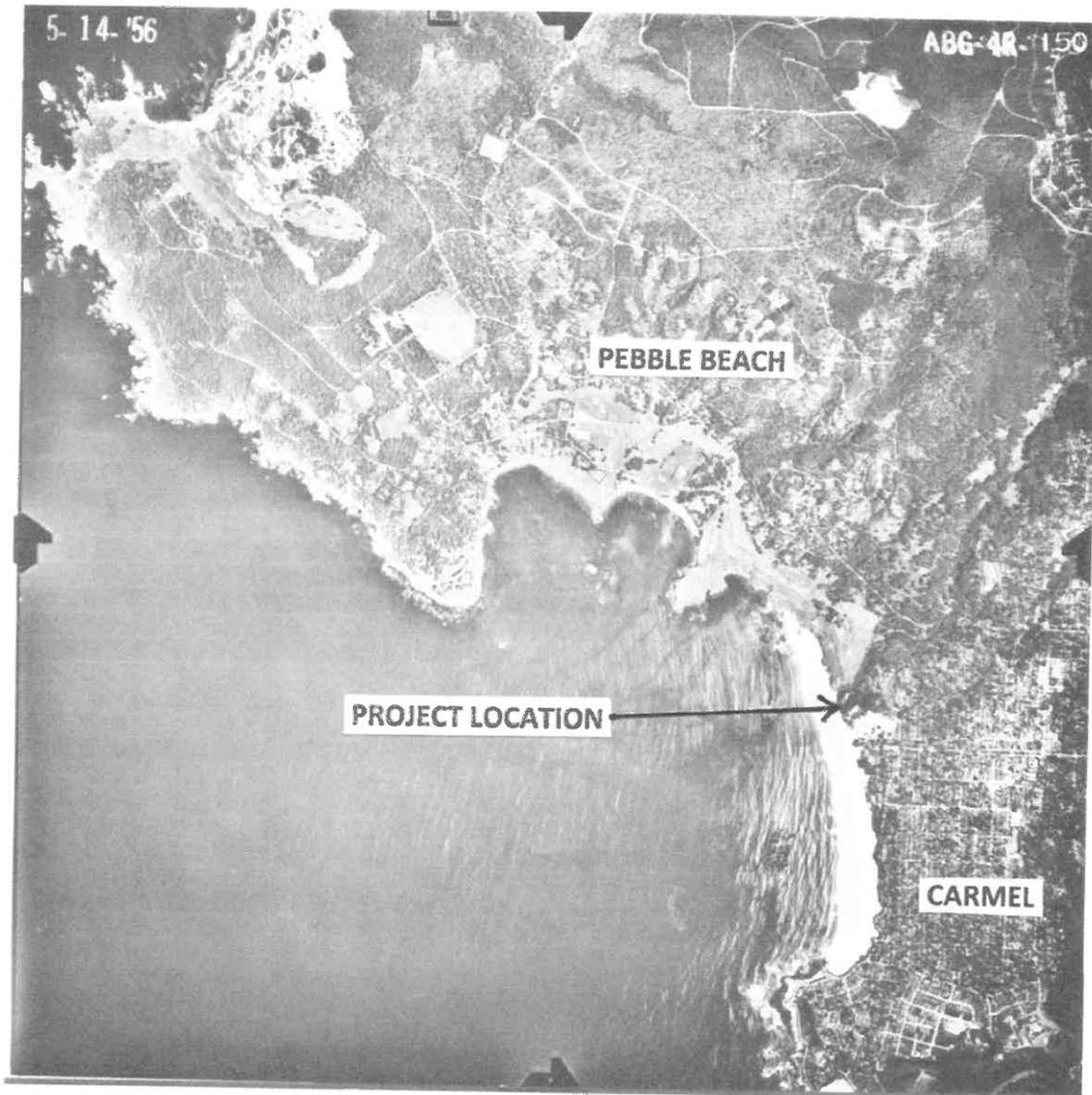


Photo 1. Degraded dunes ESHA immediately south of subject properties; foreground with Tidestrom's lupine area and background with wide acacia thicket.



Photo 2. Riparian ESHA on northern side of adjacent property, with landscaping and driveway in the foreground and willows (reddish stems) on lower slope, near creek.



Much of the Upper Estate is presently designated as ESHA Buffer, because of its proximity to the North Dunes, separated by a 6-foot tall solid board property line fence (Figure 2). ESHA Buffer is defined by the City of Carmel's Coastal Land Use Plan as areas extending 30 feet beyond ESHA boundaries. Development within ESHA Buffer is not prohibited but does require heightened permitting and biological review to insure that projects are designed to not adversely impact adjacent ESHA.

EXECUTIVE SUMMARY OF FINDINGS AND RECOMMENDATIONS

No special status plants or animals were found on the three properties. In addition, based on an analysis of the natural resource values onsite and offsite in the adjacent North Dunes, including plant surveys, soil sampling, and a review of historic and current aerial photographs, I have concluded that no potential habitat occurs on the properties that could support viable populations of Tidestrom's lupine or black legless lizard, the two special status species that occur in this region. Therefore, no part of the properties should be considered or reclassified as ESHA.

A large population of Tidestrom's lupine occurs 65 feet south of the property line fence that runs along the southern boundary of the three properties. A large group of mock heather shrubs, which represents potential habitat for black legless lizards, starts 12 feet south of the fence, adjacent to the Boardwalk House. Given the distances to the nearest Tidestrom's lupines and mock heather shrubs south of the properties, the proposed project will have no impact on the two special status species or the ESHA dunes these species depend on south of the subject properties.

The proposed project will consolidate and replace three existing residences with two new residences. The two new residences will continue to share a single driveway. Total site coverage including building coverage and hardscape (except for the common driveway) will decrease from 18,658 to 15,513 square feet. Setback distances from the southern property line for the Beach House and the Boardwalk House will increase from 5.5 feet to 10 feet and from 10.5 feet to 31 feet, respectively. These changes – a reduction in site coverage and an increase in setbacks – will help reduce any potential impacts, particularly visual impacts, to the North Dunes ESHA to the south.

A very small area on the Boardwalk House property, along the southern property line fence, does contain soil characteristics similar to the ESHA dunes south of the property, and therefore was closely reviewed. However, because of its more northerly slope aspect, historic record of supporting Monterey pine forest (instead of coastal dunes scrub), and a high incidence of shading created by tall vegetation to the south, it was determined that conditions here are not favorable for supporting viable populations of Tidestrom's lupines and Black legless lizards. These observations also confirm the City of Carmel Local Coastal Program's conclusion that this area does not constitute ESHA. Therefore, it is my recommendation that the Upper Estate properties continue to be classified as ESHA Buffer.

FIGURE 2. ESHA AND ESHA BUFFER

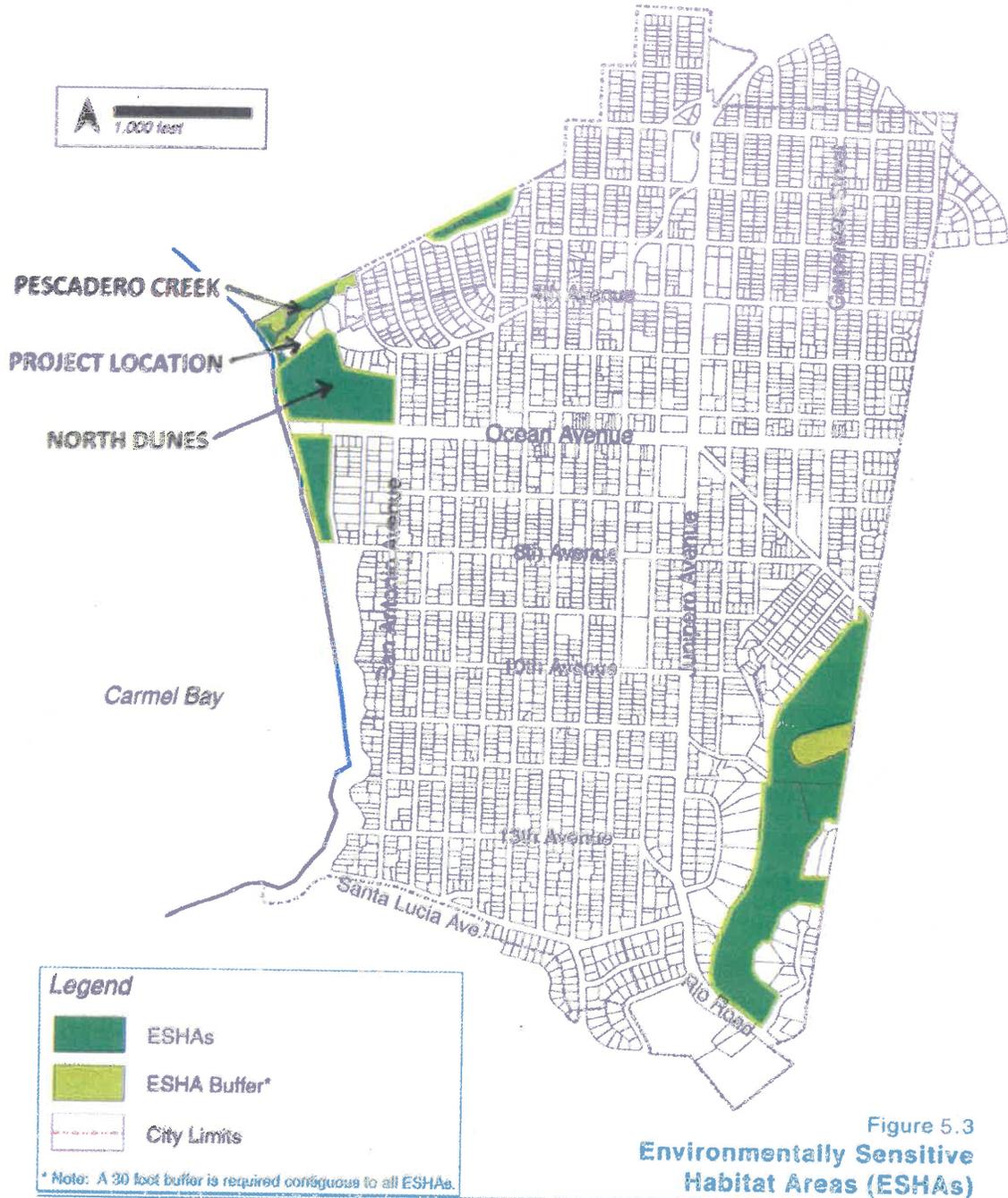


Figure 5.3
**Environmentally Sensitive
 Habitat Areas (ESHAs)**

Carmel-by-the-Sea
 Adopted June 3, 2003

While the proposed residential development will not impact the adjacent ESHA dunes, the project applicant has offered to provide sufficient funding to complete implementation of a restoration project on approximately one acre of the highly disturbed dunes to the immediate south, in order to enhance the natural and scenic values of this area both for their viewing pleasure and the public. The area would extend from the property line fence to the first dune ridge to the south and from the bluff edge to about the inland boundary of the dunes (length of the boardwalk), including removal of exotic vegetation, replanting native dune plants, and providing protection to the special status species that occur here by proposing and implementing measures to better manage human foot-traffic in the area. The environmental and public benefits derived from restoring the ESHA dunes in this area would far exceed any potential environmental impacts resulting from the proposed project.

PROJECT LOCATION

The project site consists of three developed parcels located on the bluff top above Camel Beach in the northwest corner of the City of Carmel (Figure 3). Referred to as the "Beach House", the "Cottage House", and the "Boardwalk House" parcels, the properties encompass 0.73, 0.22, and 0.53 acres, respectively. The Beach House and the Cottage House were built in 1963 and the Boardwalk House was built in 1991. The properties together measure about 535 feet in length at the longest point and 170 feet at the widest point, with the Boardwalk House set behind and inland of the Beach House and the Cottage House in-between. The properties are bordered by residential properties on the north and east sides, shoreline to the west, and the North Dunes to the south.

PROJECT DESCRIPTION

The existing houses cover 3,883 square feet for the Beach House; 587 square feet for the Cottage House, and; 2,142 square feet for the Boardwalk House. The houses are proposed to be replaced, with the new Beach House covering 4,761 square feet and the new Boardwalk House covering 4,592 square feet (Figure 4). The Cottage House will be removed and not replaced. The existing shared driveway and parking areas will be removed, as well, and relocated from the northwesterly side of the properties to the northeast and southeast sides of the properties. The proposed setback distances from the southern property line for the Beach House and the Boardwalk House will increase from 5.5 feet to 10 feet and from 10.5 feet to 31 feet, respectively.

SITE CONDITION

The Beach House, Cottage House, and Boardwalk House properties are fully developed, with three residences, shared driveway and parking areas, and formal landscaping covering both properties in their entirety. With the exception of two living Monterey pines (diameters of 30 and 34 inches), no other indigenous plant species grow

FIGURE 3. EXISTING CONDITION

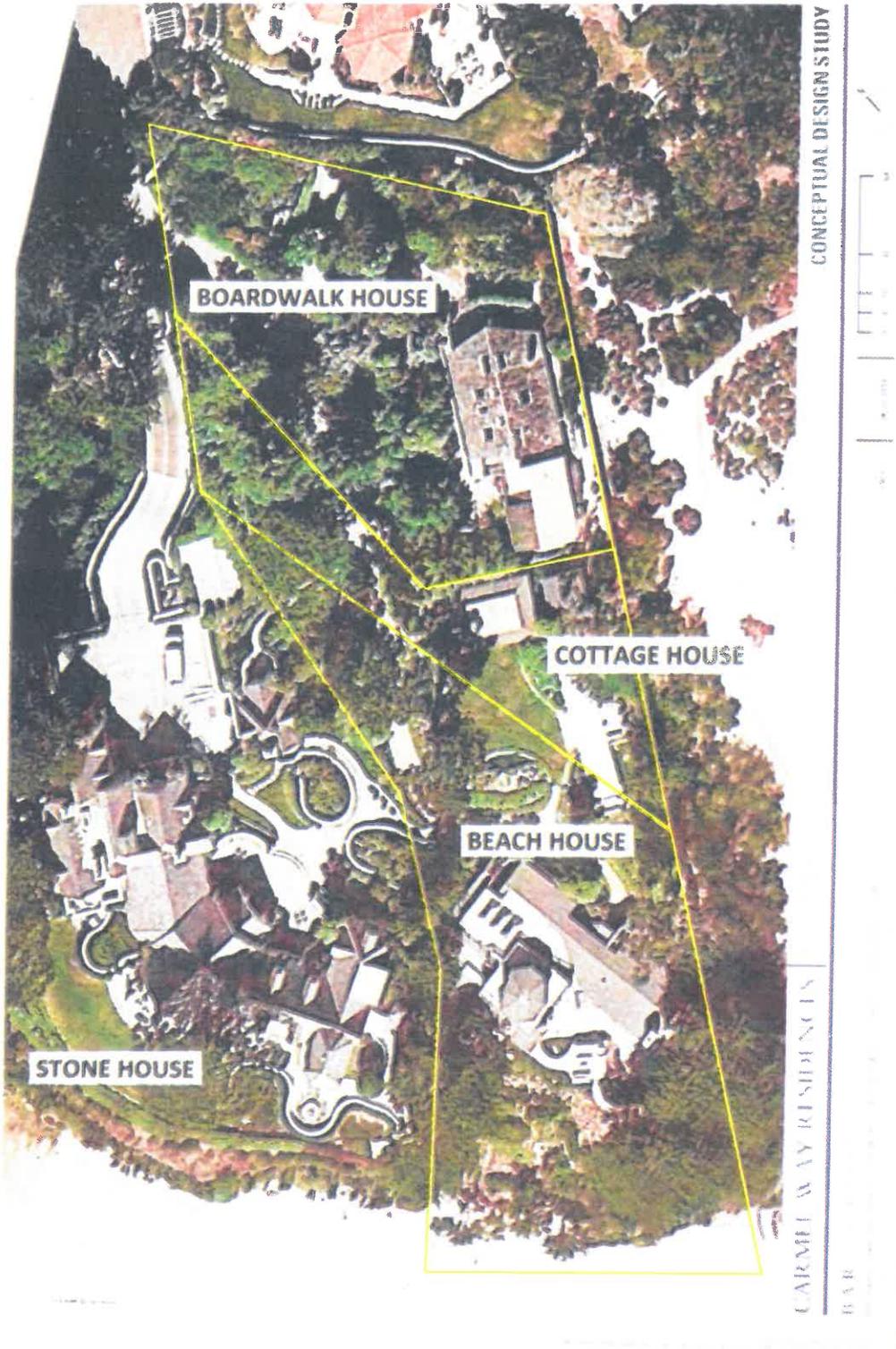


FIGURE 4. PROPOSED SITE PLAN

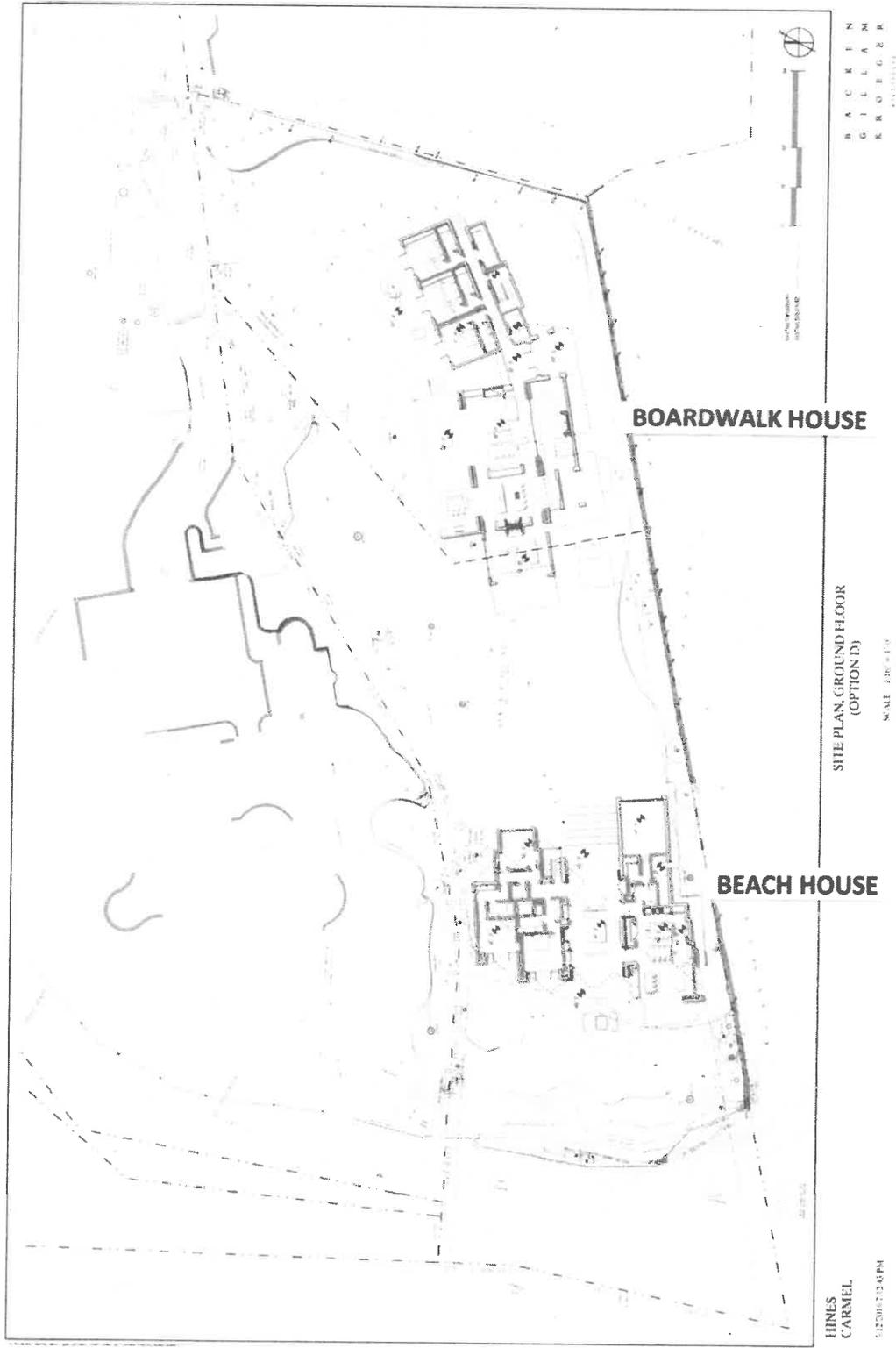


Photo 3. The two properties are completely landscaped and only two native Monterey pines remain, though they are in a declining state of health.

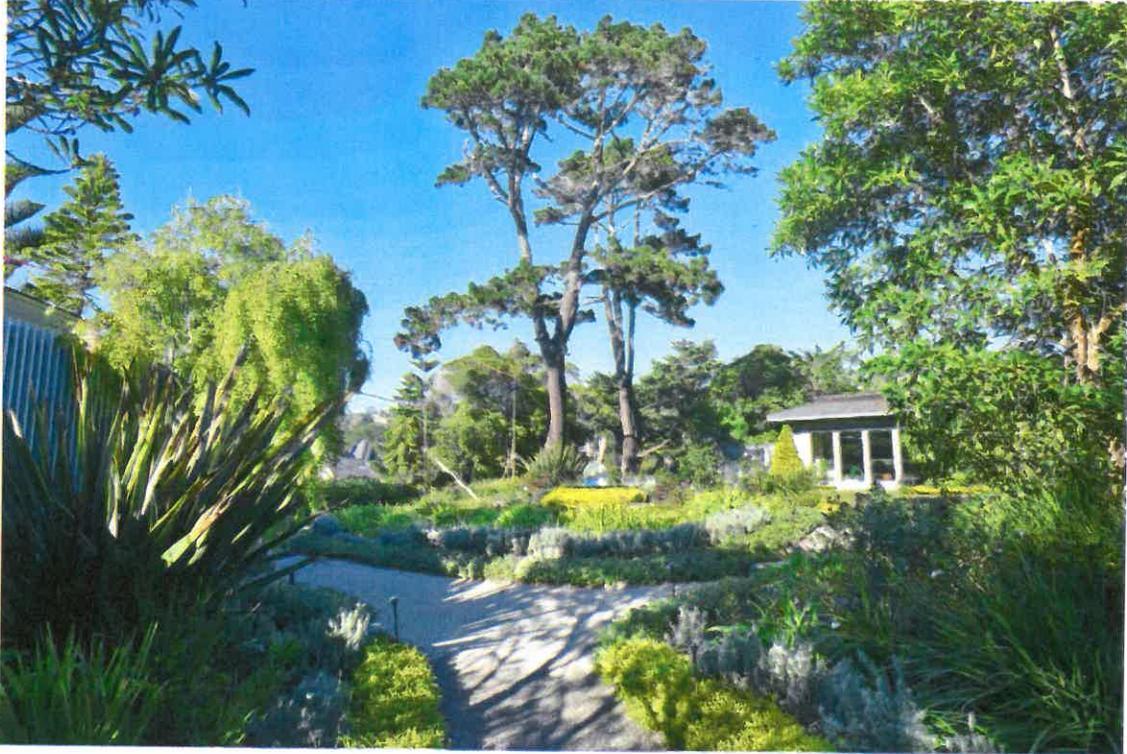


Photo 4. A dense thicket of acacias occurs outside the southern fenced property line, planted on a cut-bench that extends about 6 feet into the Boardwalk House parcel.



on the properties (the existing Monterey cypress trees were planted and do not naturally occur in Carmel).

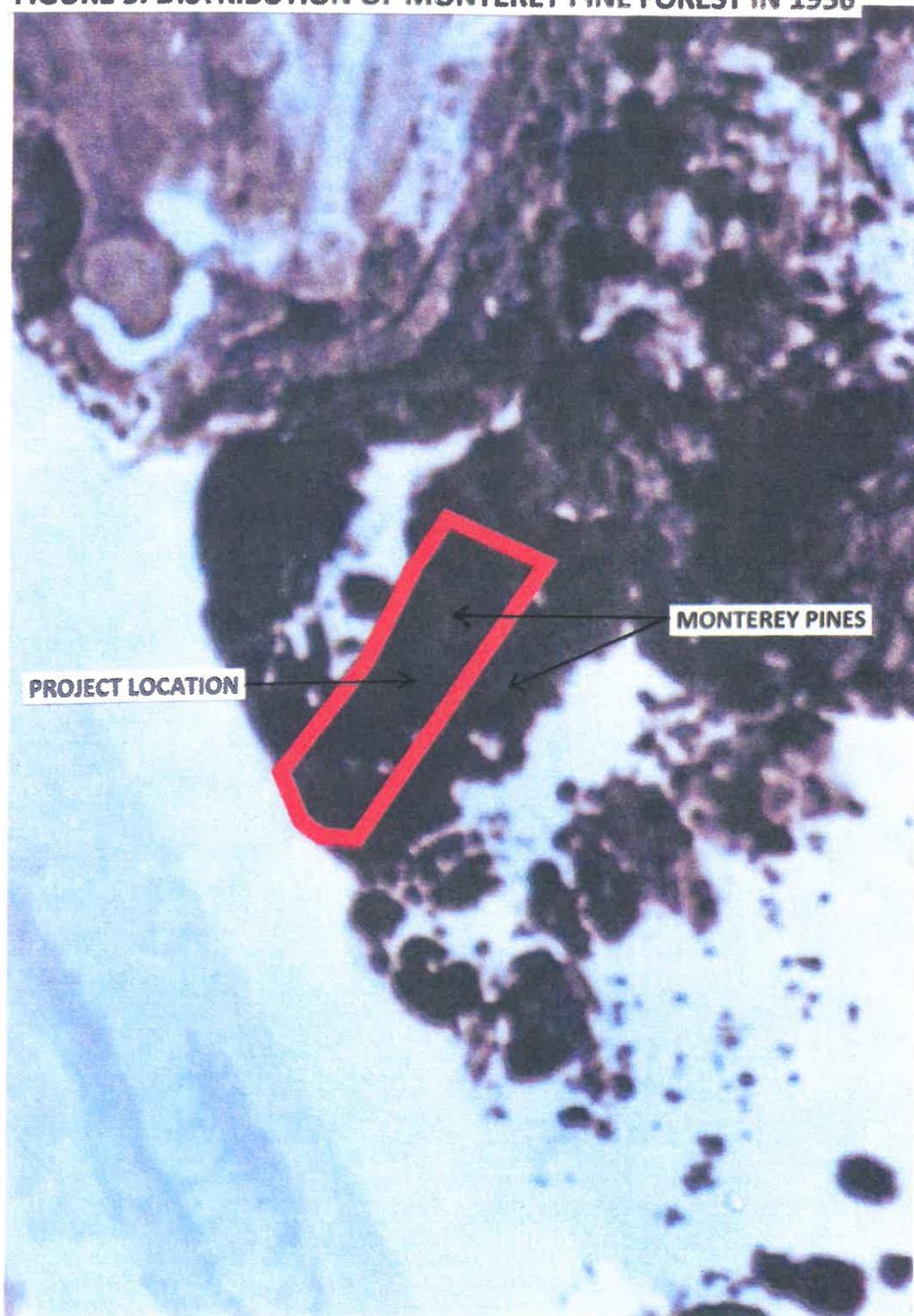
Both properties are terraced, with each gently sloping section of the terraces stepping down to the north toward Pescadero Canyon, the bottom of which is about 100 feet north of the properties, and to the west toward the beach. Pescadero Canyon contains an intermittent stream that supports a dense growth of arroyo willows along its bottom and Monterey pine forest on the adjacent slopes, extending to the beach. The riparian area of Pescadero Canyon, which is located on the northerly Stone House parcel, is protected by a 1996 Conservation and Scenic Easement (Reel 3385 at Page 886 of the Official Records Monterey County).

During initial development of 7 and 9 Carmel Way, most of the Monterey pines were removed and the land graded to nearly level. Grading entailed creating three "cut benches" with the first (upper) bench occurring as a narrow swath along both sides of the southern property line, a second (middle) bench occurring at the elevation of the Boardwalk House and the Cottage House, and a third (lower) bench occurring at the elevation of the Beach house. The house pads are 6-8 feet below the adjacent dunes to the south. The excavated soil from cutting the benches for the house pads was likely used to fill and reduce the slope of the properties as they dropped to the north down to the Stone House property and Pescadero Creek. A tall, back-filled retaining wall generally runs between the properties and the neighboring Stone House property to the north. The narrow cut bench along the southern property line is about 8 feet wide, cut 3 to 4 feet below the dunes to the south, and extends a short distance (about 6 feet) into the Boardwalk House property, terminating at a low retaining wall. The upper bench has been planted with acacia shrubs, an Australian plant that has been used extensively by landscapers in coastal California, particularly back in the 1960s and 1970s, for privacy screening around homes.

HISTORICAL CONDITION

An aerial photograph taken of the Carmel and surrounding area in 1956, prior to development of the subject properties, clearly shows a dense stand of Monterey pine forest covering the Upper Estate properties and extending into the adjacent sand dunes to the south as far or beyond the existing boardwalk, some 48 feet from the southern property line fence (Figure 5). This represents the "original" natural condition of the properties, dating back to before European settlement first occurred in this region. Along with the disappearance of most of the pines on the three properties over recent years, the area of pines to the south has been replaced with acacia shrubs. The pine trees appear to have gradually died out or were all removed at one time, given the even age of the acacias (20-25 years old). With the loss of the trees, the acacias were likely planted to maintain a low, visual screen to mitigate the view of the houses from the dunes and to block the public's view into the properties. Other acacias were also

FIGURE 5. DISTRIBUTION OF MONTEREY PINE FOREST IN 1956



planted in the North Dunes, possibly as windbreaks to deter soil erosion, and have naturally spread in dunes.

Today, only three old Monterey pines remain on the two properties, one of which died recently and two others that are declining in health. Several Monterey pine stumps are present on the properties from past tree removals. Several large, introduced Monterey cypress trees grow near the Beach House, probably planted at the time the Stone House was built (mid-1950s?).

SPECIAL STATUS SPECIES

Two protected, special status species – a plant, Tidestrom’s lupine, and an animal, black legless lizard – have been documented in the adjacent North Dunes area to the south. A large population of about 200 Tidestrom’s lupine plants is growing 65 feet south of the subject properties (as measured from the property line fence). Also, groups of mock heather shrubs, which provide high-quality habitat for black legless lizards, are common south of the properties, with the closest plant about 12 feet away.

Tidestrom’s lupine requires open, mostly full-sun conditions; clean sandy soils with low organic matter content, and; ideally, southerly (southeast to southwest) exposures/slope aspects. It is only found growing in dunes that have been stable, not actively eroding, for many years. It is also closely associated with several common dune species that are indicators of longer-term stable conditions, such as dune blue grass, beach aster, knotweed, and sometimes bracken ferns. The area to the immediate south of the property, where the large population of Tidestrom’s lupines has been observed for the past 20 years or more, reflects these conditions well.

Tidestrom’s lupine is classified as a state- and federal-listed Endangered Species, the highest level of legal protection available to rare plant species. As such, any activity that could result in the removal (“taking”) or damage, directly or incidentally, to one of these plants requires a high level of review and stringent restrictions on permissible development, including obtaining a Section 2081-Incidental Take Permit from the California Department of Fish and Game.

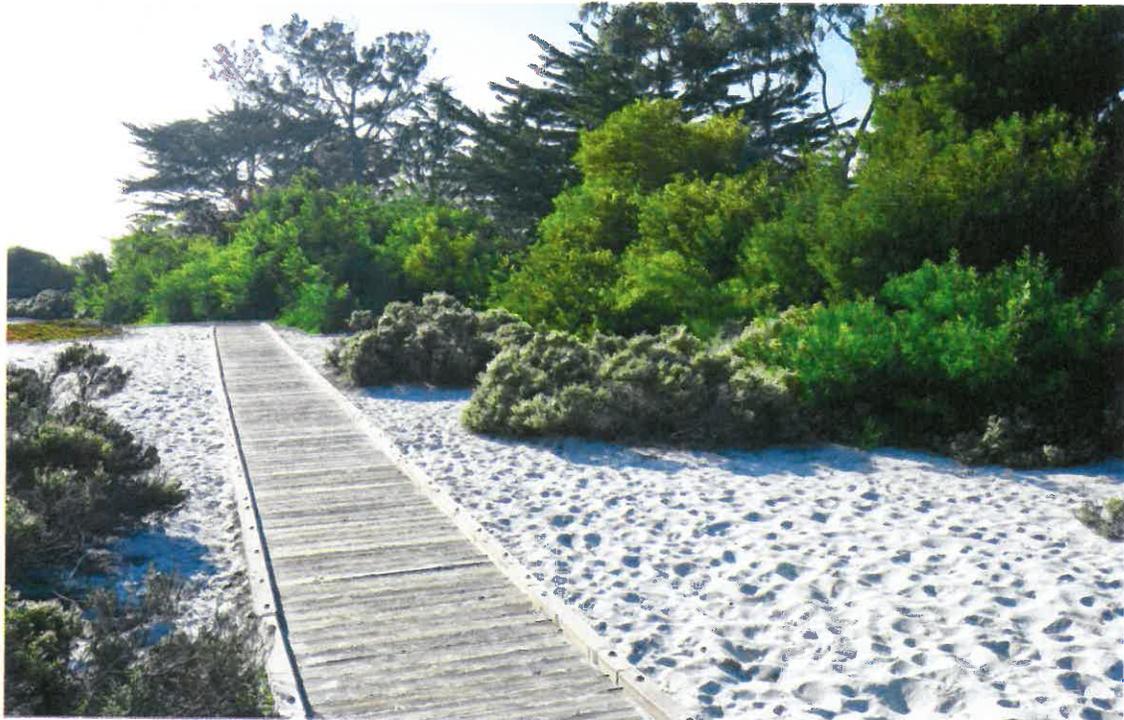
Black legless lizard is a small snake-like reptile (about the length of a pencil) that lives in the litter (duff) layer and sand under larger shrubs in coastal sand dunes. In the North Dunes, groups of mock heather shrubs represent prime habitat for the lizards.

Black legless lizard is designated only as a Species of Concern by the State of California, and as such, project activities that might impact the species are reviewed as part of a project’s impact analysis under the California Environmental Quality Act, to ensure that any potential impacts to the lizards are avoided, minimized or adequately mitigated. When the lizards are known to occur within a project area, potential harm to them is typically mitigated by capturing and relocating them to areas outside of the

Photo 5. Tidestrom's lupine population in the North Dunes, 65 feet south of the Beach House southern property line fence.



Photo 6. Mock heather shrubs (low shrubs in center of photo) – primary habitat for black legless lizard – near boardwalk in the North Dunes.



construction area, either onsite or offsite, ideally to where newly restored habitat is being created.

Because Tidestrom's lupine and black legless lizard occur in the North Dunes, the entire North Dunes area has been designated as ESHA by the City of Carmel Local Coastal Program.

Neither species or host plant (mock heather) occur on the subject properties. The closest Tidestrom's lupine is 65 feet away from the southern property line fence, and over 74 feet from the proposed Beach House. The nearest group of mock heather shrubs is 12 feet away from the fence, and over 32 feet away from the proposed Boardwalk House. Given these distances, it has been concluded that the proposed project will have no impact on the special status species that occur to the south.

SOIL ANALYSIS

Because soil type is a major factor in determining the potential suitability of the project site for supporting the two species of special concern that occur in the dunes south of the property, soil across the three properties was sampled and compared to the soil in the adjacent dunes. Only visual comparisons of the color and texture of the samples were done. Soil testing for organic matter and nutrient content and water holding capacity was not performed. All soil samples were taken from a depth of 15-18 inches, so as to sample only soil that has not been significantly altered by surface landscaping.

The color and texture of the soil on the properties ranged from white sand along a short portion of the southern boundary's fence line, extending about 6 feet into the Boardwalk House property, to dark brown loamy sand over most of the remainder of the properties. The dark organic-rich sandy soil is typical of soils that support Monterey pine forest.

ESHA AND ESHA BUFFER

The North Dunes and Pescadero Creek are designated as ESHA because they include plant and animal life and related habitats that are rare and easily disturbed and degraded by human activities and developments. Both the Coastal Commission and City of Carmel and the neighboring cities have a long history of protecting dune and riparian ESHA through application of city and county land use plan policies, which establish the specific standards that govern development both within and adjacent to ESHA.

Determining the actual boundary of ESHA in or near the Upper Estate properties is key to reviewing potential impacts of its proposed development. To confirm the ESHA boundary along the Upper Estates southern property line, as mapped in the City of

Photo 7. Soil samples onsite. Soils #1 and #2 are typical for dune scrub species.



Carmel's Local Coastal Program, aerial photographs were reviewed and vegetation and soil, onsite and offsite in the adjacent dunes, were observed, studied and compared.

Although the area to either side of the southern property line was covered by a dense Monterey pine forest up until about 50 years ago, today the area has radically changed. The Monterey pines are gone and white sand from the dunes area has migrated (blown) north, covering some of the darker forest sands, even extending slightly into the Boardwalk House property. The vegetation has shifted from pine forest to non-native acacia shrubs. Some coastal dune scrub species struggle to grow in the dunes south of the property where they are impacted by uncontrolled human foot-traffic or are being displaced by the spreading acacia thicket. It is possible that under the right conditions (remove the exotic vegetation and control human foot-traffic impacts) that Tidestrom's lupines could grow on the north side of the boardwalk, possibly to within 12 to 15 feet of Upper Estate's property line fence, to where the dunes start to slope down to the north and to the property line fence. Mock heather shrubs that potentially could support black legless lizards presently grow on the south side of the property line fence, 12 feet away and adjacent to the Boardwalk House property. They would grow elsewhere along the fence if the acacia was removed, but probably no closer than they naturally do now.

The southern property line of the Upper Estates was originally identified in a 1995 report – Final Results of the Environmentally Sensitive Habitat Area Study Conducted for the City of Carmel-by-the-Sea – prepared by Jones & Stokes, as the boundary of the dunes ESHA. Although this line seems arbitrary, conveniently corresponding to the property line separating public and private property, it is actually fairly accurate when soil conditions – the primary determinant for ESHA and the distribution of Tidestrom's lupines in this area – are reviewed and mapped. Mapping the distribution of clean dune sand (low in both organic matter and finer soil textures) is a major factor, though not the only one, in reviewing the actual ESHA boundary here. Clean dune sand now extends to the property line fence and slightly into the Boardwalk House property, to a low retaining wall, about 6 feet inside the fence and for a distance of 40 feet along the fence. Further into the property from the retaining wall a small peninsula of lighter sand with a higher content of organic matter occurs, extending 26 feet from the fence and representing a transition zone to the darker sandy loam soils beyond, which cover most of the remaining area the three properties and reflect the long history of Monterey pine forest in this area (Figure 6).

Based upon soil conditions alone on the site, it might appear that potential dunes ESHA – the area containing conditions suitable to supporting the two special status species – extends at least 6 feet or as much as 26 feet into this part of the Boardwalk House property. However, when other factors are considered, such as the historic condition of the property (forested), slope aspect (northerly) and shading from existing vegetation or future vegetation, it is unlikely that the two sensitive species,

FIGURE 6. SOIL MAP – AREA OF POTENTIAL DUNE SCRUB



particularly Tidestrom's lupine, have ever occupied this area or could grow and persist on the property.

The City of Carmel has adopted a buffer zone width of 30 feet around areas designated as ESHA, and as such, the Upper Estate properties are partially classified as ESHA Buffer, requiring a higher level of review to confirm that impacts associated with the proposed project will not adversely affect the neighboring ESHA. Given that the environmental conditions on the properties are not favorable for supporting Tidestrom's lupines or black legless lizards, the current classification of both properties as ESHA Buffer is therefore appropriate.

IMPACTS AND MITIGATION

The project as proposed will have no impact on the two species of special concern that occur in the North Dunes south of the subject properties. No additional setback for the development from the adjacent dunes is necessary to protect ESHA from potential disturbance or degradation resulting from the proposed project or continuation of its current residential uses and condition.

With the exception of a small sandy area on the Boardwalk House property, the soil found on the three properties is consistent with soils that typically support Monterey pine forest, not coastal dune scrub. The area of exception contains soil similar to the dunes soil to the south, which supports both Tidestrom's lupines and black legless lizard. The soil in this small area of the Boardwalk House property ranges from clean sand to sand with a low amount of organic matter. However, because of its northerly aspect; its past natural history as prime habitat for Monterey pine forest, instead of dunes scrub vegetation, and; the presence of large acacias (formerly an area of tall Monterey pines) that cast a significant amount of shading over the area, individually or collectively, these factors negate the potential suitability of the area for supporting Tidestrom's lupine and black legless lizard. Despite having some marginal ESHA qualities, the area should not be regarded as ESHA.

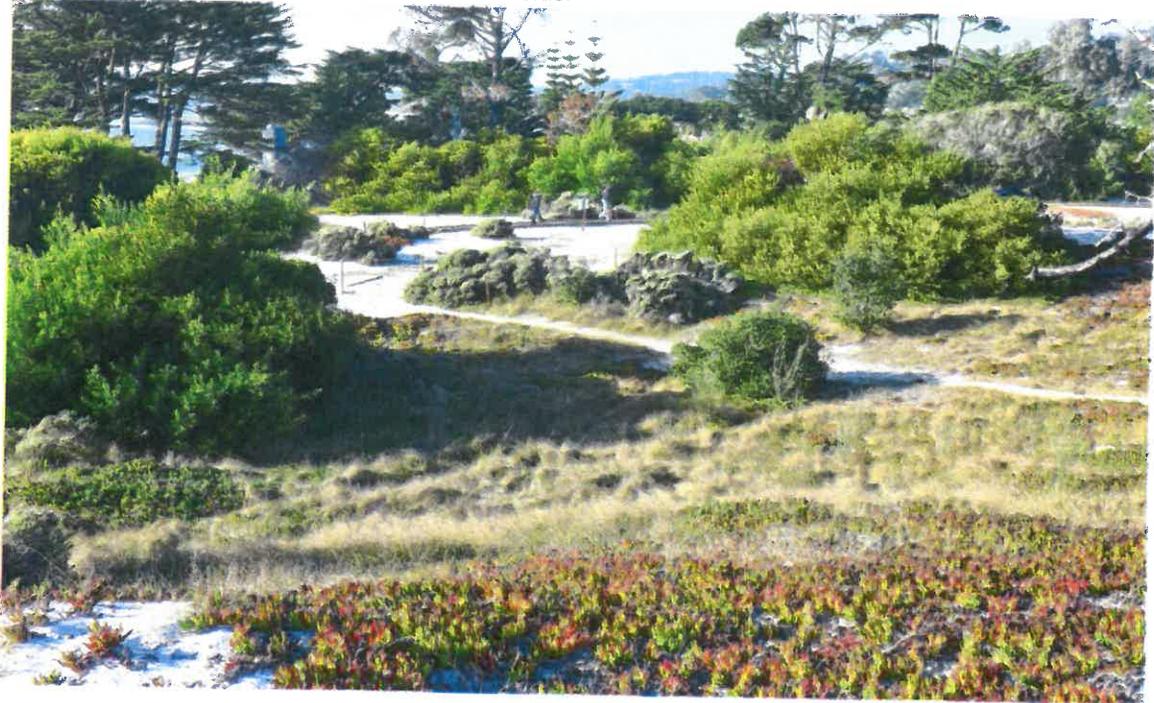
Given that the properties are appropriately designated as ESHA Buffer and the proposed house developments will result in a continuation of residential use of this area, some level of impact mitigation may be warranted. Other than planting some Monterey pines on the subject properties, to restore some of its original forested character and habitat values, meaningful habitat restoration onsite is limited. South of the properties in the North Dunes, specifically the area between the property line fence and the forested swale about 120 feet to the south (width) and from the terminus points of the boardwalk (length), amounting to about an acre in total size, significant natural resource and public benefits could be quickly realized here through restoration of the native plant community, improved protection and enhancement of the population of Tidestrom's lupines, and better management of public access. The new

owner of the Upper Estate properties has volunteered to provide sufficient funding to complete implementation of dune restoration and management activities in this specific area of the North Dunes, by donating to a City-managed account that is earmarked for this purpose.

Planting of Monterey pines should be incorporated into landscape plantings on the properties, to reestablish a forested character to some portions of the properties. Areas of significant open space occur on the proposed site plan, especially on the northern portions of the properties. Much of this area would be suitable for replanting with Monterey pines.

The large acacia "hedge" on the south side of the property line exists to screen the properties from public view, maintaining a higher level of privacy for the occupants and improving the viewshed for the public walking in the dunes. It is far wider than is necessary to achieve its purpose. The acacia could be trimmed back, but it is the nature of this species to have a low and wide growing form, falling over when trimmed up like a tree. If the acacias were removed and replaced with tall growing plants or trees, the probability of the nearby populations of Tidestrom's lupine and mock heather (black legless lizards) colonizing a significant portion of this large area is very high. Removing the acacias and replacing them with native plants and trees, should be included as a project impact mitigation, either on its own or in combination with restoration of a portion of the adjacent dunes as offered by the new owner.

Photo 8. Area of potential offsite mitigation. Approximately 1 acre of severely degraded dunes. Looking from the forested swale north to the subject properties just beyond the two people walking on the boardwalk and acacias.



Prepared By: *[Signature]*

Date: 1/4/16

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PRELIMINARY ARCHAEOLOGICAL ASSESSMENT OF APN 010-321-021, IN CARMEL-BY-THE-SEA, MONTEREY COUNTY, CALIFORNIA

by

Mary Doane, B.A., and Gary S. Breschini, Ph.D., RPA

May 15, 2014

Prepared for

Stocker & Allaire

SUMMARY: AC 4968

RESULTS: NEGATIVE

ACRES: ±1

SITES: NONE

UTMG: 5.9580/40.4605

MAP: USGS 7.5 MINUTE MONTEREY QUADRANGLE

For Planning Department:

	Yes	No	N/A	See text
Evidence of: Sacred/Religious site	---	---	X	---
Native American Remains	---	X	---	---
Anything of Archaeological Significance	---	X	---	---
Findings of Historical Significance	---	X	---	---

INTRODUCTION

In May 2014 Archaeological Consulting was authorized by Cynthia Spellacy of Stocker & Allaire to prepare a Preliminary Archaeological Assessment report for a parcel on Carmel Way in the City of Carmel-by-the-Sea, Monterey County, California.

As part of our methodology in the preparation of this report, we have conducted: 1) a review of our files and background research at the Northwest Information Center of the California Historical Resources Information System, located at Sonoma State University; and 2) a field assessment of the project area. The following report contains the results of these investigations as well as our conclusions and recommendations.

PROJECT LOCATION AND DESCRIPTION

The project parcel, APN 010-321-021, is located at 1 Carmel Way in Carmel-by-the-Sea, Monterey County, California (see Maps 1 and 2). The Universal Transverse Mercator Grid (UTMG) coordinates for the approximate center of the project parcel are 5.9580/40.4605 on the USGS 7.5 minute Monterey Quadrangle (1947; photo-revised 1983). This project provides due diligence prior to selling the parcel.

At the time of the site assessment, the parcel contained an existing house, a pool house and a bocci court. The long driveway was paved. The yard was landscaped with lawn and many shrubs. Soil was visible in the many landscape borders, behind the pool house and along the stairway to the beach. Overall, soil visibility was considered adequate for the purposes of this assessment.

PROJECT METHODOLOGY

The methodology used in the preparation of this report included two primary steps, as follows:

Background Research

The background research for this project included a review of research of the archaeological site records, maps, and project files of the Northwest Information Center of the California Historical Resources Information System, located at Sonoma State University. In addition, our own extensive files and maps were examined for supplemental information, such as rumors of historic or prehistoric resources in the general area. These literature searches are undertaken to determine if there are any recorded archaeological resources within the project area and whether the area has been included in any previous archaeological research or reconnaissance projects.

Established by the California Office of Historic Preservation, the regional Information Centers are the local repositories for all archaeological reports prepared under cultural resource management regulations. A background literature search at the appropriate Information Center is required by state guidelines and current professional standards. Following completion of a project, a copy of the report must be deposited with that organization.

Field Assessment

The field assessment, performed by Mary Doane on May 14, 2014, consisted of a "general surface reconnaissance" of all areas which could reasonably be expected to contain visible cultural resources, and which could be viewed without major vegetation removal or excavation.

RESULTS OF THE RECONNAISSANCE

Background Research

A review of research at the Northwest Information Center and of our files discovered six archaeological sites recorded within one kilometer of the project area. The nearest is CA-MNT-1032, located approximately 400 feet south of the project parcel.

The project area lies within the currently recognized ethnographic territory of the Costanoan (often called Ohlone) linguistic group. Discussions of this group and their territorial boundaries can be found in Breschini, Haversat, and Hampson (1983), Kroeber (1925), Levy (1978), Margolin (1978), and other sources. In brief, the group followed a general hunting and gathering subsistence pattern with partial dependence on the natural acorn crop. Habitation is considered to have been semi-sedentary and occupation sites can be expected most often at the confluence of streams, other areas of similar topography along streams, or in the vicinity of springs. These original sources of water may no longer be present or adequate. Also, resource gathering and processing areas and associated temporary campsites are frequently found on the coast and in other locations containing resources utilized by the group. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, ecotones, the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

We have completed several previous archaeological studies in the near vicinity with negative results (Runnings and Haversat 1989, 1991, 1994 and 1996; Doane and Haversat 1999 and 2004; Doane and Breschini 2008 and 2013).

Field Research

None of the materials frequently associated with prehistoric cultural resources in this area (dark midden soil, fragments of weathered marine shell, flaked or ground stone, bone fragments, fire-affected rock, etc.) were observed during the assessment. The native soil in the project area was white to light gray-brown sand.

There was no surface evidence of potentially significant historic period archaeological resources seen on the surface during the assessment.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the background research and the field assessment, we have concluded that there is no surface evidence of potentially significant archaeological resources on the project parcel. Because of this we recommend the following:

- Future construction on the parcel should not be delayed for archaeological reasons.

Because of the possibility of unidentified (e.g., buried) cultural resources being found during any construction, we recommend that the following standard language, or the equivalent, be included in any permits issued for the project area:

- If archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 50 meters (± 160 feet) of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be formulated, with the concurrence of the Lead Agency, and implemented.

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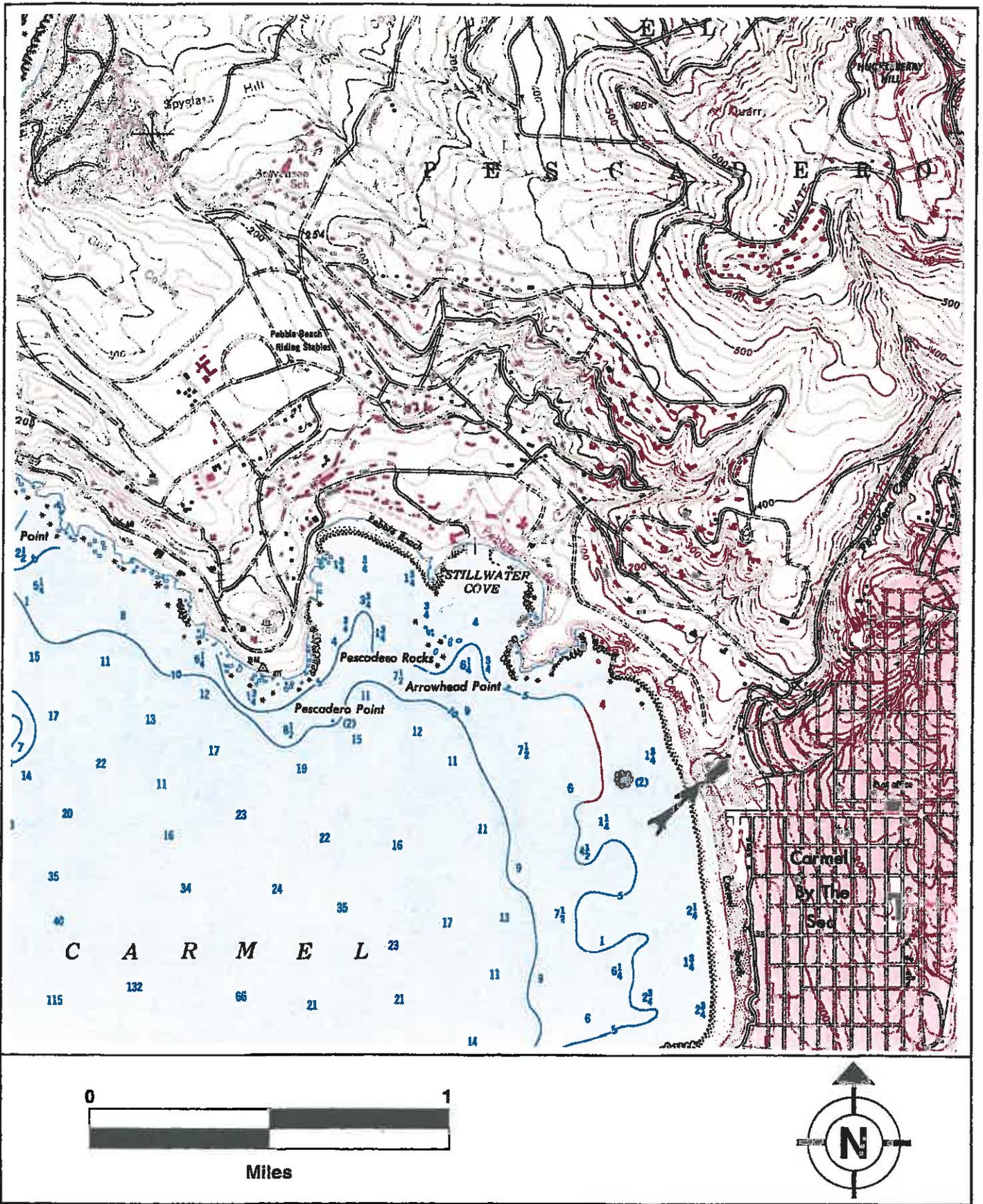
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Sanborn

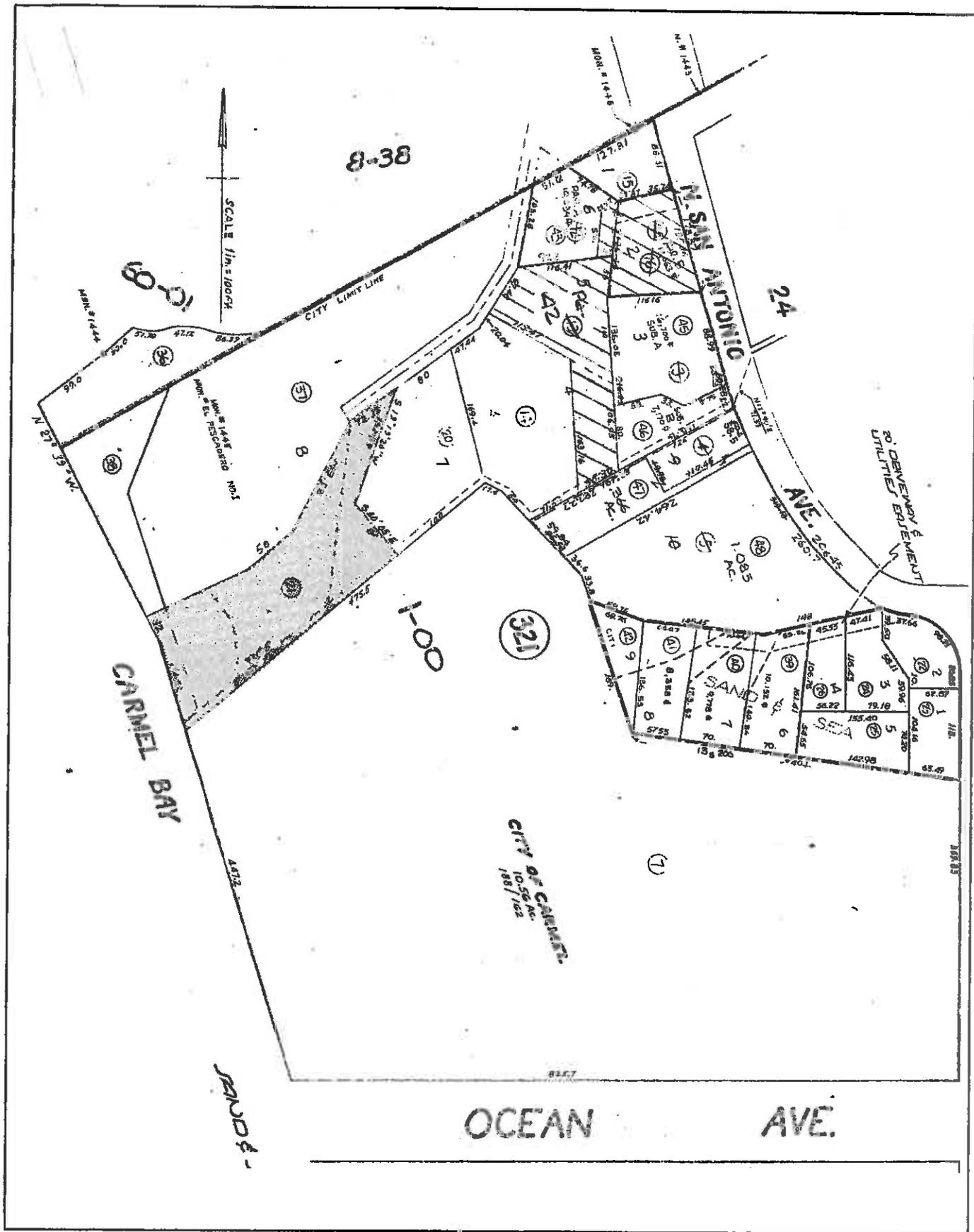
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Map 1. Project Location.



Map 2. Project Location.

Mr. Jeff Hines

Ref. No.: 4922-01

C/O Mr. Aengus Jeffers

June 18, 2014

215 West Franklin Street, 5th Floor

Monterey, CA 93940

GEOLOGICAL RECONNAISSANCE REPORT AND COASTAL BLUFF EROSION STUDY

Site Description

The proposed project involves the renovation of an oceanfront residential estate on the subject property (APN 010-321-020 and -021) in Carmel, California.

The property is located at 10 Carmel Way (Figure1) where it lies atop a coastal bluff overlooking Carmel Bay. On the 0.95-acre parcel closest to Carmel Bay (APN 010-321-021) there are two houses. The larger, westernmost house is a multi-story wood frame house and is the structure closest to the edge of the coastal bluff. There is also a single-story pool house on the eastern portion of the parcel. The 0.52-acre parcel immediately adjacent to the east (APN 010-321-020) has one single-story house located on it that is currently occupied by the caretaker for the property.

The property is located atop a gently sloping coastal bluff, approximately 45 to 58 feet (according to topographic map provided by Central Coast Surveyors) above sea level. This elevation range is consistent with that shown on the USGS 7.5 minute topographic map (Monterey, California, 1947, photo-revised 1983). Earth materials on the site consist of vegetation stabilized dune sand overlying marine terrace deposits that in turn overlie Miocene (approximately 5 to 23 million year old) sandstone (Geologic Map of the Monterey Peninsula and Vicinity, Dibblee, 1999, USGS). Sandstone bedrock was visible at the base of the bluff on the subject property at the time the fieldwork was conducted for this report. Beach sand overlaps onto the sandstone outcrop. Several wooden retaining walls are present on the face of the coastal bluff and most of the bluff face is covered with stabilizing vegetation.

While doing fieldwork on the subject property we observed several features to suggest that the highest elevation on the property, prior to development, was higher than the maximum elevation on the property today.

Several trees (cypress, pine) with thick trunks (30 to 40 inches in diameter) were observed near the southeastern property line at elevations up to 6 feet higher than the highest elevations elsewhere on the property. The thick trunks of these trees indicate that the trees have been growing on the property for a long time, and have likely been there longer than the structures

presently on the property. It appears likely that some excavation and grading, probably associated with construction and landscaping activities on the property, lowered the elevation of the land surface on most of the property.

In addition, dunes present on the adjacent property to the southeast are higher than the maximum elevation on the property. It is quite likely that prior to development on the subject property, the maximum elevation of the property was higher than it is today. Based on field observations, the predevelopment maximum elevation could easily have been 6 feet higher.

Another indicator that the pre-development elevation of the property was higher than today was found on the USGS 15 minute topographic map of the Monterey Quadrangle, 1913, which shows the highest elevation on the subject property as falling between 75 and 100 feet above sea level (Figure 2). Given the topography in the surrounding area, it is likely that the highest elevation was closer to 75 feet than to 100 feet, but regardless, this map indicates that prior to development, the naturally existing high point on the property was at least 75 feet above sea level.

Coastal Bluff Erosion

Our investigation of the coastal bluff erosion hazards have led us to suggest a single set back line for the property to prevent future construction from being subject to coastal bluff erosion and related ocean bluff landslides. This is reasonable as landsliding and erosion are related in that the presence of landslide deposits can result in high erosion rates and bluff erosion can create landslides.

Coastal Bluff Erosion Rate Study

The coastal bluff erosion study was conducted by analyzing stereographic aerial photos and reviewing published coastal bluff retreat rates in the Carmel Beach area. The aerial photos included in this study; 1939, 1945, 1970, 1990, 2001, 2003, and 2012 were selected for their similar scales and observable details.

Figure 3 (Historical Coastal Bluffs: Aerial Photograph Analysis) displays the crests of the historical coastal bluffs outlined against a 1945 aerial photograph as the basemap.

This method of measuring sea cliff retreat rates is the most widely employed method for studying coastal erosion. Newer methods involving use of LIDAR imagery and digital techniques have been developed that are valuable in providing an accessible and standardized methodology for studying coastal retreat over large areas (Hapke and Reid, 2007). These new methods are not expected to improve accuracy for small project site studies such as this project.

Figure 3 does not show a steady regression of the sea cliffs over time. The sea cliffs seem to move back and forth across the base map. This is caused by radial distortion and variation in viewing angle that is inherent to aerial photography. Distortion is also caused by the differences in the scales of the photographs. As a certain amount of error is associated with this method it is most accurate in areas with moderate to high retreat rates. In such areas the changes in the coastal bluffs locations are easily distinguishable. This lack of evidence for sea cliff erosion indicates that there have been less than moderate retreat rates in this area since 1939.

The morphology of the cliff has also not changed significantly during the study period, 1939-2012. This lack of change in the shape of the cliff suggests that there have been no large scale erosional events on the subject property during the study period. This observation is significant, because during the El Nino winter storms of 1982-83, substantial cliff retreat was documented further south along the shore of Carmel Bay by Rogers E. Johnson and Associates (Phase 1 Erosion Protection, Carmel Beach, Carmel-by-the-Sea, California, 26 September 1983).

Johnson analyzed maps and aerial photographs spanning a 75-year period (1908-1983). He determined that for the northern section of Carmel Beach the average yearly rate of coastal bluff erosion was 0.4 feet per year, while the erosion rate for the southern portion of Carmel Beach was between 0.3 and 0.7 feet per year.

The most dramatic erosion of coastal bluffs in Carmel during the 1982-83 El Nino storms was along the stretch of land south of the subject property, starting around Eighth Avenue and continuing further south to the area around Eleventh Avenue and Santa Lucia Avenue. Comparing the coastline along this stretch of Carmel Beach as it appears in aerial photographs from 1970 and 1990, it is readily apparent that there has been significant erosion along the section of beach cited by Johnson (1983).

The subject property lies approximately 1500 feet north of the point where Eighth Avenue would reach the beach (if the street extended that far seaward), putting the subject property over a quarter of a mile north of the area that was severely impacted during the 1982-83 winter storms. Comparing the coastal bluffs on the subject property and the adjacent properties to the north and south, there is little evidence of any significant changes from 1970 to 1990. Indeed, there is little discernible evidence of change in the bluffs along the subject property between aerial photographs taken in 1939 and 2012, or any of the other sets of stereographic aerial photographs analyzed between those years.

Griggs (Living with the California Coast, 1985) shows an erosion rate on the coast along the northern part of Carmel Bay, just down from Pescadero Point, of 3 inches (0.25 feet) per year. Further to the south, along Cypress Point, he shows an erosion rate of less than 1 inch (approximately 0.08 feet) per year. Although Griggs does not show an erosion rate specific to the area of the subject property, he does show that the bluffs along the section of Carmel Beach

where the subject property lies are backed by vegetated dunes. Vegetated dunes are more stable in general than unvegetated dunes and are also more resistant to erosion from waves.

Carmel Beach Sand Budget

Carmel Beach is a “pocket beach”, meaning that it is largely a beach unto itself, separated by headlands on either side of the beach from the rest of the coastline.

Most beaches are less isolated topographically and are participants in the movement of sand along the coast that results from the prevailing winds and wave directions, which serve to transport sand from one beach to another in the direction of flow of the longshore current.

When a succession of waves strikes the shoreline at an angle, sending some of their energy further down the coast, a longshore current is generated. Along the coastline of central California, the longshore current generally flows in a southerly direction, transporting sand along the coast from north to south.

Owing to the prominent headlands on the Monterey Peninsula to the north, such as Cypress Point and Pescadero Point, and the presence of Point Lobos to the south, the longshore currents are effectively held some distance away from the shoreline along Carmel Bay. That distance is thought to keep Carmel Bay from receiving significant inputs of sand from beaches and eroding bluffs further north along the coast. It is thought (Rogers Johnson, 1984) that most of the sand on the beaches within Carmel Bay “is probably derived locally from the erosion of sandstone and granitic bedrock.”

One source of locally derived sand is Pescadero Creek, which flows into Carmel Bay a short distance to the north of the subject property. The drainage basin feeding the creek extends inland over a mile and a half and drains slopes that extend as far inland as Huckleberry Hill, in the center of the Monterey Peninsula, and the interchange of Highways 68 and 1 to the northeast of the property.

The sand Pescadero Creek carries down to Carmel Beach is deposited on the beach just north of the property that lies adjacent to the subject property’s northern boundary. This input of sand helps stabilize the beach in the vicinity of the subject property and appears to be of sufficient volume that it may have built up an offshore sandbar, judging by the bathymetry shown on the USGS 7.5 minute topographic map (Monterey, California, 1947, photo-revised 1983). See Figure 1. Such a sandbar would provide further protection against storm waves for the subject property.

Alternatively, this shallow area may indicate a rocky outcrop under the water. But regardless of whether the shallow bathymetry offshore from the subject property indicates a sandbar or a rocky outcrop, the shallowing of the subsurface topography in this area should help dissipate the

energy of incoming waves, reducing their impact in the vicinity of the subject property. The 1913 USGS topographic map shown in Figure 2 does not include any measured bathymetric data, so it is not possible to use the two maps in analyzing any changes in the subsurface topography over time.

Recommended Setback From Top Edge of Coastal Bluffs

The California Coastal Commission defines the top edge of a coastal bluff as "...the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff." (California Coastal Commission Memorandum dated 16 January 2014, Mark J. Johnsson, Staff Geologist; California Code of Regulations, Title 14 § 13577 (h) (2).)

As one moves seaward from the edge of the present multistory house towards the face of the coastal bluff, the initial slope away from the house is quite gentle, so much so that the term "slope" is barely applicable. At an elevation of approximately 43 to 44 feet, the land surface begins to slope more noticeably towards the bay and it is approximately along this line of elevation that we interpret the top edge of the bluff to lie as shown in Figure 4. As measured in the field with a tape measure, the distance from the most seaward points of the house to this bluff edge is approximately 30 to 32 feet, although at some points along the edge of the bluff the distance between the house and the bluff edge was determined to be several feet further seaward.

This placement of the top edge of the coastal bluff is supported by the slopes of the land surface as shown in the topographic profile (Figure 5) derived from the topographic map.

The City of Carmel requires a 100-year bluff setback:

(17.20.160.B.9.a) Bluff Retreat Setback Requirements: "New structures shall be set back a sufficient distance from any bluff top to be safe from bluff erosion for a minimum of 100 years as determined by a site-specific geology report, prepared in compliance with CMC 17.20.170(B), Geology Report; provided, that in no case shall the minimum setback be less than 25 feet."

The average rate of erosion for the City of Carmel's northern coastal bluffs was calculated by Rogers E. Johnson (1984) as 0.4 feet per year, as cited in the city's Shoreline Management Plan. The erosion rates cited by Griggs (1985) are not directly applicable to the subject property and as such are not appropriate for use in determining the setback for the subject property. We did not find any other published erosion rates for the area around the city of Carmel.

It should be emphasized that the erosion rate of 0.4 feet per year is an average rate, not only over time, but also distance, having been calculated across the full extent of the northern section of the coastal bluffs. As such this rate is not site-specific and would be inappropriate to use in determining the appropriate setback from the top edge of the coastal bluff for purposes of future construction on the subject property.

Our own aerial photo analysis of bluff retreat specifically for the subject property did not find any evidence of bluff retreat occurring as speedily as the 0.4 feet per year that Johnson (1984) determined for Carmel's northern bluffs in general.

We analyzed aerial photographs from 1939 to 2012, a 73-year span of time. If the coastal bluff on the subject property had retreated at a rate of 0.4 feet per year, we should have seen bluff retreat on the order of 25 feet. We did not see any evidence of bluff retreat of that magnitude, as described earlier in this report (see Coastal Bluff Erosion Rate Study section).

As we were not able to obtain aerial photographs covering the span of time from 1908 to 1939, we could not replicate Johnson's analysis and we cannot estimate how much erosion occurred at the subject property during those years. But since Johnson's analysis, there has been a subsequent El Nino winter (1997-1998), which fell within the span of time for which we analyzed aerial photos. Analysis of the 1990 and 2001 and 2003 and 2012 aerial photographs did not reveal any evidence of significant bluff retreat over that span of time.

In our effort to garner more precise data on the rate of bluff retreat on the subject property, CapRock orthorectified aerial photographs from several years and analyzed them. Orthorectification corrects the radial and angular distortion inherent in all aerial photographs, thus enhancing the ability of an analyst to make meaningful quantitative measurements from the photographs.

CapRock orthorectified, enlarged and analyzed aerial photographs from the years 1949, 1970, 1990 and 2012.

Even working with this enhanced imagery, we could not discern any significant amount of erosion of the coastal bluff on the subject property. This finding corroborates our conclusion that there has been no significant bluff retreat on the subject property in the latter half of the 20th century or to date in the 21st century.

The most recent photos used in CapRock's analysis were taken in 2012. As there have been no major winter storms that caused significant erosion in the last two winters, we are comfortable extending our finding to cover the years between 2012 and now. The earliest aerial photographs we analyzed were taken in 1939, thus our analysis covers the full 75 years from 1939 to the present.

For this reason and for all the reasons cited earlier in this report, in which we discuss several significant factors that may help account for the modest amounts of bluff retreat we discerned, we suggest that the rate of bluff retreat on the subject property is less than the general rate of 0.4 feet per year that Johnson calculated as the average for the city of Carmel's northern bluffs.

To insure the safety of the structures it is necessary to have a safety buffer. We recommend that all future construction be setback a minimum of 30 feet from the top of the cliff face, which corresponds to an average erosion rate of 0.3 feet per year. Based on our analysis and findings, it is entirely possible that the average erosion rate for the subject property has been less than 0.3 feet per year over the last 75 years, but in the absence of hard numbers to support that contention and for the sake of providing a sufficient setback incorporating an adequate margin of safety, we feel that 0.3 feet per year is the appropriate rate of coastal bluff erosion for the subject property. We based our analysis of the hazards of landsliding and erosion. This analysis was qualitative and it is expected that analytical evaluation of slope stability through quantitative slope stability modeling may result in different setbacks than those provided here.

It is significant that this study specifically addressed average erosion rates for the coastal bluffs. Average numbers are very useful for long-term planning but the actual process of erosion occurs episodically, not uniformly. This means that a large retreat event could account for most of the erosion in any given area for an interval spanning decades. Such large events do not necessarily invalidate estimates of annual erosion rates.

Landsliding

Landslides are not an uncommon occurrence along the California coastline, but our review of aerial photographs and our site visits did not identify any evidence of landslides on coastal bluffs that are close enough to impact the subject property.

Further analysis of upslope landslide hazards should be conducted as part of a future Geologic Hazards Investigation.

The Impacts of Sea Level Rise and Erosion Rates

Sea level is dynamic and has varied greatly over millions of years. In part this variation is caused by the occurrence of ice ages. Our sea level is at or near the maximum for the last few million years. This is because we are in between ice ages. The lower sea level during ice ages is caused by the existence of continental ice sheets that hold much of Earth's water. The periodic melting and reformation of these ice sheets has caused sea level to rise and fall by as much as 426 feet during the time frame of hundreds of thousands of years.

There has also been a shorter time scale that has shown a gradual rise since the late 1800's. Douglas (1997) asserts that the average rate of this rise is about 1.8 mm (0.07 inch) per year. Recently satellite altimetry has been used to measure sea level, this research has measured an increase of about 3.4 mm per year between 1993 and 2010. Ice sheets and glaciers have been melting, due to global climate change, and have been contributing melt water to the ocean.

This ongoing climate change is primarily being caused by greenhouse gases trapped in the atmosphere. The principal source of these greenhouse gases is the burning of fossil fuels. This makes estimating the rate and amount of sea level rise complicated and difficult, as one has to consider the socioeconomic trends that affect the rate at which these fossil fuels are burned. This causes there to be a lack of consensus among the scientific community about the amount of potential sea level rise over the next century, although scientists are virtually unanimous in agreeing that such additional sea level rise will occur.

Vermeer and Rahmstorf (2009) estimate sea level rise of 81 to 179 cm (32 to 70 inches) by 2100. The California Ocean Protection Council issued an update to the State of California Sea-Level Rise Guidance Document in March 2013 in which they stated that for the California coastline south of Cape Mendocino, the projected sea level rise between 2000 and 2100 would likely fall somewhere between 1.38 feet (16.56 inches) to 5.48 feet (65.76 inches). The midpoint of this range is 3.43 feet. See Table 1.

Table 1. Sea-Level Rise Projections using 2000 as the Baseline.

Time Period	North of Cape Mendocino	South of Cape Mendocino
2000 - 2030	-4 to 23 cm (-0.13 to 0.75 ft)	4 to 30 cm (0.13 to 0.98 ft)
2000 - 2050	-3 to 48 cm (-0.1 to 1.57 ft)	12 to 61 cm (0.39 to 2.0 ft)
2000 - 2100	10 to 143 cm (0.3 to 4.69 ft)	42 to 167 cm (1.38 to 5.48 ft)

The Sea-Level Rise Guidance Document was updated based upon scientific findings published in a June 2012 report issued by the National Research Council (NRC) titled *Sea-Level Rise for the Coasts of California, Oregon, and Washington*.

The SLR Guidance Document states: “The differences in sea-level rise projections north and south of Cape Mendocino are due mainly to vertical land movement. North of Cape Mendocino, geologic forces are causing much of the land to uplift, resulting in a lower rise in sea level, relative to the land, than has been observed farther south.”

The SLR Guidance Document also states: These projections incorporate a land ice component extrapolated from compilations of observed ice mass accumulation and loss. It is important to note that the NRC report is based on numerical climate models developed for the

Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report which do not account for rapid changes in the behavior of ice sheets and glaciers and thus likely underestimate sea-level rise (the new suite of climate models for the Fifth Assessment Report was not available when the NRC report was developed). The committee used the model results from the IPCC Fourth Assessment Report, together with a forward extrapolation of land ice that attempts to capture an ice dynamics component.

The IPCC Fifth Assessment Report, released March 31, 2014, states that the Global Mean Sea Level (GMSL) rise is projected to be from 0.28 meters (11 inches) to 0.98 meters (38.6 inches) by 2100.

The report states: “with regional variations and local factors the local sea level rise can be higher than the projected for the GMSL. This has serious implications for coastal cities, deltas and low-lying states. While higher rates of coastal erosion are generally expected under rising sea levels, the complex inter-relationships between the geomorphological and ecological attributes of the coastal system (Haslett, 2009; Gilman et al., 2007) and the relevant climate and oceanic processes need to be better established at regional and local scales. Such complex inter-relationships can be influenced by different methods and responses of coastal management.”

Rising sea level will increase coastal bluff exposure to storm waves, which will accelerate erosion in coastal areas. A study of the California coast and the potential for increase in erosion in coastal areas caused by sea level change was performed by Philip Williams and Associates (PWA, 2009). This study covered an area that stretched from Santa Barbara to the Oregon border and is the first study of its kind. The study area was large and the scope of the project did not allow for coastal erosion estimates for specific sites. The results of this study were created into GIS shape files where one can distinguish land features and hazard zones. However, because of the large uncertainty the authors do not wish anyone to use these to assess the risk at a specific location.

This study was the first attempt to perform this analysis of sea level change and erosion. As such its methodologies have not yet been validated by observation. There is at the present time no established method for calculating the increase in erosion caused by sea level rise at this site.

Our coastal erosion estimates contained buffers that should compensate for any increase in erosion rates over the next 100 years.

The coastal bluff on the western end of the property at 10 Carmel Way (APN 010-321-021) is to some degree protected from direct wave impact from southerly and northerly swells by the headlands bounding Carmel Bay – Pescadero Point and Cypress Point on the Monterey Peninsula to the north and Carmel Point and Point Lobos to the south. Historically, the area south of Ocean Avenue has been subject to far greater amounts of cliff retreat than has the area north of Ocean Avenue, where the subject properties lie. In addition, the shallowness of the undersea topography immediately offshore from the subject property should help dissipate the energy of incoming waves. These protections should help mitigate any increase in erosion rates.

LIMITATIONS

In performing our professional services, we have applied present engineering and scientific judgment and used a level of effort consistent with the standard of practice on the date of this report and the locale of the subject property for similar type studies. CapRock makes no warranty, expressed or implied, in fact or by law, whether of merchantability, fitness for any particular purpose, or otherwise, concerning any of the materials or "services" furnished by CapRock to the client.

This report does not make any attempt to evaluate appropriate foundation design, and is not a Geological Hazards Report or a Geotechnical Report or a Slope Stability Investigation. Coastal bluff erosion setbacks may be modified in the future if warranted further geological investigation. Subsurface soil conditions can vary both vertically and horizontally. Should you have any questions or comments concerning this Geological Investigation report, please contact us at (831) 484-5053.

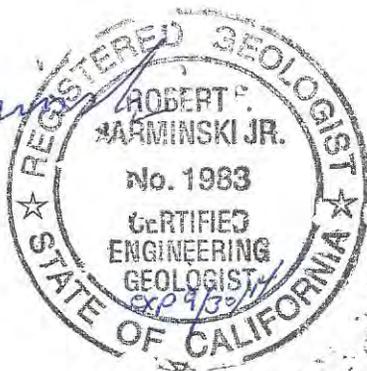
Sincerely

CapRock Geology, Inc.



Robert Barminski, R.G., C.E.G.

Principal Geologist



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- California Coastal Commission Memorandum dated 16 January 2014, Mark J. Johnsson, Staff Geologist; California Code of Regulations, Title 14 § 13577 (h) (2).)
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- USGS 7.5 minute topographic map (Monterey, California, 1947, photo-revised 1983)
- Vermeer, M., and Rahmsorf, S., 2009, Global Sea level linked to global temperature, Proceedings of the National Academy of Sciences, December 22, 2009, vol. 106 no. 51 21527-21532

AERIAL PHOTOGRAPH REFERENCES

1939-B; Fairchild Aerial Surveys, Inc., Flight Line ABG, black and white, nominal scale 1:20,000.

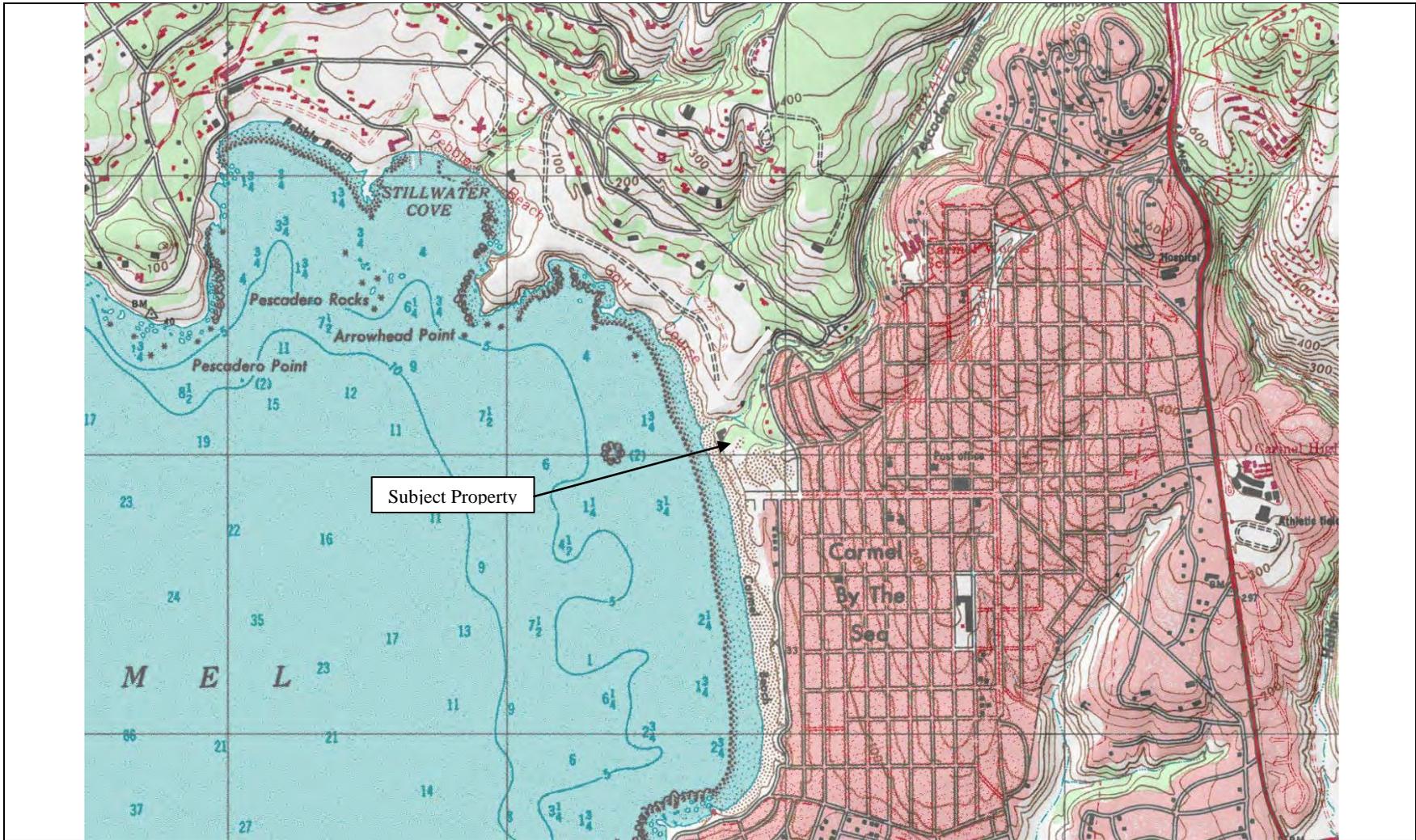
1945-A; Fairchild Aerial Surveys, Inc., Flight Line C-9820, black and white, nominal scale 1:7,200.

1970; California Dept. of Fish and Game, (no flight line identifier), black and white, nominal scale 1:12,000.

1990-D; WAC Corp., Flight Line WAC-MONTEREY-90, black and white, nominal scale 1:15,840.

2001-A; California Coastal Commission, Flight Line CCC-BQK-C, black and white, nominal scale 1:12,000.

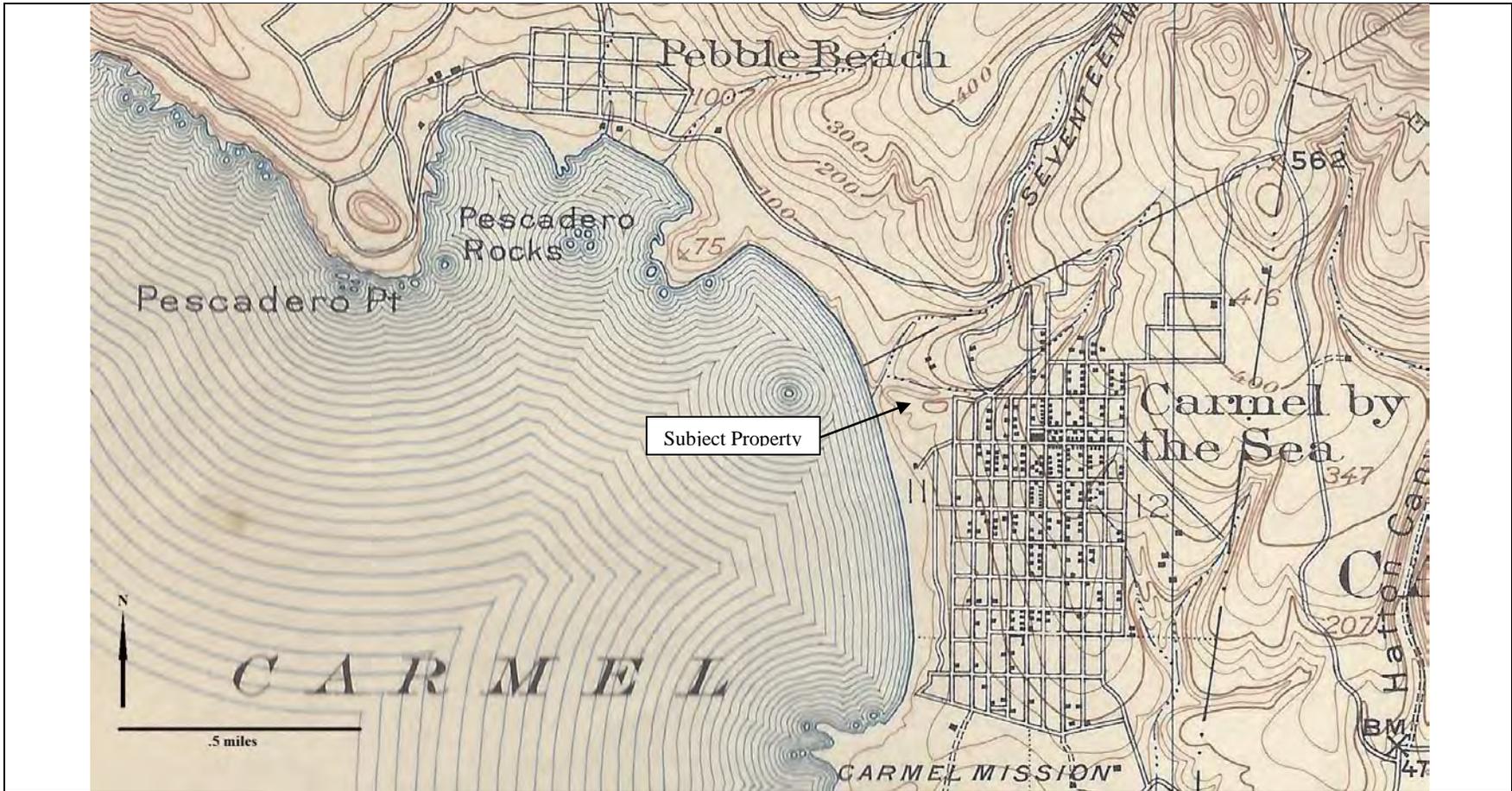
2003-C; Sanborn, Flight Line AMBAG, color, nominal scale 1:4,200.



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SITE LOCATION MAP
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 Reference # 4922-01

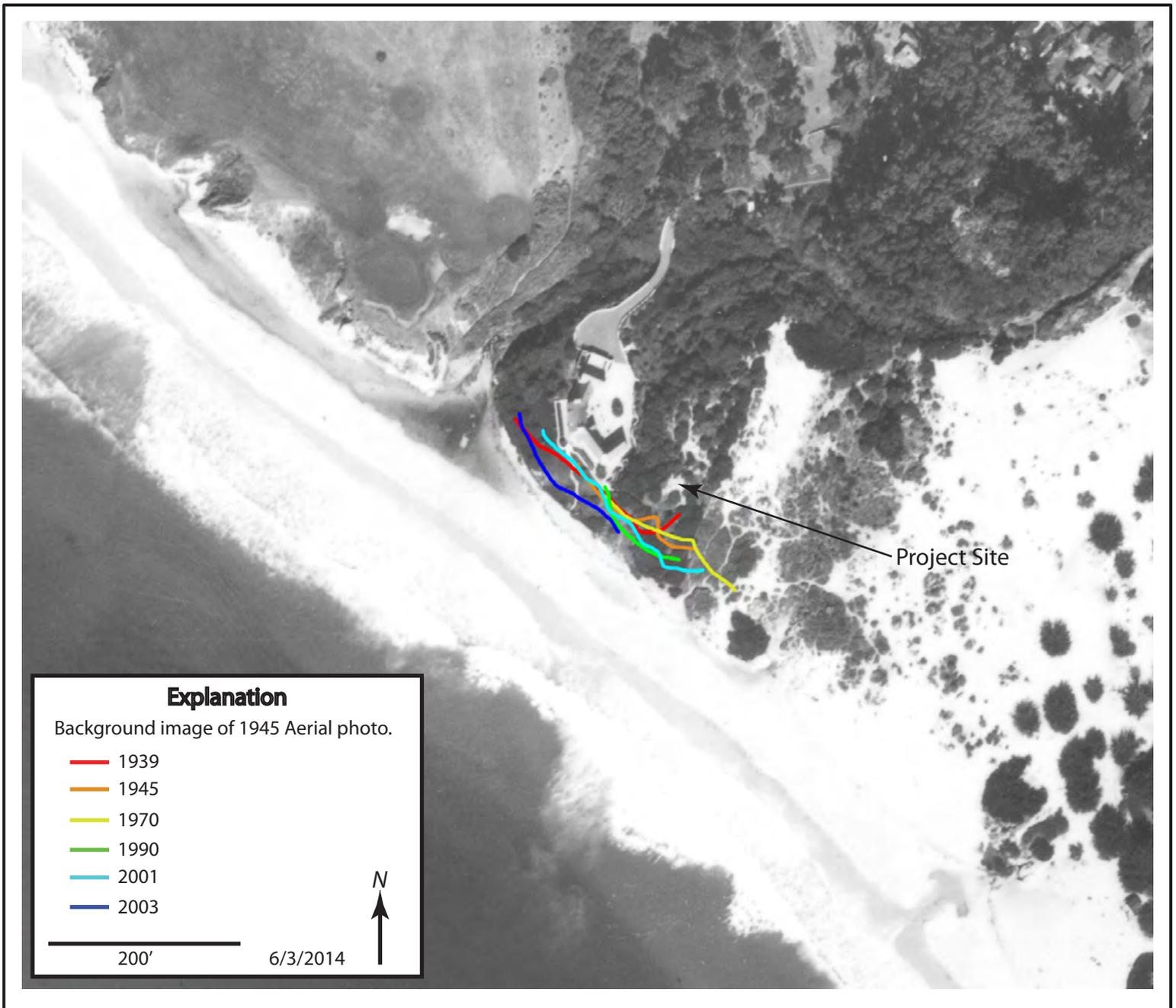
Figure
1



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Historic Topographic Map -1913 USGS
 10 Carmel Way, Carmel, CA
 Reference # 4922-01

Figure
2



Historical Coastal Bluffs: Aerial Photograph Analysis

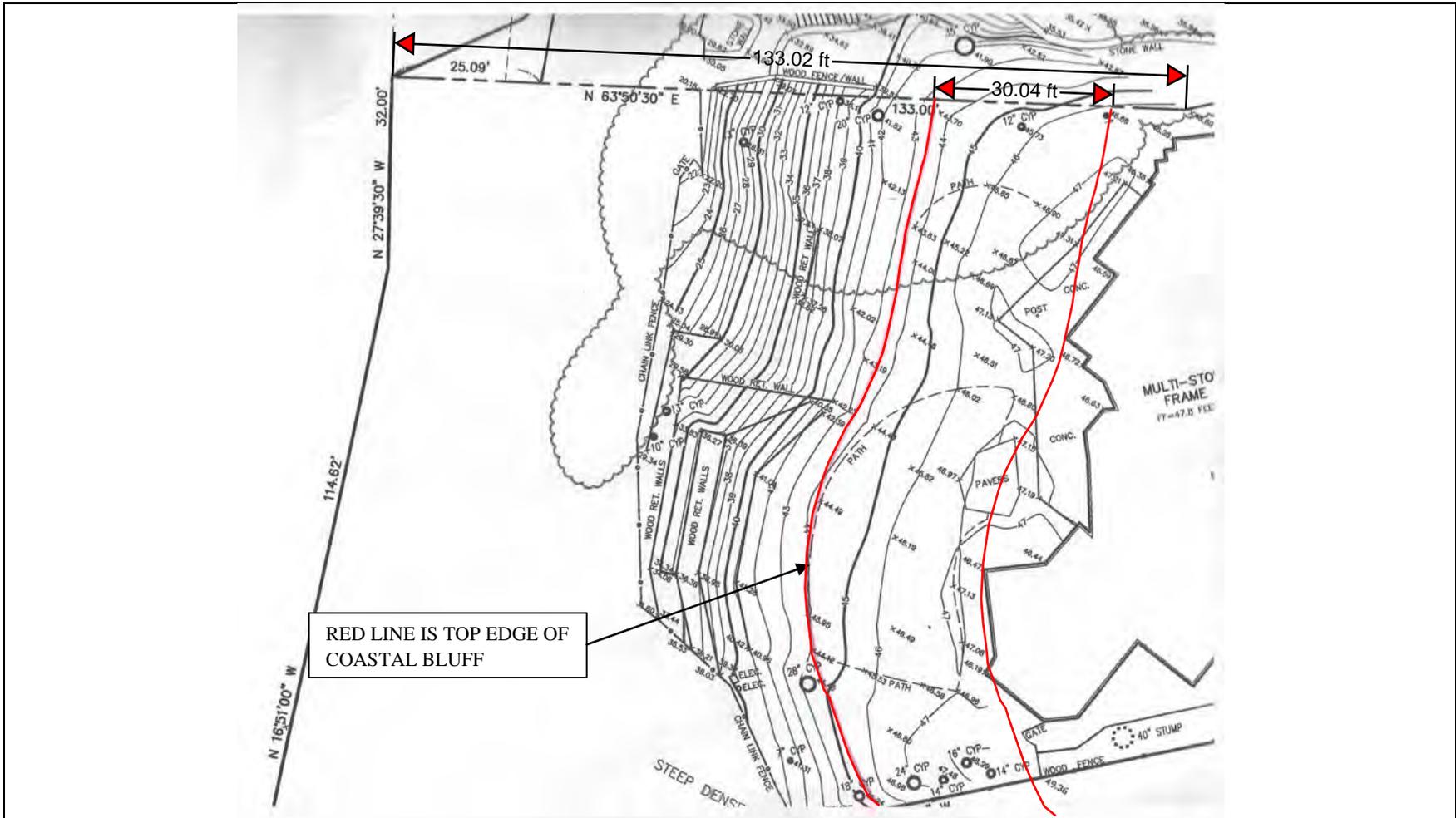
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Figure 3



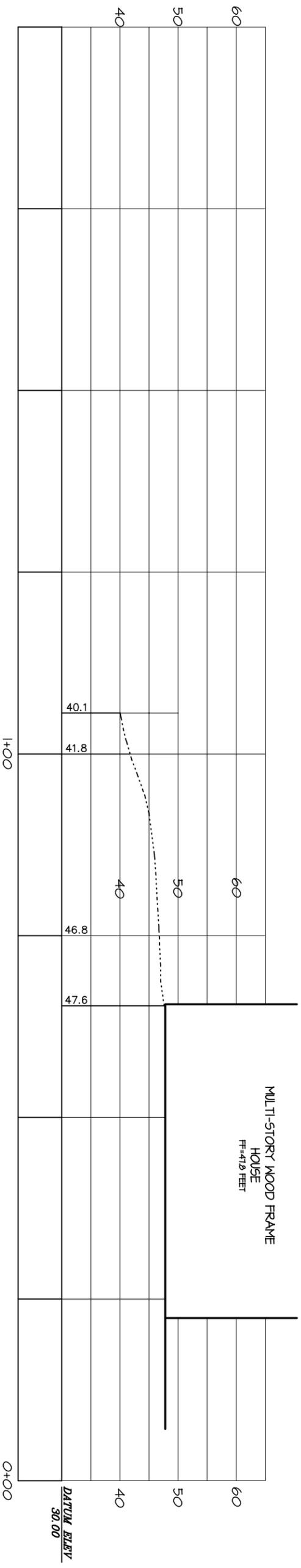
RED LINE IS TOP EDGE OF COASTAL BLUFF

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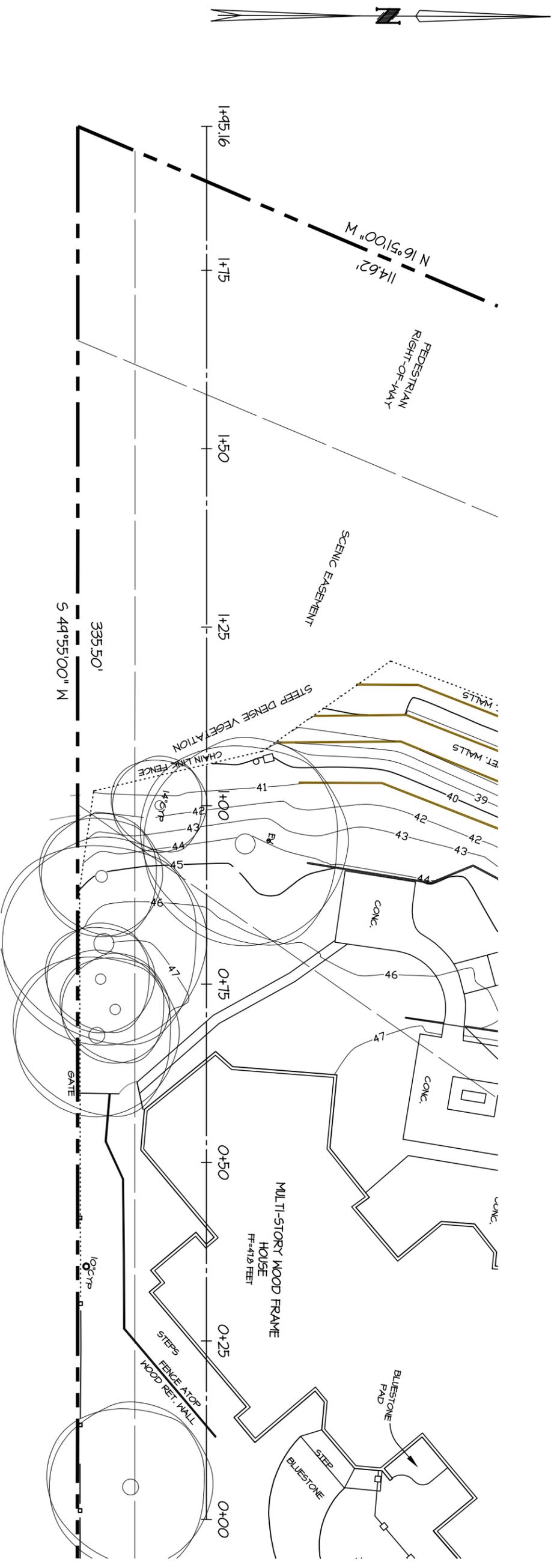


TOPOGRAPHIC MAP SHOWING TOP
 EDGE OF COASTAL BLUFF
 10 Carmel Way, Carmel, CA
 Reference # 4922-01
 (Not to Scale)

Figure
 4



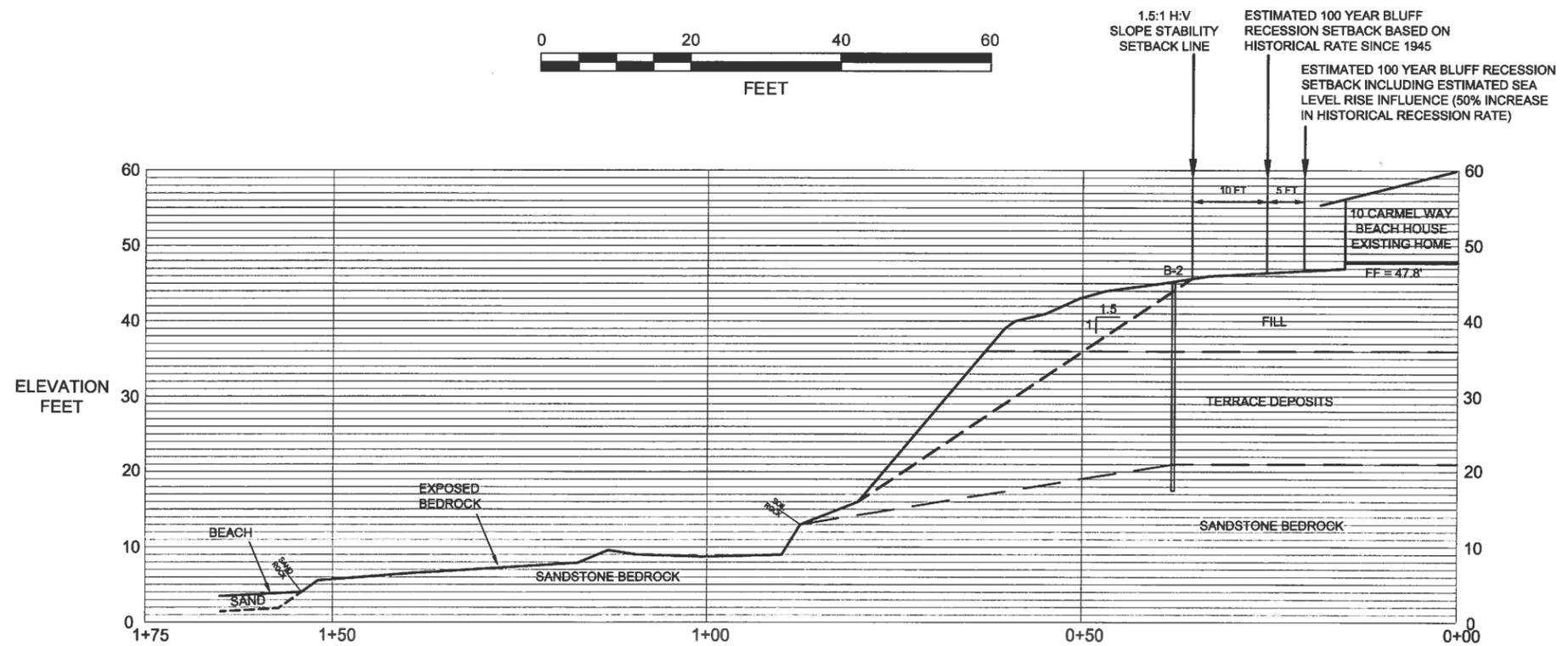
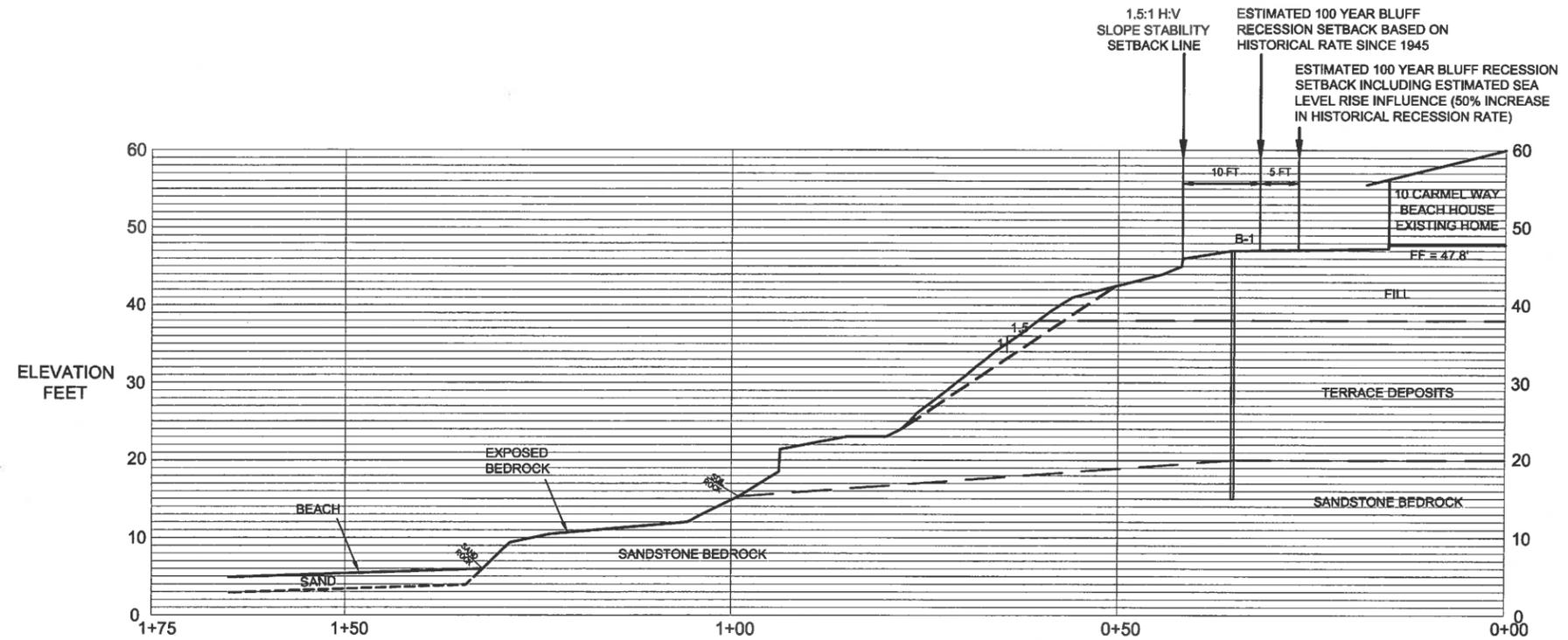
SCALE: V = 1" = 20'



SCALE: 1" = 16'

General Notes:

- A. Topographic Base Map prepared by Central Coast Surveyors.
- B. Vertical Elevation Datum is NGVD29.
- C. Topography at beach level may not accurately reflect actual terrain.
- D. ESTIMATED 100 YEAR FUTURE COASTAL BLUFF RECESION SETBACKS are for planning purposes. The selection of a "100 YEAR" timeframe is based on our understanding of the January 2016 minimum setback requirements that the City of Carmel-by-the-Sea utilizes for permitting new development.
- E. LIMITATIONS: Because of uncertainties that are inherent in the analysis and are beyond the control of HKA, no guarantee or warranty is possible that future recession will occur at the rate predicted. Greater or lesser erosion and recession may occur. In any case, damage to improvements should be expected at some point in the far future. This study should not be used in lieu of appropriate insurance coverage. The owners and occupants of the coastal improvements shall accept the risk of that damage, and HKA recommends that they should purchase appropriate insurance to mitigate the inherent risk.



REVISIONS	BY

ESTIMATED 100 YEAR FUTURE COASTAL BLUFF RECESION SETBACK CROSS SECTIONS
BEACH HOUSE AT 10 CARMEL WAY, CARMEL-BY-THE-SEA, CA
APN 010-321-021

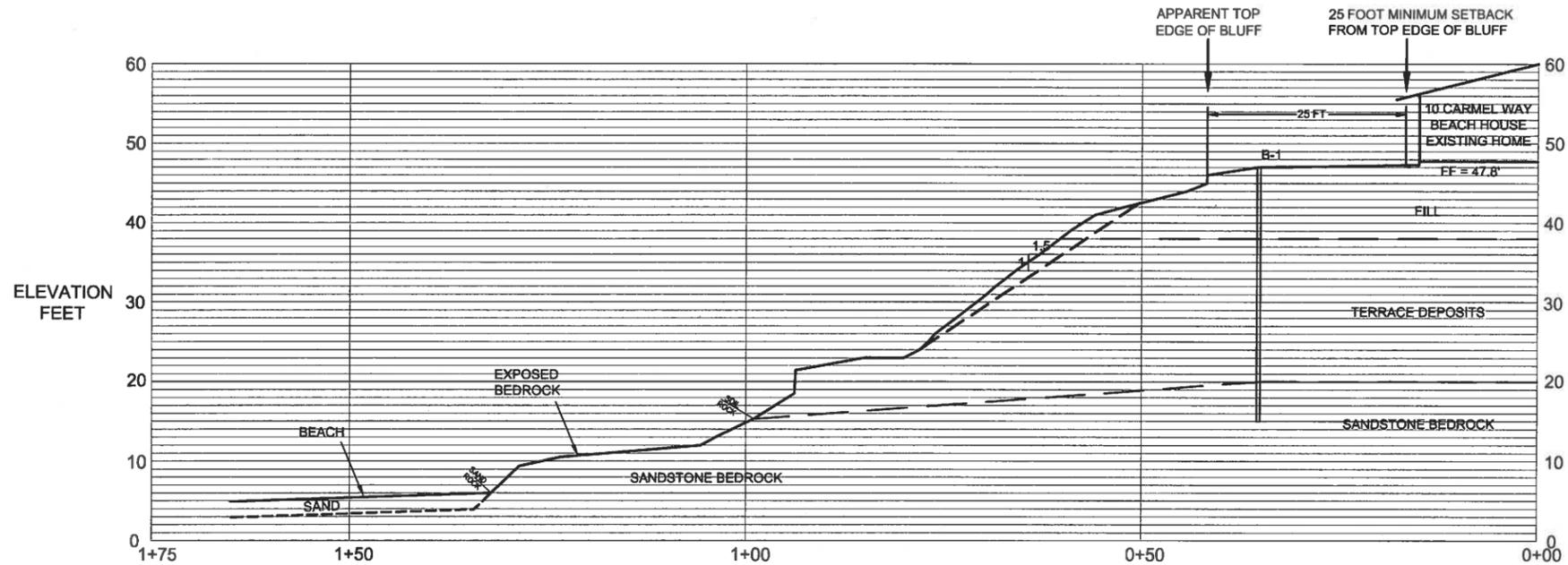
HARO, KASUNICH AND ASSOCIATES, INC.
 CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
 118 EAST LAKE AVE., WATSONVILLE, CA 95076 (831) 725-4175

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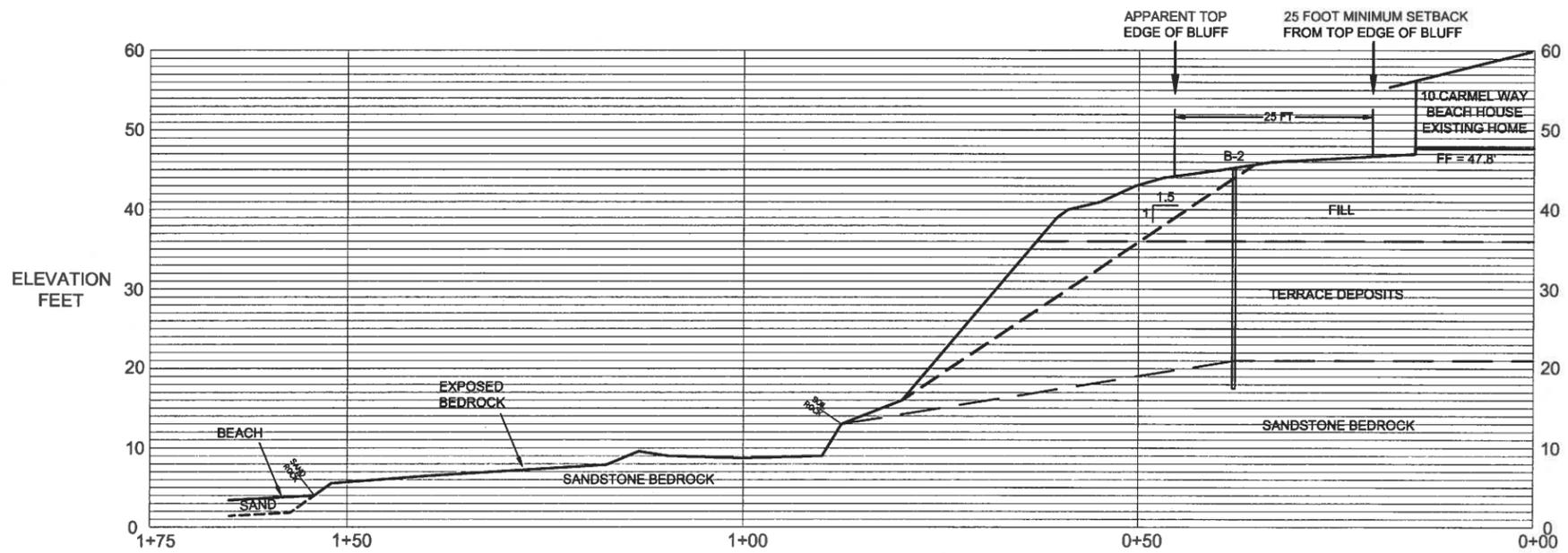
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General Notes:

- A. Topographic Base Map prepared by Central Coast Surveyors.
- B. Vertical Elevation Datum is NGVD29.
- C. Topography at beach level may not accurately reflect actual terrain.
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SECTION 1



SECTION 2

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**COASTAL BLUFF RECESSSION SETBACK MAP
SHOWING 25 FOOT MINIMUM SETBACK
BEACH HOUSE AT 10 CARMEL WAY, CARMEL-BY-THE-SEA, CA
APN 010-321-021**

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CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
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