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Initial Study/Mitigated Declaration

2901 Wishbone Way Residential

Project Numbers:
ENV-006290-2023
LDEV-017128-2021
BLDR-017217-2021
BLDR-017239-2021

April 2024

Prepared for:

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Table of Contents

Acronyms and Abbreviations ..... **iii**

Document Overview ..... **v**

Section 1 Project Description **1**

1.1 Project Location and Setting 1
1.2 Project Description 1
1.3 Regulatory Requirements, Permits, and Approvals 2

Section 2 Initial Study Checklist **11**

2.1 Project Information 11
2.2 Environmental Factors Potentially Affected 12
2.3 Lead Agency Determination 13
2.4 Evaluation of Environmental Impacts 14
2.4.1 Aesthetics 15
2.4.2 Agriculture and Forestry Resources 19
2.4.3 Air Quality 22
2.4.4 Biological Resources 26
2.4.5 Cultural Resources 37
2.4.6 Energy 42
2.4.7 Geology and Soils 45
2.4.8 Greenhouse Gas Emissions 51
2.4.9 Hazards and Hazardous Materials 54
2.4.10 Hydrology and Water Quality 59
2.4.11 Land Use and Planning 64
2.4.12 Mineral Resources 66
2.4.13 Noise 68
2.4.14 Population and Housing 71
2.4.15 Public Services 72
2.4.16 Recreation 74
2.4.17 Transportation 75
2.4.18 Tribal Cultural Resources 78
2.4.19 Utilities and Service Systems 81
2.4.20 Wildfire 85
2.4.21 Mandatory Findings of Significance 92

Section 3 List of Preparers **95**

3.1 Lead Agency 95
3.2 Consultants 95

Section 4 References **97**

Figures

Figure 1. Regional Location 3
Figure 2. Project Site 5
Figure 3. Site Plan 7
Figure 4. Grading Plan 9
Figure 5. Biological Resources 35

Tables

Table 1. Diegan Coastal Sage Scrub Impact and Mitigation 33
Table 2. Permitted Active Landfills in San Diego County 83
Table 3. Cumulative Projects 93

Appendices

Appendix A. Biology Field Survey
Appendix B. Wetland Survey
Appendix C. Cultural Resource Survey Report
Appendix D. Single-Family Green Building Checklist
Appendix E. Preliminary Geotechnical Investigation and Recommendations (Geotechnical Study)
Appendix F. Hydrology and Hydraulics Study
Appendix G. Wildland Fire Protection Plan

°F	degrees Fahrenheit
ADT	average daily traffic
ADU	accessory dwelling unit
APN	Assessor's Parcel Number
BMP	best management practice
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
CO	carbon monoxide
CO2e	carbon dioxide equivalent
cy	cubic yard
EIR	Environmental Impact Report
FPP	Fire Protection Plan
GHG Guidelines	County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Climate Change
GHG	greenhouse gas
IS	Initial Study
Ldn	day-night average sound level
MND	Mitigated Negative Declaration
MT	metric ton
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O3	ozone

Paleontological Resources Guidelines	County of San Diego Guidelines for Determining Significance for Paleontological Resources
psi	pounds per square inch
RAQS	Regional Air Quality Strategy
SANDAG	San Diego Association of Government's
SDAPCD	San Diego Air Pollution Control District
sf	square feet
SIP	State Implementation Plan
SO2	sulfur dioxide
SVCOZA	Scenic/Visual Corridor Overlay Area
SWPPP	Stormwater Pollutant Prevention Plan
TAC	toxic air contaminant
tpd	tons per day
USFWS	U.S. Fish and Wildlife Service

Document Overview

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared in accordance with California Environmental Quality Act (CEQA) and the CEQA Guidelines for the proposed Wishbone Way Residential (project). The primary intent of this document is to (1) determine whether project implementation would result in potentially significant impacts to the environment, and (2) incorporate mitigation measures into the project design, as necessary, to eliminate or reduce the project's potentially significant impacts to a less than significant level.

In accordance with CEQA, projects that have the potential to result in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment must undergo analysis to disclose potential significant effects. The provisions of CEQA apply to California governmental agencies at all levels, including local agencies, regional agencies, state agencies, boards, commissions, and special districts. CEQA requires preparation of an IS for a discretionary project to determine the range of potential environmental impacts of that project and to define the scope of the environmental review document. As specified in Section 15064(f) of the CEQA Guidelines, the lead agency may prepare an MND if, in the course of the IS analysis, it is recognized that the project may have a significant impact on the environment but that implementation of specific mitigation measures would reduce potentially significant impacts to a less than significant level. As the lead agency for the proposed project, the City of Encinitas (City) has the principal responsibility for conducting the CEQA environmental review to analyze the potential environmental effects associated with project implementation. During the review process, it was determined that potential impacts would be reduced to less than significant with the implementation of mitigation measures. The City has incorporated mitigation measures to reduce or eliminate any potentially significant project-related impacts. Therefore, an IS/MND has been prepared for the proposed project.

The project has not been approved or denied. It is being reviewed for environmental impacts only. Approval of the project can take place only after the MND has been adopted.

This IS/MND is organized as follows:

- **Section 1: Project Description.** This section introduces the document and discusses the project description, including location, setting, and specifics of the lead agency and contacts.
- **Section 2: Initial Study Checklist.** This section discusses the CEQA environmental topics and checklist questions, identifies the potential for impacts, and proposes mitigation measures to avoid these impacts.

- **Section 3: List of Preparers.** This section lists the organizations and individuals who were consulted and/or prepared this IS/MND.
- **Section 4: References.** This section presents a list of reference materials consulted during preparation of this IS/MND.

Public Review

The IS/MND will be circulated for a 30-day public review period from April 12, 2024, to May 13, 2024.

Comments regarding this IS/MND must be made in writing and submitted to Fran Carr, City of Encinitas, 505 South Vulcan Avenue, Encinitas, California 92024, or by email to fcarr@encinitasca.gov.

Comments should focus on the proposed finding that the project would not have a significant effect on the environment because revisions or mitigation measures have been made or agreed to by the project proponent. If the commenter believes that the project may have a significant environmental effect, it would be helpful for the commenter to identify the specific effect and explain why the effect would occur and why it would be significant.

Section 1 Project Description

1.1 Project Location and Setting

The project is located in the west-central coast portion of San Diego County in the City of Encinitas (City), approximately 1 mile east of Rancho Santa Fe Road and approximately 5 miles from the ocean (Figure 1, Regional Location). The lot is located on the City-limit boundary with the City of Carlsbad to the west. The approximately 2.47-gross acre project site is located west of and adjoining the terminus of Wishbone Way at the end of the cul-de-sac. The project would be located on a vacant parcel at 2901 Wishbone Way in the City Parcel 2 of Parcel Map 15133 (Assessor's Parcel Number [APN] 264-222-33). Large estate homes border Wishbone Way to the south, northeast, and east of the site. These homes include pools, tennis courts, and equestrian facilities. To the southwest of the site are large tract homes. The project site is bordered by undeveloped land to the west and is accessed from the east by the paved road Wishbone Way. A well-defined watercourse (Encinitas Creek) passes through the northern portion of the property, and La Costa Canyon High School is across the creek to the west (Figure 2, Project Site). The project is located in an unsectioned portion of the Los Encinitos land grant in Township 13 South and Range 3 West, shown on the Rancho Santa Fe 7.5' U.S. Geological Survey quadrangle.

1.2 Project Description

The proposed project includes site grading and construction of a one-story 3,740-square-foot (sf) single-family residence and 1,000 sf accessory dwelling unit (ADU) on an approximately 2.47-gross acre project site. The project would also include an outdoor patio deck, pool, and associated hardscape/landscape improvements. In addition, the project would include an 869-square-foot garage, decomposed granite vehicular turn-around, and concrete driveway with access from Wishbone Way (Figure 3, Site Plan). The single-family residence and ADU would be built on raised foundations. The proposed drainage design includes the construction of a single biofiltration basin located on the downhill side of the proposed residence and ADU structure. The biofiltration basin would be used for detention and for standard stormwater treatment. The proposed project would also include a minimum 50-foot brush management zone between the proposed structures and the open space easement.

Construction of the project would include site grading and excavation for foundations and utilities, building construction, paving, and architectural coating (Figure 4, Grading Plan). Given the proposed raised foundations for the single-family residence and ADU structures, site grading would be limited. The project would require approximately 965 cy of cut, 440 cy of fill, 525 cy of export, and 1,800 cy of remediation. Project construction would begin in 2024 and occur over a period of approximately 15 months.

1.3 Regulatory Requirements, Permits, and Approvals

Permit Type/Action[1]	Agency
Grading Permit	City of Encinitas
Landscape Plan	City of Encinitas
General Construction Stormwater Permit	Regional Water Quality Control Board
Water District Approval	Olivenhain Municipal Water District
Low Effect Incidental Take Permit	U.S. Fish and Wildlife Service
Sewer District Approval	Leucadia Wastewater District
Fire District Approval	Encinitas Fire Department

Notes:

[1] And any other necessary or required permits or approvals for the project.

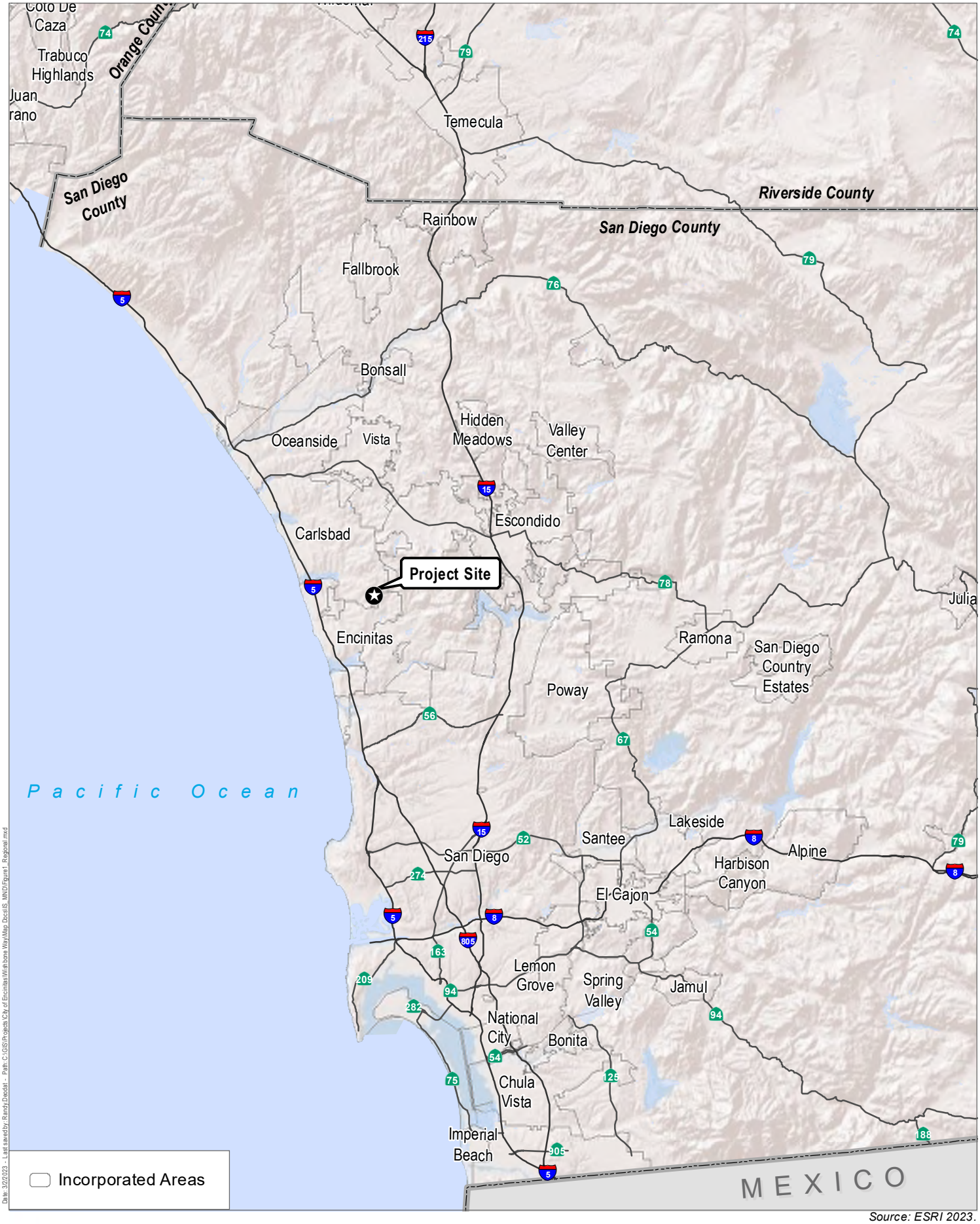

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Figure 1
Regional Location
Wishbone Way

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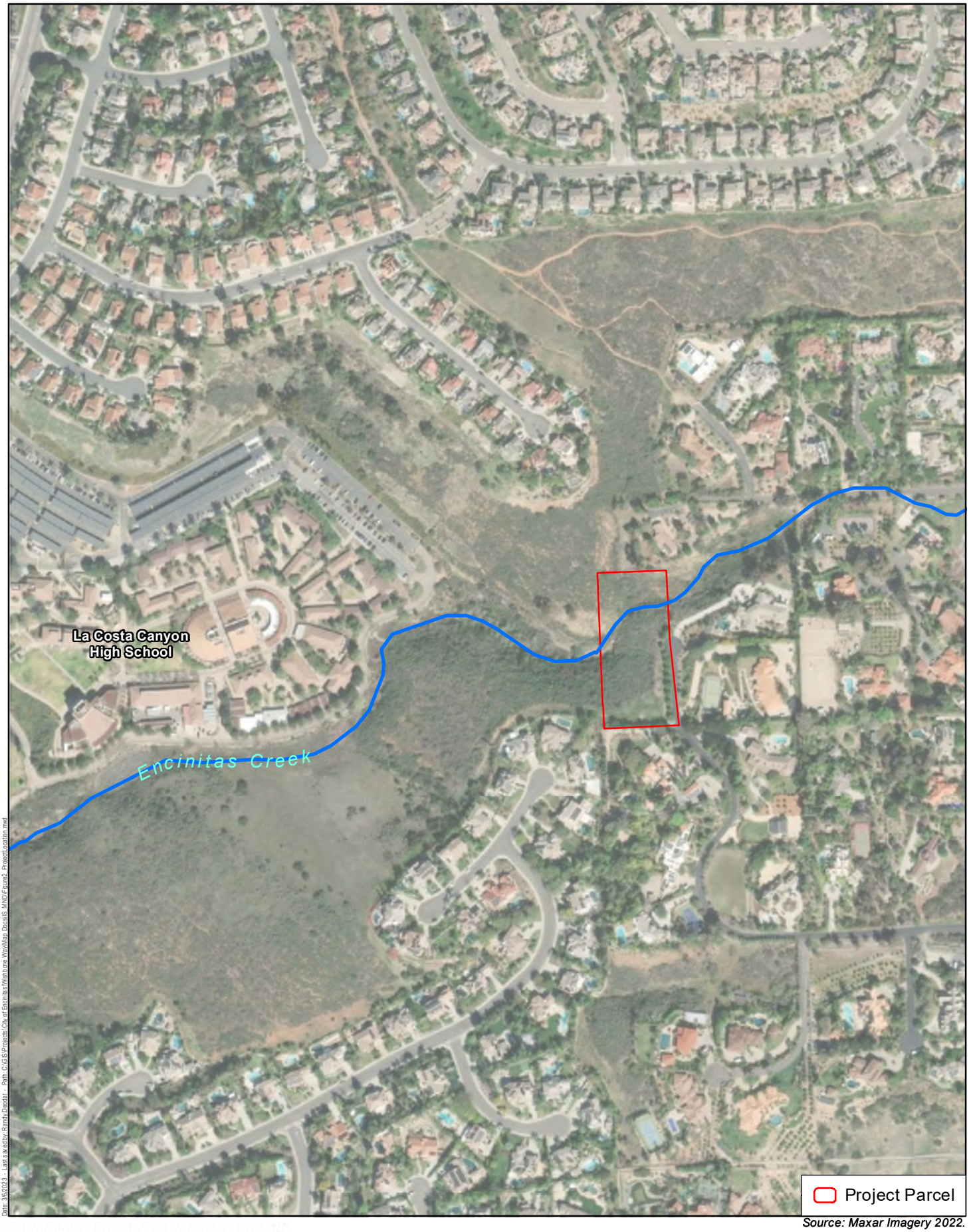

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Harris & Associates

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Figure 2
Project Site
Wishbone Way

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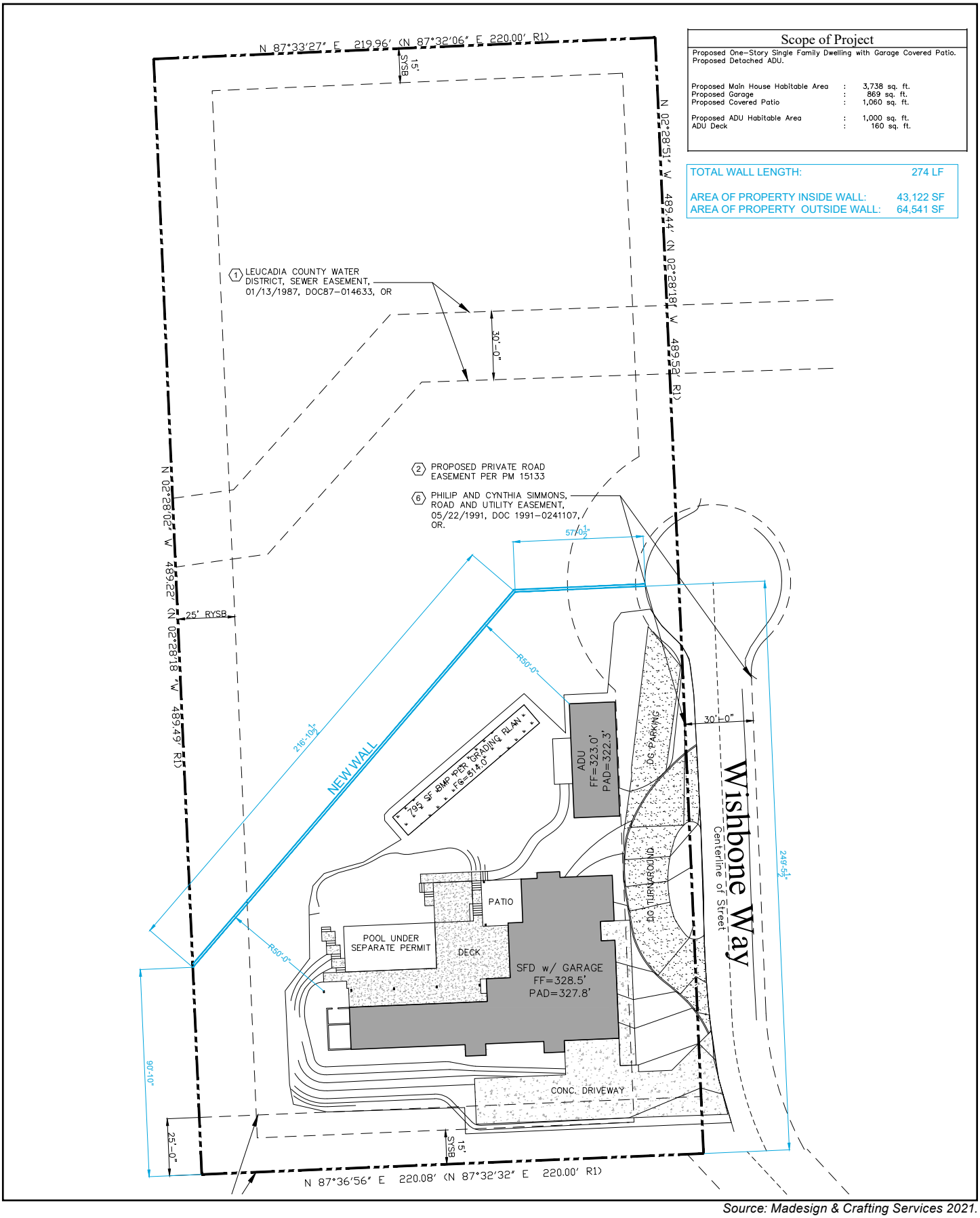

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Figure 3
Site Plan

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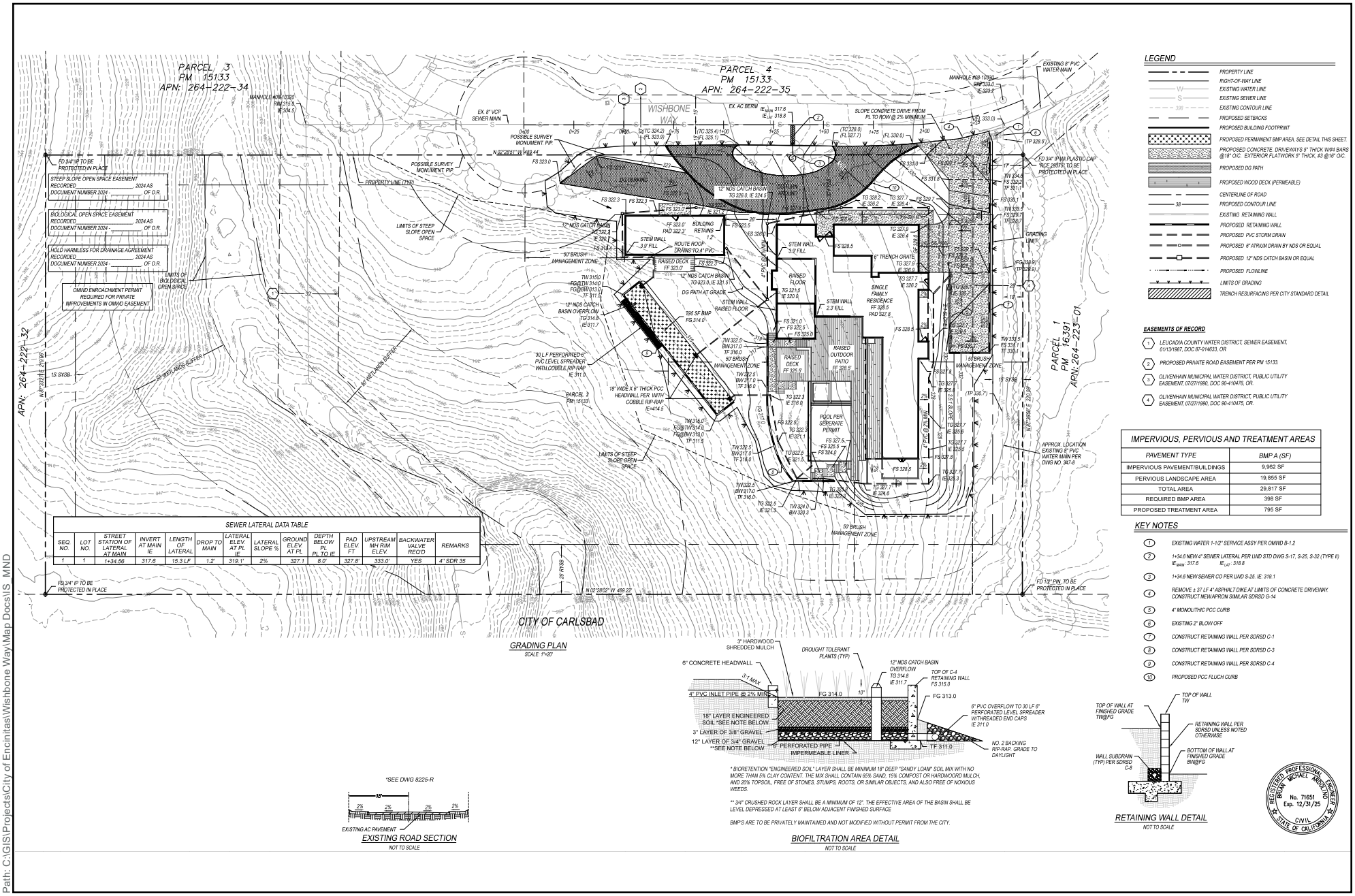

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Figure 4

Grading Plan

Wishbone Way

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Section 2 Initial Study Checklist

The following discussion of potential environmental effects was completed in accordance with Section 15063 of the California Environmental Quality Act (CEQA) Guidelines to determine if the proposed project may have a significant effect on the environment.

2.1 Project Information

1. Project title:	Wishbone Way Residential Project No.: ENV-006290-2023
2. Lead agency name and address:	City of Encinitas 505 South Vulcan Avenue Encinitas, California 92024
3. Contact person name and phone number:	Fran Carr, Planner IV City of Encinitas 760-633-2738, fcarr@encinitasca.gov
4. Project location:	2901 Wishbone Way Encinitas, California 92024 APN 264-222-33
5 Project sponsor's name and address:	Gannon Tidwell Postcard Capital, LLC 775 East Blithedale Avenue, No. 255 Mill Valley, California 94941
6. General Plan designation:	Rural Residential (RR)
7. Zoning:	Rural Residential (RR), Cultural/Natural Resources Overlay Zone.
8. Description of project:	Refer to Section 1, Project Description, of this Initial Study/Mitigated Negative Declaration (IS/MND).
9. Surrounding land uses and setting:	Refer to Section 1, Project Description, of this IS/MND.
10. Other public agencies whose approval is required:	Refer to Section 1.3, Regulatory Requirements, Permits, and Approvals, of this IS/MND.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	Consultation has been requested and formally concluded. Refer to Section 2.4.18, Tribal Cultural Resources, of this IS/MND for details.

2.2 Environmental Factors Potentially Affected

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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology and Soils	☐ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

Note: Conducting consultation early in the CEQA process allows tribal governments, public lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (see California Public Resources Code, Section 21083.3.2). Information is also available from the Native American Heritage Commission's Sacred Lands File per California Public Resources Code, Section 5097.96, and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that California Public Resources Code, Section 21082.3(e), contains provisions specific to confidentiality.

2.3 Lead Agency Determination

On the basis of this initial evaluation:

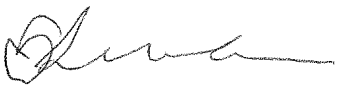
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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 (state), including implementation of the mitigation measures identified herein. 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.



4/11/2024

Signature
Fran Carr, Planner IV, City of Encinitas

Date

2.4 Evaluation of Environmental Impacts

This section documents the screening process used to identify and focus on environmental impacts that could result from the project. The checklist portion of the IS begins below and includes explanations of each CEQA issue topic. CEQA requires that an explanation of all answers be provided along with this checklist, including a discussion of ways to mitigate any significant effects identified. The following terminology is used to describe the potential level of significance of impacts:

- **No Impact.** The analysis concludes that the project would not affect the particular resource in any way.
- **Less than Significant.** The analysis concludes that the project would not cause substantial adverse change to the environment without the incorporation of mitigation.
- **Less than Significant with Mitigation Incorporated**. The analysis concludes that it would not cause substantial adverse change to the environment with the inclusion of mitigation agreed upon by the applicant.
- **Potentially Significant.** The analysis concludes that the project could result a substantial adverse effect or significant effect on the environment, even if mitigation is incorporated. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

2.4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

Pursuant to Encinitas General Plan Resource Management Policy 4.5, the City will designate "Scenic/Visual Corridor Overlay" areas within which the character of development would be regulated to protect the integrity of the vista points according to the following criteria (City of Encinitas 2011):

- Critical viewshed areas should meet the following requirements:
  - Extend radially for 2,000 feet from the vista point; and
  - Cover areas upon which development could potentially obstruct, limit, or degrade the view.
- Development within the critical viewshed area should be subject to Design Review based on the following:
  - Building height, bulk roofline, and color and scale should not obstruct, limit, or degrade the existing public views; and
  - Landscaping should be located to screen adjacent undesirable views (parking lot areas, mechanical equipment, etc.).

Pursuant to Encinitas General Plan Resource Management Policy 4.10, development would be subject to the design review provisions of the Scenic/Visual Corridor Overlay Zone for those locations within scenic view corridors, along scenic highways, and adjacent to significant viewsheds and vista points with the addition of the following design criteria (City of Encinitas 2011):

- Road design.
  - Type and physical characteristics of roadway should be compatible with natural character of corridor, and with the scenic highway function.

- Development design – Building and vegetation setbacks, scenic easements, and height and bulk restrictions site signage should be used to maintain existing views and vistas from the roadway.
  - Off-site signage should be prohibited, and existing billboards removed.
- Development should be minimized and regulated along any bluff silhouette line or on adjacent slopes within view of the lagoon areas and Escondido Creek.
- Where possible, development should be placed and set back from the bases of bluffs, and similarly, set back from bluff or ridge top silhouette lines; shall leave lagoon areas and floodplains open, and shall be sited to provide unobstructed view corridors from the nearest scenic highway.
- Development that is allowed within a viewshed area must respond in scale, roof line, materials, color, massing, and location on site to the topography, existing vegetation, and colors of the native environment (Coastal Act/30251/30253).

Impact Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

No Impact. A vista is a view from a particular location or composite views along a roadway or trail. Scenic vistas often refer to views of natural lands but may also be compositions of natural and developed areas or even entirely of developed and unnatural areas, such as a scenic vista of a rural town and surrounding agricultural lands. What is scenic to one person may not be scenic to another; therefore, the assessment of what constitutes a scenic vista must consider the perceptions of a variety of viewer groups.

The items that can be seen within a vista are visual resources. Adverse impacts to individual visual resources or the addition of structures or developed areas may or may not adversely affect the vista. Determining the level of impact to a scenic vista requires analyzing the changes to the vista as a whole and also to individual visual resources.

As described in the Encinitas General Plan Resource Management Element, the City contains visual resources affording opportunities for scenic vistas in the community. Scenic/Visual Corridor Overlay Areas (SVCOZAs) are identified in the Encinitas General Plan Resource Management Element to ensure that existing views are not compromised by future development. New development can often have the potential to obstruct, interrupt, or detract from a scenic vista.

The project would construct a single-family residence and ADU on an approximately 2.47-acre project site. The project site is located east of and outside all SVCOZAs and significant or historical viewsheds. In addition, the project site is not visible from any of the designated vista points identified in the Encinitas General Plan (City of Encinitas 2011). The closest significant view shed is at Oak Crest Park approximately 5 miles west of the project site. As such, the project would have no effect on scenic vistas.

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. According to the California Department of Transportation State Scenic Highway Map Viewer (Caltrans 2023), the nearest officially designated state scenic highway to the project site is the segment of State Route 52 near the Mission Trails Open Space, located approximately 17.6 miles southeast of the project site. The nearest eligible state scenic highway is Interstate 5, located approximately 4.1 miles west of the project site. Due to distance and varying topography, the project site is not visible from either State Route 52 or Interstate 5. Therefore, the project would not damage scenic resources within a state scenic highway, and no impact would occur.

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The project site is located in an urbanized primarily developed residential neighborhood, and is surrounded by large estate residences, open space, and La Costa Canyon High School. The Encinitas General Plan land use and zoning designations for the project site are Rural Residential (RR), and the proposed single-family residence and ADU would be consistent with the Rural Residential (RR) General Plan land use and zoning designations for the site. As previously described, the project site is located outside all SVCOZAs and significant or historical viewsheds. Therefore, the project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

d. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The project would include a new source of artificial lighting due to the construction of a single-family residence and ADU on an undeveloped site. The project's lighting, which would include exterior mounted light fixtures and some landscape accent lighting and interior lighting for the new single-family residence and the ADU, would be minimal and shielded in such a manner that the light is directed away from streets or adjoining properties. The project would not adversely affect nighttime views or astronomical observations because the project's outdoor lighting fixtures shall be fully shielded so as to cause all emitted sustained light to be projected below an imaginary horizontal plane passing through the lowest point of the luminary, lamp or light source used in the fixture. The luminary, lamp, or light source shall not be directly visible from any adjoining residential property. Compliance with the Performance Standards –Residential Lighting Standards outlined in Chapter 30.40 of the Encinitas Municipal Code is required prior to issuance of a building permit. Specifically, the project would be required to comply with Encinitas Municipal Code, Section 30.40.010H, for properties within the Olivenhain Community Area to preserve the quality of the night sky by minimizing light and glare

nuisances to adjacent properties. Therefore, the project would not create a significant new source of substantial light or glare, which would adversely affect daytime or nighttime views in the area. Impacts related to light and glare would be less than significant.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.2 Agriculture 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Setting

The Encinitas General Plan land use and zoning designations for the project site are Rural Residential (RR). No agricultural operations or forest land currently exist on the site. The project site is current vacant and undeveloped and consists of Diegan coastal sage scrub and disturbed habitat (refer to Section 2.4.4, Biological Resources).

Impact Analysis

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less Than Significant Impact. Pursuant to the California Department of Conservation (DOC) maps, the project is listed as Farmland of Local Importance, which is defined as land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee (DOC 2022a). However, according to the Encinitas Historical Imagery Viewer dating back to 1988, the project site has not been used previously for agricultural purposes and has remained vacant and undisturbed land (City of Encinitas 2021). The project site is currently vacant and undeveloped, with no agricultural operations on the site. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. In addition, the Encinitas General Plan land use and zoning designations for the project site are Rural Residential (RR). The proposed project would be consistent with the Rural Residential (RR) General Plan land use and zoning designations for the site. Impacts would be less than significant.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Encinitas General Plan land use and zoning designations for the project site are Rural Residential (RR). The proposed project includes a single-family residence and ADU, which would be consistent with the Rural Residential (RR) General Plan land use and zoning designations for the site. No Williamson Act contract exists for the project site. Therefore, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The Encinitas General Plan land use and zoning designations for the project site are Rural Residential (RR). The proposed project includes a single-family residence and ADU, which would be consistent with the Rural Residential (RR) General Plan land use and zoning designations for the site. Forest land is defined in California Public Resources Code, Section 12200(g), as land that can support 10 percent native tree cover of any species and that allows for management of one or more forest resources. Timberland is defined by the California Public Resources Code, Section 4526, as land other than land owned by the federal government and land designated by the Board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species. No forest land or timberland occur on the project site. Therefore, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. No impact would occur.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No forest land occurs on the project site. The project site is currently vacant and undeveloped and includes Diegan coastal sage scrub and disturbed habitat (refer to Section 2.4.4, Biological Resources). Therefore, implementation of the project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As discussed in Section 2.4.2(a) through Section 2.4.2(d), Agriculture and Forestry Resources, the project would not involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. The project site and the neighboring parcels are not zoned or designated for agriculture and do not currently contain any agricultural use. No impact would occur.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard)?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The project site is in the San Diego Air Basin, which is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east. The topography in the San Diego Air Basin region varies greatly, from beaches on the west, to mountains, and then desert to the east. The climate in the San Diego Air Basin is largely dominated by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late night and early morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round.

Air quality laws and regulations have divided air pollutants into two broad categories: criteria air pollutants and toxic air contaminants (TACs). Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient standards based on criteria regarding public health and environmental effects of pollution (USEPA 2022). The U.S. Environmental Protection Agency and California Air Resources Board have identified six air pollutants of concern at nationwide and statewide levels: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), particulate matter, sulfur dioxide (SO_2), and lead. TACs are pollutants with the potential to cause significant adverse health effects. TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant.

The City has not adopted thresholds of significance for evaluating air quality impacts; therefore, this analysis relies on thresholds established by the County of San Diego. The County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality (County of San Diego 2007) provides air quality study trigger criteria for determining

whether a project would have the potential to result in emissions that would exceed screening level thresholds established by the San Diego County Air Pollution Control District (SDAPCD). A project would not be expected to result in emissions that exceed the SDAPCD thresholds if the number of proposed single-family dwelling units is below 300.

Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP) rely on the San Diego Association of Governments' (SANDAG's) growth projections, which are developed based on proposed buildout of land uses identified in the General Plans of San Diego County and the cities therewithin. Because the RAQS and SIP project future air quality conditions based on growth projections assuming buildout of the General Plans, it is assumed that a project that generates similar or fewer emissions than what is allowable under its existing General Plan designation would also comply with the RAQS and SIP. The proposed project would include construction and operation of one single-family residence and one ADU. Therefore, the proposed project would be consistent with the current land use designation and zoning of the site (Rural Residential [RR]). As such, the physical changes associated with project implementation, including construction and operational criteria pollutant air emissions, are consistent with and were anticipated by the Encinitas General Plan, the RAQS, and the SIP. The project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts related to air quality plan consistency would be less than significant.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard)?

Less Than Significant Impact. The proposed project would generate criteria pollutant emissions during construction and operation. As discussed above, the City has not adopted thresholds for evaluating significance of air quality impacts; therefore, thresholds established by the County of San Diego are used. According to the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality (County of San Diego 2007), the air quality study trigger criteria threshold for a single-family development is 300 dwelling units (see Table 5, Operational Phase Air Quality Study Trigger Criteria, in the County Guidelines). However, the proposed project would include construction and operation of only one single-family residence and one ADU. Therefore, based on the County air quality study trigger criteria of 300 single-family dwelling units, the proposed project would not trigger the requirement of an air quality study, and emissions from one single family residence and an ADU can be assumed to result in emissions below the SDAPCD thresholds. The proposed project would not

result in significant criteria pollutant emissions, and impacts related to a cumulatively considerable net increase of any criteria pollutant would be less than significant.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors generally include schools (preschool–12th grade), hospitals, resident care facilities, daycare centers, and residences. Impacts to sensitive receptors are typically analyzed for CO hotspots and exposure to TACs. An analysis of the project's potential to expose sensitive receptors to these pollutants is provided below.

CO Hotspots

Vehicle exhaust is the primary source of CO. In an urban setting, the highest CO concentrations are generally found within proximity to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increase. Project-generated traffic has the potential of contributing to localized hotspots of CO off site. A CO hotspot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. An air quality impact is considered significant if CO emissions create a hotspot where either the California 1-hour standard of 20 parts per million or the federal and California eight-hour standard of 9 parts per million is exceeded. This typically occurs at severely congested intersections (level of service E or worse) (Caltrans 2010). The project includes the construction of a single-family residence and ADU, the addition of which would not cause any intersections in the project vicinity to operate at a deficient level of service. Therefore, a CO hotspot would not occur.

Toxic Air Contaminants

Construction

Construction activities would result in short-term, project-generated emissions of diesel particulate matter from the exhaust of off-road, heavy-duty diesel equipment. The California Air Resources Board identified diesel particulate matter as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, Health Risk Assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment used during construction, and the construction period would be relatively short (approximately 15 months), especially compared to 30 years. Combined with the highly dispersive properties of diesel

particulate matter and additional reductions in exhaust emissions from improved equipment, construction-related emissions would not expose sensitive receptors located to the south, northeast, and east to substantial emissions of diesel particulate matter. Therefore, impacts from construction emissions of TACs would be less than significant.

Operation

Health Risk Assessments are typically conducted for substantial sources of diesel particulate emissions (e.g., truck stops, bus stations, and warehouse distribution facilities). In addition, typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes, automotive repair facilities, and dry-cleaning facilities (CARB 2005). The project consists of new residences that are not a typical source of TACs and do not warrant a health risk assessment. As such, the proposed residential uses would not generate substantial TACs, and impacts would be less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The project could produce objectionable odors during the construction phases of paving and painting activities, which would require bitumen and solvents from the placement of hot asphalt and architectural coating. Exhaust from construction equipment may also generate odors. However, due to the dispersive nature of odors and the short-term, temporary nature of these activities, these impacts would be negligible and short-term. Given the low-density nature of the rural residential neighborhood where project construction would occur, the project would not cause objectionable odors affecting a substantial number of people. Furthermore, the project would be subject to SDAPCD Rule 51, Nuisance Rule, which prohibits emissions of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. The project would result in development of one single-family residence and one ADU, which are not generally associated with the generation of objectionable odors. Thus, the project would not create objectionable odors affecting a substantial number of people during construction or operation.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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 regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. 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 US Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. 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?	☐	☒	☐	☐
e. Conflict with any applicable policies protecting biological resources?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	☐	☒	☐	☐

Environmental Setting

According to the Encinitas Municipal Code, Title 30, Chapter 30.34.050, the project is located within a Cultural/Natural Resources Overlay Zone, where site-specific analysis of a parcel of land indicates the presence of important human-made cultural and historical resources and ecologically sensitive plant and animal habitats. For projects within this zone, which involve parcels containing ecologically sensitive plant and animal habitats, a survey by a qualified professional biologist shall be submitted by the project applicant to determine the significance of the habitats and the need for project impact mitigation by reservation, re-establishment, or other methods.

Therefore, a Biology Field Survey was prepared for the project by Vince Scheidt, Biological Consultant, dated February 20, 2024 (Appendix A). In addition, a Wetland Survey was prepared for the project by Vince Scheidt, Biological Consultant, dated March 21, 2022 (Appendix B). The

impact analysis below is based on the analysis and findings of the Biology Field Survey and Wetland Survey.

The project site is currently undeveloped and supports two relatively discrete plant communities or habitat types: Diegan coastal sage scrub and disturbed habitat. The eastern and southern limits of the property are cleared, and the western portion of the site consists of mostly coastal sage scrub. This diverse, native vegetation type is dominated by California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), and other scrub species.

The project site supports a well-defined watercourse (Encinitas Creek) that runs along the northern portion of the property, entering the property from the east and exiting to the west. The creek is well-vegetated and runs through the canyon at the bottom of the property. The drainage was dry during field surveys of the project site; however, the surveys determined the creek carries significant flows during and briefly after major rainfall events. The watercourse qualifies as waters of the United States and waters of the state.

Impact Analysis

a. Would the project 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 regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated. Sensitive species are those plants and animals listed as Rare, Endangered, Threatened, or otherwise noteworthy by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service (USFWS), California Native Plant Society, National Audubon Society, City of Encinitas, or other conservation agencies, organizations, or local biologists. Two sensitive plant species and one sensitive animal species were detected during the Biology Field Survey prepared for the project.

Sensitive Plant Species

Two sensitive plant species were encountered on the project site during the Biology Field Survey prepared for the project: San Diego County viguiera (*Bahiopsis laciniata*) and San Diego marsh elder (*Iva hayesiana*). San Diego County viguiera, a California Rare Plant Rank of 4.3, is found on south-facing slopes on the eastern portion of the site. The species may have been first established in this canyon area as a result of hydroseeding of nearby areas. San Diego marsh elder, a California Rare Plant Rank of 2B.2, is patchy along the well-defined watercourse (Encinitas Creek) drainage area on site. It extends off site both upstream and downstream in a continuation of the drainage.

Additional sensitive plants are known to occur in the vicinity of the project site, including Orcutt's brodiaea (*Brodiaea orcuttii*), southwestern spiny rush (*Juncus acutus* ssp. *Leopoldii*), San Diego

sagewort (*Artemisia palmeri*), and others. None of these species were detected during the Biology Field Survey.

Implementation of the project would result in ground disturbance across approximately 1 acre (29,817 square feet) of the 2.47-acre site. This area of disturbance includes a 50-foot defensible space buffer that would be required between the proposed structures and open space to reduce wildfire hazards (refer to Section 2.4.20, Wildfire). Ground-disturbing activities across the site would result in impacts to sensitive plant species, including San Diego County viguiera and San Diego marsh elder. Implementation of Mitigation Measure BIO-1 would require dedicating a 1.47-acre easement on the northern portion of the property as compensatory, on-site biological open space (refer to Section 2.4.4[b], Biological Resources; Figure 5, Biological Resources), which would preserve the habitat in perpetuity. This area contains high-value Diegan coastal sage scrub and sensitive plant species. Brush management and other habitat mitigation requirements are established by Mitigation Measure BIO-1. With implementation of Mitigation Measure BIO-1, project implementation would result in less than significant impacts to sensitive plant species.

Sensitive Animal Species

California gnatcatcher (*Polioptila californica*), a federally threatened species and Species of Special Concern as identified by the California Department of Fish and Wildlife, occurs in coastal scrubs and chaparral scrub habitats. A single California gnatcatcher was observed near the central portion of the property within the Diegan Coastal Sage Scrub. Given the presence of California gnatcatcher during the Biological Field Survey, a protocol California gnatcatcher presence/absence survey was performed to determine if the project site is occupied by California gnatcatcher. The California gnatcatcher presence/absence survey found that, while the project site supports Diegan coastal sage scrub that is suitable habitat for California gnatcatcher foraging, it is impacted to a degree by edge effects from adjoining development. With respect to California gnatcatcher occupancy, the quality of the on-site habitat is considered moderate, based mostly on the influence of edge effects. Based on the quality of the habitat and observation during the nesting season, it is likely that California gnatcatcher breeds nearby and uses the property for foraging. The specimens detected were persistent in a single small area of the site within the Diegan coastal sage scrub habitat, possibly near a nest site. Specimens were never observed on any other areas of the project site.

The Biological Field Survey concluded that a few wide-ranging sensitive animals, such as various native bats (e.g., *Eumops*, *Nyctinomops*, others) and fossorial reptiles (e.g., *Eumeces, Diadophis*) could use the project site in relatively low numbers. However, given the size of the property, no significant populations of additional sensitive animals would be expected.

Because the Diegan coastal sage scrub vegetation is considered “occupied” by California gnatcatcher, the project would be required by Mitigation Measure BIO-2 to secure project clearances from the USFWS to cover incidental take of this federally listed species. A “low effect”

Habitat Conservation Plan screening form would be submitted to the USFWS and provided to the City prior to grading plan approval Additionally, Mitigation Measure BIO-3 would prohibit site grading and vegetation removal during the spring/summer bird breeding season, defined as from January 1 to August 31 of each year. Mitigation Measure BIO-3 is required in order to ensure compliance with the Sections 3503, 3503.5, 3511, and 3513 of the California Fish and Game Code and the Migratory Bird Treaty Act and would minimize chances for the incidental take of migratory songbirds or raptors. If grading or other habitat-disturbing activities are necessary during the bird breeding season, a pre-construction nesting survey of all areas within 300 feet of the proposed activity shall be required. The results of the survey shall be provided in a report to the City's Director of Planning for concurrence with the conclusions and recommendations.

With implementation of Mitigation Measure BIO-2 and Mitigation Measure BIO-3, project implementation would result in less than significant impacts to sensitive animal species.

b. Would the project 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 US Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated. Sensitive vegetation communities consist of the following:

- Those recognized as "sensitive" by the City of Encinitas or the wildlife agencies (California Department of Fish and Wildlife and USFWS)
- Those which are known to be rare within the region
- Those which are known to support populations of sensitive animal or plant species
- Those which serve as important wildlife corridors

The project site currently supports two discrete plant communities or habitat types: Diegan coastal sage scrub and disturbed habitat (Figure 5). Diegan coastal sage scrub is considered sensitive by the City and the wildlife agencies. The on-site habitat is constant with stands on the natural lands to the west. In addition, a well-vegetated watercourse (Encinitas Creek) runs through the canyon at the bottom of the property.

Diegan Coastal Sage Scrub

The majority (1.82 acres) of the project site supports Diegan coastal sage scrub vegetation. Indicators include California sagebrush, flat-top buckwheat, laurel sumac, and other native shrubs. Most of the Diegan coastal sage scrub on the site is found on the south- and west-facing slopes. Diegan coastal sage scrub is considered a sensitive habitat type of high biological resource value.

Disturbed Habitat

Disturbed habitat (0.65 acre) is found on the southern and eastern limits of the property. This vegetation is associated with ongoing clearing presumably a result of fuel management along Wishbone Way and the neighboring residential property to the south. The vegetation consists of mostly ruderal weeds including black mustard (*Brassica nigra*), castor bean (*Ricinus communis*), tocalote (*Centaurea melitensis*), and many others. Also present in this area are non-native ornamentals along the southern and western property limits. Disturbed habitat is of little to no biological resource value and is not considered a sensitive habitat type.

Implementation of the project would result in ground disturbance, including a minimum of 50 feet of brush clearing from the proposed habitable structure, across approximately 1 acre (29,817 square feet) of the 2.47-acre site. However, the design of the project locates the proposed structures at the southeastern corner of the property, over the previously disturbed areas of the project site. Therefore, the project would impact only 0.42 acre of Diegan coastal sage scrub habitat. To mitigate for impacts to 0.42 acre of Diegan coastal sage scrub habitat at a 2:1 ratio, a 1.47-acre biological open space easement would be dedicated on the northern portion of the property (Figure 5) (County of San Diego 2010). This area contains high-value Diegan coastal sage scrub. Mitigation Measure BIO-1 would also require brush management and other habitat mitigation requirements for the open space easement. With implementation of Mitigation Measure BIO-1, project implementation would result in less than significant impacts to sensitive habitats.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant with Mitigation Incorporated. The project site supports a well-defined watercourse (Encinitas Creek), that runs along the northern portion of the property, entering the property from the east and exiting to the west. The condition of the watercourse consists of exposed rock and cobbles through the majority of the area. The creek is well-vegetated and runs through the canyon at the bottom of the property. While the drainage was dry during field surveys of the project site, the surveys determined the creek carries significant flows during and briefly after major rainfall events. The watercourse qualifies as waters of the United States and waters of the state.

The proposed grading plan avoids and provides a buffer between the watercourse and the proposed development (see Figure 5), placing the entirety of the drainage and a suitable biological buffer of approximately 50 feet into the biological open space easement required by Mitigation Measure BIO-1. No clearing or other construction activities would take place in the creek or the biological buffer area. This would protect the watercourse and the adjoining areas of sensitive upland coastal sage scrub vegetation within the buffer. As such, the project would not impact through, discharging into, directly removing, filling, or hydrologically interrupting, any federally protected wetlands,

and no significant impacts would occur to state or federally protected wetlands. Therefore, impacts would be less than significant with implementation of Mitigation Measure BIO-1.

d. Would the project 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?

Less Than Significant with Mitigation Incorporated. The vegetated area along the watercourse (Encinitas Creek) is likely a corridor for wildlife due to the habitat on site, such as amphibians and reptiles, moving from areas north of the creek to the open space area southwest of the project site. The creek could also be used by aquatic species to move up or downstream during periods of high flow. Activities at the project site could result in temporary impacts related to the movement of fish and wildlife species that may use this corridor due to construction-related noise and work within the vicinity. However, construction activities would be temporary and short-term. No construction would occur within the drainage or sewer easement, and a buffer of approximately 50 feet would protect the corridor from the proposed development. Following construction, no impacts to this area would occur.

Further, bird breeding season avoidance would be implemented under Mitigation Measure BIO-3, and if an active nest is observed, avoidance measures would be implemented. Therefore, impacts would be less than significant with mitigation incorporated.

e. Would the project conflict with any applicable policies protecting biological resources?

Less Than Significant with Mitigation Incorporated. Policy 3.6 — of the Encinitas General Plan Resource Management Element states, "Future development shall maintain significant mature trees to the extent possible and incorporate them into the design of development projects" (City of Encinitas 2011). In addition, the City's Climate Action Plan (CAP) includes Goal 7.1 to increase urban tree cover by encouraging developers to avoid the removal of any mature trees when a property is developed or redeveloped. If the removal of mature trees in unavoidable, trees are required to be replaced at a 1:1 ratio. Several large trees border the project site along the western side of Wishbone Way to screen existing views of the vacant project site. Project implementation would require removal of these trees to support construction of the proposed driveway and vehicle turnaround. Therefore, in compliance with the CAP and Policy 3.6, these trees would be required to be replaced at a 1:1 ratio.

According to the Encinitas Municipal Code, Title 30, Chapter 30.34.050, the project is located within a Cultural/Natural Resources Overlay Zone, where site-specific analysis of a parcel of land indicates the presence of important human-made cultural and historical resources and ecologically sensitive plant and animal habitats. The project has undertaken site-specific surveys, a site-specific assessment has been prepared, and project-specific mitigation measures have been applied, as discussed below.

Additionally, Policy 10.1 of the Encinitas General Plan Resource Management Element states, "The City will minimize development impacts on coastal mixed chaparral and coastal sage scrub environmentally sensitive habitats by preserving within the inland bluff and hillside systems, all native vegetation on natural slopes of 25% grade and over other than manufactured slopes" (City of Encinitas 2011). Construction of the proposed single-family residence and ADU would result in impacts to 0.42 acre of Diegan coastal sage scrub on the site. However, the design of the project locates the proposed structures at the southeast corner of the property, over the previously disturbed areas of the project site, to minimize the impact on the Diegan coastal sage scrub habitat. To mitigate for impacts to 0.42 acre of Diegan coastal sage scrub habitat, a 1.47-acre biological open space easement would be dedicated on the northern portion of the property, which contains high-value Diegan coastal sage scrub habitat. Mitigation Measure BIO-1 would also require brush management and other habitat mitigation requirements for the open space easement. Therefore, with implementation of Mitigation Measure BIO-1, project implementation would be consistent with Policy 10.1 of the Encinitas General Plan Resource Management Element. Impacts to applicable policies protecting biological resources would be less than significant with mitigation.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?

Less Than Significant with Mitigation Incorporated. The project site is subject to the Natural Community Conservation Plan for the San Diego Multiple Habitat Conservation Program. As previously described, the Diegan coastal sage scrub habitat on site is considered "occupied" by California gnatcatcher, which is covered under the Natural Community Conservation Plan. As such, project implementation would require project clearances from the USFWS to cover incidental take of this federally listed species. A "low effect" Habitat Conservation Plan screening form would be submitted to the USFWS to the City of Encinitas, prior to grading plan approval as required by Mitigation Measure BIO-2.

Additionally, Mitigation Measure BIO-3 would prohibit site grading and vegetation removal during the spring/summer bird breeding season, defined as from January 1 to August 31 of each year. If grading or other habitat-disturbing activities are necessary during the bird breeding season, a pre-construction nesting survey of all areas within 300 feet of the proposed activity shall be required. The results of the survey shall be provided in a report to the City's Director of Planning for concurrence with the conclusions and recommendations.

With implementation of Mitigation Measure BIO-2 and Mitigation Measure BIO-3, project implementation would result in less than significant impacts to the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable Habitat Conservation Plan, and the project would not conflict with the Natural Community Conservation Plan. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential biological resources impacts are mitigated to levels that are less than significant.

BIO-1: **On-Site Open Space Easement.** Mitigation for impacts to Diegan coastal sage scrub is required at a ratio of 2:1. Therefore, since the project would impact 0.42 acre of Diegan coastal sage scrub, 0.84 acre of habitat mitigation is required (Table 1, Diegan Coastal Sage Scrub Impact and Mitigation). A 1.47-acre biological open space easement on the northern portion of the property shall be dedicated as compensatory, on-site biological open space (Figure 5). Table 1 presents habitat mitigation requirements associated with the project footprint, which include brush management. The project applicant will need to prepare a long-term management plan for the biological open space and provide an entity and source of funding to maintain the biological open space in perpetuity. The preparation and approval of this plan will be a condition of project approval.

Table 1. Diegan Coastal Sage Scrub Impact and Mitigation

Biological Resource	Pre-Development Acreage	Potential Impact[1]	Applicable Mitigation Ratio	Required Mitigation	Acres within On-Site Open Space
Diegan Coastal Sage Scrub	1.82 acres	0.42 acre	2:1	0.84 acre	1.40 acres[2] less 0.17 acres
Disturbed Habitat	0.65 acre	0.58 acre	N/A	N/A	0.07 acre
Total	**2.47 acres**	**1.05 acres**	**N/A**	**0.92 acre**	**1.30 acres[3]**

Source: Appendix A.

Notes:

[1] Includes 50 to 70 feet of brush clearing from the edge of the habitable structures.

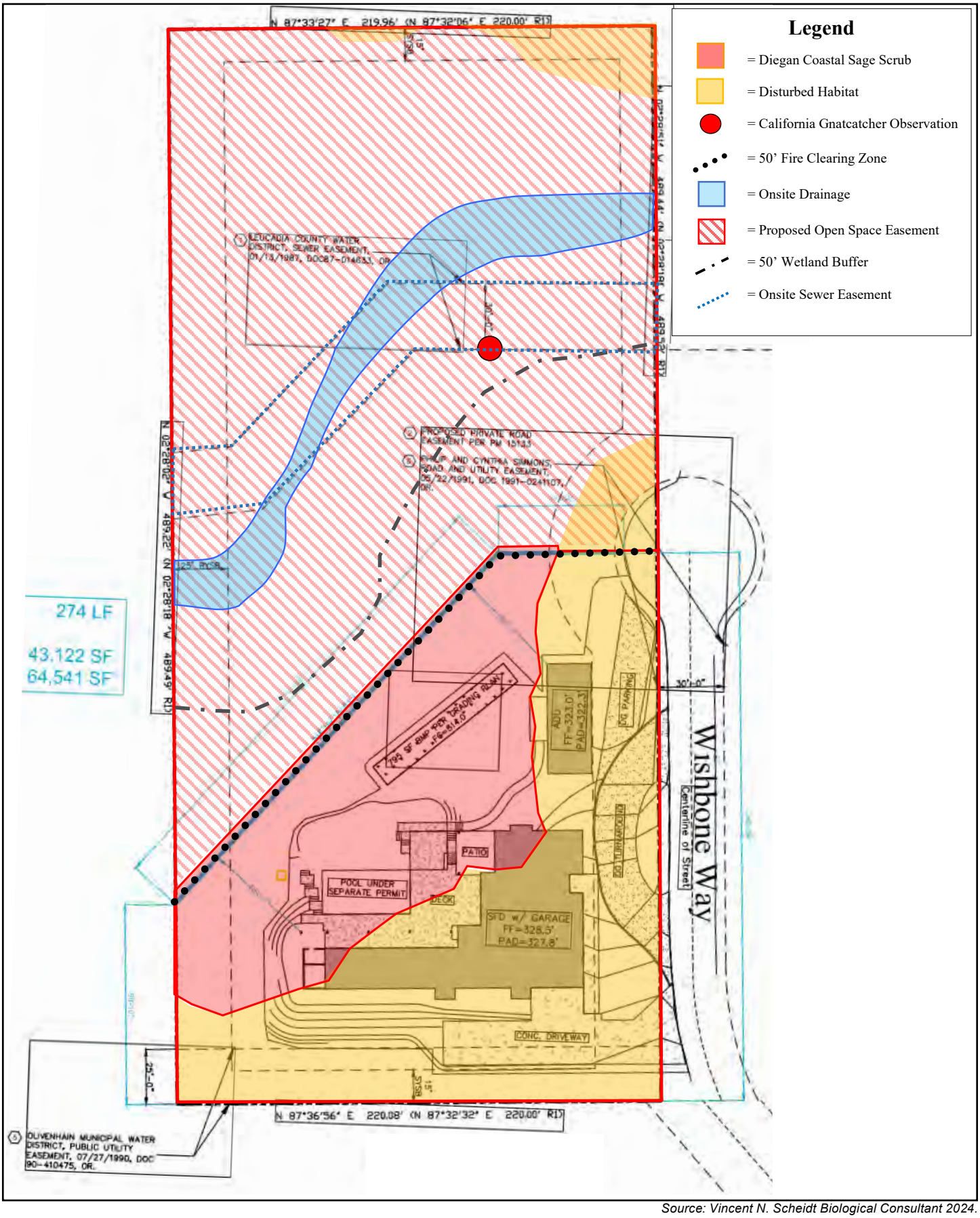
[2] Represents excluded 0.17-acre sewer easement.

[3] The 1.30 acres of vegetation within open space excludes a 0.17-acre sewer easement area.

BIO-2: **Incidental Take of California Gnatcatcher.** The applicant shall secure project clearances from the U.S. Fish and Wildlife Service to cover incidental take of the federally listed California gnatcatcher. A "low effect" Habitat Conservation Plan screening form has been prepared and shall be submitted to the U.S. Fish and Wildlife Service. Completion of a "low effect" Habitat Conservation Plan screening form shall grant issuance of a low effect incidental take permit and ensure compliance with Section 10 of the Endangered Species Act. The U.S. Fish and Wildlife Service shall review and approve prior to grading plan approval. A copy of the approval shall be provided to the City. Construction must take place outside the California gnatcatcher breeding season, defined as from February 15 to August 31 of each year. If construction cannot be delayed to outside the breeding season, pre-construction surveys shall be required. Seasonal restrictions on grading, clearing, modification, and noise—generating construction activities to avoid general avian breeding impacts in compliance with the Migratory Bird Treaty Act and

the California Fish and Game Code include the following: No habitat removal shall be permitted during the period of February 15–August 31. If vegetation clearing or construction cannot be avoided during the breeding season, then pre-construction nest clearance surveys shall be conducted no more than 3 days prior to the start of activities. If a nest is found, a no-work buffer zone shall be established around the nest until the young have fledged, as determined by a qualified biologist. The width of the buffer zone shall be determined by a qualified biologist based on the species, and this width shall be approved by the City.

BIO-3: **Avoidance of Migratory Bird and Raptor Nests.** Site grading and vegetation removal within 300 feet of any potential migratory bird or raptor nesting location shall not be permitted during the spring and summer bird breeding season, defined as between 1 January to 31 August of each year, to minimize the chances for the incidental take of migratory songbirds or raptors. This is required in order to ensure compliance with the Sections 3503, 3503.5, 3511, and 3513 of the California Fish and Game Code and the Migratory Bird Treaty Act. If it is necessary to conduct grading or other habitat-disturbing activities during the bird breeding season, a pre-construction nesting survey of all areas within 300 feet of the proposed activity shall be required no more than 72 hours before the start of vegetation grubbing, trimming, or clearing to determine if active bird nests are present in the affected areas. The results of the nesting survey shall be provided in a report to the City of Encinitas' Director of Planning for concurrence with the conclusions and recommendations. If one or more active nests are found during the pre-construction survey, a buffer of appropriate size based on species or observed behavior shall be established around the nest and marked on the construction plans, and no disturbance shall be allowed within the buffer until a qualified biologist determines that the nest is no longer active. If no nesting birds (including nest building or other breeding or nesting behavior) are found, grubbing, trimming, or clearing shall proceed.



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Source: Vincent N. Scheidt Biological Consultant 2024.

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Figure 5
Biological Resources

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2.4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Environmental Setting

A Cultural Resource Survey Report was prepared for the project by Laguna Mountain Environmental, Inc., dated October 2023 (Appendix C) to identify any cultural resources within the project impact area. The Cultural Resource Survey Report included research of literature and record searches at local archaeological repositories, in addition to an examination of historical maps, and historic site inventories. This information was used to identify previously recorded resources and determine the types of resources that might occur in the survey area. The records and literature search for the project was conducted at the South Coastal Information Center at San Diego State University. The records search included a 1-mile radius of the project site to provide background on the types of sites that would be expected in the region.

An archaeological field survey was conducted on February 17, 2022, to identify any unrecorded resources on the project site. Noah Deragon, of Jamul Indian Village, served as Native American monitor during the archaeological field survey. The impact analysis below is based on the analysis and findings of the Cultural Resource Survey Report (Appendix C).

Historical maps and aerial photographs of the area indicate that the project was not disturbed by agricultural use in the past and only the southeast corner has been graded in the last 10 years. Tree plantings along the west side of Wishbone Way in 2003 border the project site and may have disturbed this very edge of the parcel.

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact. The records search prepared as part of the Cultural Resource Survey Report concluded that no cultural resources have been recorded on the project site; however, 19

cultural resources have been recorded within 1 mile of the project site, including 18 prehistoric resources and one historical resource. The nearby historic site is the ruins of an adobe residence built in 1842 by Andres Ibarra, now located on the slope of Stagecoach Community Park in Carlsbad. The absence of historical resources found on the project site during the records search and field survey indicates that the potential for impacts to a historical resource is very low. Therefore, impacts would be less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant with Mitigation Incorporated. As described above, the records search prepared as part of the Cultural Resource Survey Report concluded that, while no cultural resources have been recorded on the project site, 18 prehistoric resources have been recorded within 1 mile of the project site. The prehistoric resources consist of primarily habitation and camp sites along with lithic scatters and an isolate. No prehistoric cultural resources were observed on the project site during the archaeological field survey. The project site overall was brush-covered and dominated by slopes. Santiago Peak Volcanic rock outcrops were present, but the quality of the material was too coarse for the production of stone tools. A portion of the area has been previously disturbed by a sewer line through the northwestern corner of the project and a few associated and mechanically made Santiago Peak Volcanic rock chips were present in this area. The sloping habitat appears to have been generally unsuitable for prehistoric occupation and use. The absence of prehistoric resources on the project site and the limited potential for buried cultural resources indicates that the potential for impacts to a prehistorical resource is very low. However, as described in Section 2.4.18, Tribal Cultural Resources, through AB 52 consultation, there is potential for unknown buried cultural resources to be uncovered during project construction. Therefore, Mitigation Measures CUL-1 through CUL-6 shall be implemented by requiring monitoring during construction and implementation of a Cultural Resource Mitigation Monitoring Program for proper treatment if artifacts are found.

With implementation of Mitigation Measures CUL-1 through CUL-6, project implementation would result in less than significant impacts to unknown archaeological resources.

c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact. Based on an analysis of records and a field survey of the property, it has been determined that the project is not likely to disturb any human remains because the project site does not include a formal cemetery or any archaeological resources that might contain interred human remains. In the unlikely event that human remains are encountered on site during earth-disturbing activities, the project would comply with state and federal laws and regulations regarding human remains (i.e., California Public Resources Code, Section 5097.98; CEQA

Guidelines, Section 15064.5; and California Health and Safety Code, Section 7050.5). Therefore, potential impacts to disturbance of human remains would be less than significant.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential cultural resources impacts are mitigated to a less than significant level.

CUL-1: **Unknown Resources.** Due to the high potential for uncovering unknown subsurface archaeological resources, including Native American tribal cultural resources, cultural resource mitigation monitoring shall be undertaken for any and all on-site and off-site ground-disturbing activities. If on-site and/or off-site ground-disturbing activities (e.g., exploratory trenching or excavations) are required for any informal or formal solicitation (written or spoken) of construction bids or similar requirements, all applicable requirements identified in Mitigation Measures CUL-2 through CUL-6 shall be undertaken by the applicant and/or owner.

CUL-2: **Cultural Resource Mitigation Monitoring Program.** A Cultural Resource Mitigation Monitoring Program shall be conducted to provide for the identification, evaluation, treatment, and protection of any cultural resources that are affected by or may be discovered during the construction of the proposed project. The monitoring shall consist of the full-time presence of a qualified archaeologist and a traditionally and culturally affiliated Native American monitor for, but not limited to, any clearing or grubbing of vegetation; tree removal; demolition and/or removal of remnant foundations, pavements, abandonment, and/or installation of infrastructure; grading or any other ground-disturbing or altering activities, including the placement of imported fill materials (note: all fill materials shall be absent of any and all cultural resources); and related road improvements. Other tasks of the monitoring program shall include the following:

1. The requirement for cultural resource mitigation monitoring shall be noted on all applicable construction documents, including demolition plans and grading plans.
2. The qualified archaeologist and traditionally and culturally affiliated Native American monitor shall attend all applicable pre-construction meetings with the contractor and/or associated subcontractors.
3. The qualified archaeologist shall maintain ongoing collaborative consultation with the traditionally and culturally affiliated Native American monitor during all ground-disturbing or altering activities, as identified above.
4. The qualified archaeologist and/or traditionally and culturally affiliated Native American monitor may halt ground-disturbing activities if archaeological artifact deposits or cultural features are discovered. In general, ground-disturbing activities shall be directed away from these deposits for a short time to allow a determination

of potential significance, the subject of which shall be determined by the qualified archaeologist and the traditionally and culturally affiliated Native American monitor, in consultation with the traditionally and culturally affiliated tribes. Ground-disturbing activities shall not resume until the qualified archaeologist, in consultation with the traditionally and culturally affiliated Native American monitor, deems that the cultural resource or feature has been appropriately documented and/or protected. At the discretion of the qualified archaeologist, the location of ground-disturbing activities may be relocated elsewhere on the project site to avoid further disturbance of cultural resources.

5. The avoidance and protection of discovered unknown and significant cultural resources and/or unique archaeological resources is the preferable mitigation for the proposed project. If avoidance is not feasible, a Data Recovery Plan may be authorized by the City as the lead agency under California Environmental Quality Act. If a data recovery is required, then the traditionally and culturally affiliated tribes shall be notified and consulted in drafting and finalizing any such recovery plan.
6. The qualified archaeologist and/or traditionally and culturally affiliated Native American monitor may also halt ground-disturbing activities around known archaeological artifact deposits or cultural features if, in their respective opinions, there is the possibility that they could be damaged or destroyed.

CUL-3: **Pre-Excavation Agreement.** Prior to the issuance of a grading permit, and subject to approval of terms by the City, the applicant or owner and/or contractor shall enter into a Pre-Excavation Agreement with a traditionally and culturally affiliated tribe. The purpose of this agreement shall be to formalize protocols and procedures between the applicant or owner and/or contractor and the traditionally and culturally affiliated tribe for the protection and treatment of, but not limited to, such items as Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, and traditional gathering areas and cultural items, located and/or discovered through the cultural resource mitigation monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, soil surveys, grading, or any other ground-disturbing activities.

CUL-4: **Native American Monitoring.** Prior to the issuance of a grading permit, the applicant or owner and/or contractor shall provide a written and signed letter to the City's Director of Development Services, stating that a City-approved qualified archaeologist and a traditionally and culturally affiliated Native American monitor have been retained at the applicant or owner and/or contractor's expense to implement the monitoring program, as described in the pre-excavation agreement. A copy of the letter shall be included in the grading plan submittals for the grading permit.

CUL-5: **Monitoring Report.** Prior to the release of the grading bond, a Monitoring Report and/or Evaluation Report, which describes the results, analysis, and conclusions of the cultural resource mitigation monitoring efforts (such as, but not limited to, the Research Design and Data Recovery Program) shall be submitted by the qualified archaeologist, along with the traditionally and culturally affiliated Native American monitor's notes and comments, to the City's Director of Development Services for approval.

CUL-6: **Ownership of Resources.** The landowner shall relinquish ownership of all tribal cultural resources collected during the cultural resource mitigation monitoring conducted during all ground-disturbing activities and from any previous archaeological studies or excavations on the project site to the traditionally and culturally affiliated tribes for respectful and dignified treatment and reburial on project site, including reburial, in accordance with the tribe's cultural and spiritual traditions. All cultural materials that are associated with burial and/or funerary goods shall be repatriated to the most likely descendant as determined by the Native American Heritage Commission per California Public Resources Code, Section 5097.98.

2.4.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Environmental Setting

The Encinitas 2020 CAP establishes measures for building efficiency and renewable energy (City of Encinitas 2020). The City of Encinitas Green Building Ordinance includes requirements in order for new development to meet the goals of the Encinitas 2020 CAP. Based on the type of development, the City provides various compliance checklists for new developments to ensure consistency with Green Building Ordinance requirements. The compliance checklist for single-family residential development (Appendix D) includes the following requirements for new single-family residential construction (includes new, detached ADUs) related to energy conservation and renewable energy:

- All newly constructed single-family buildings are required to install solar photovoltaic equipment sized according to California Title 24, Part 6, Energy Code, Section 150.10(a), which otherwise applies to newly constructed buildings.
- For each family dwelling, a dedicated 208/240-volt branch circuit shall be installed in the raceway required by Section 4.106.4.1 ("EV-Ready"). The branch circuit and overcurrent protective device shall be rated at 40 amperes minimum.
- Newly constructed single-family dwellings shall be pre-plumbed for a graywater system in accordance with Chapter 15 of the California Plumbing Code and including a connection to in a convenient location for integration of the graywater system with landscape irrigation systems and accepting graywater from all sources permissible in conformance with the definition of graywater as per Section 14876 of the California Water Code.

The 2022 California Building Code and California Green Building standards Code (CALGreen) also include requirements for single-family homes relating to building energy efficiency and renewable energy.

Impact Analysis

a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. The project would result in the use of electricity, natural gas petroleum, and other consumption of energy resources during both the construction and operation phases of the project; however, the consumption is not expected to be wasteful, inefficient, or unnecessary for the following reasons.

The proposed project would use only the amount of energy necessary for the construction and operation of the proposed single-family residence and ADU that is typical of residential development. All new construction would be required to comply with the California energy code in effect at the time of construction, which ensures efficient building construction. Additionally, given the proposed raised foundations for the single-family residence and ADU structures, site grading would be limited.

The project would comply with the City's Green Building Ordinance, 2022 California Building Code, and CALGreen, as well as all other federal and state regulations relating to energy efficiency. The applicant proposes to install rooftop solar panels with at least 1.5 watts per square feet or a minimum of 2 kilowatts per home in accordance with the City's Green Building Ordinance, Encinitas CAP Measure RE-2, and 2022 CALGreen requirements. Installation of solar panels would minimize the project's electricity demand from the power grid. The project would also install a graywater system in compliance with the City's Green Building Ordinance and a solar water heater in compliance with the Encinitas CAP Measure BE-2. Additional measures, such as efficient water usage, high-efficiency LED street and area lighting, and composting, would be employed by the project. The project would also implement an EV-Ready garage in compliance with the City's Green Building Ordinance and CAP. Therefore, the construction and operation of the project are not expected to result in the wasteful or inefficient use of energy, and impacts would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The Encinitas 2020 CAP establishes measures for building efficiency and renewable energy. The project would comply with all applicable measures identified in the Encinitas CAP. Further, the project would comply with the 2022 California Building Code and CALGreen, as well as all other federal and state regulations relating to energy efficiency and renewable energy. For example, the applicant proposes to install rooftop solar panels with at least 1.5 watts per square feet or a minimum of 2 kilowatts per home in accordance with 2022 CALGreen requirements and the Encinitas CAP Measure RE-2. Installation of solar

panels would minimize the project's electricity demand from the power grid. The project would also install a solar water heater in compliance with the Encinitas CAP Measure BE-2. Additional measures, such as efficient water usage and high-efficiency LED street and area lighting, would be employed by the project in accordance with 2022 CALGreen requirements. Composting service would also be implemented at the proposed residence and ADU consistent with Citywide waste services. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. 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?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

A Preliminary Geotechnical Investigation and Recommendations document (Geotechnical Study) was prepared for the project by Engineering Design Group, dated December 22, 2021 (Appendix E). The impact analysis below is based on the analysis and findings of the Geotechnical Study.

Impact Analysis

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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.

ii. Strong seismic ground shaking?

Less Than Significant Impact. The project site is not within a mapped Alquist-Priolo Fault Zone. However, the Geotechnical Study concluded that, given the seismically active nature of Southern California, the site could be subjected to moderate to severe ground shaking in the event of a major earthquake along any of the faults in the Southern California region. The seismic risk at the project site is similar to that of the surrounding developed area.

The effects of seismic shaking can be reduced by adhering to the most recent edition of the California Building Code and current design parameters of the Structural Engineers Association of California. The project would be designed and constructed in compliance with the California Building Code design standards and the City's Grading Ordinance, and incorporate geotechnical recommendations from the Geotechnical Study to ensure soil stability and proper engineering design of the proposed single-family residence and ADU, thus reducing potential impacts related to strong seismic ground shaking to a less than significant level. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking, and impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose, granular soils underlain by a near-surface groundwater table are most susceptible to liquefaction, while the stability of most silty sands and clays is not adversely affected by vibratory motion. Because of the dense nature of the soil materials underlying the site and the lack of near surface water, the potential for seismic-related ground failure, including liquefaction, at the site is considered low (Appendix E).

The project would require approximately 965 cy of cut, 440 cy of fill, 525 cy of export, and 1,800 cy of remediation. To ensure that proposed project components are adequately supported, a Geotechnical Study (Appendix E) was prepared for the project, in compliance with the City's Building Permit process. The project would be designed and constructed in compliance with the California Building Code design standards and incorporate geotechnical recommendations from

the Geotechnical Study to ensure soil stability and proper engineering design of the proposed single-family residence and ADU, thus reducing potential impacts related to seismic-related ground failure to a less than significant level. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction, and impacts would be less than significant.

iv. Landslides?

Less Than Significant Impact. According to the Geotechnical Study prepared by Engineering Design Group for the project (Appendix E), geologic maps of the project site do not indicate landslide deposits at the area in and around the subject site. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides, and impacts would be less than significant.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction of the project would require grading, which has the potential to release sediment into downstream receiving watercourse (Encinitas Creek). However, the project would not result in substantial soil erosion or the loss of topsoil for the following reasons:

- Given the proposed raised foundations for the single-family residence and ADU structures, site grading would be limited.
- The project would not result in unprotected erodible soils. Topsoil, fill, and weathered unsuitable materials were encountered to depths more than 7 feet below adjacent grade in the exploratory borings conducted for the Geotechnical Study. These materials would be used as re-compacted fill if necessary, provided the recommendations of the Geotechnical Study are followed.
- The project would not alter existing drainage patterns and would not result in earthwork or construction activities in a floodplain, wetland, or significant drainage feature.
- A National Pollutant Discharge Elimination System (NPDES) General Construction Permit for stormwater discharges must be obtained from the State Water Resources Control Board (Region 9). The General Construction Permit requires best management practices (BMPs) be implemented, including erosion and sediment control, water flow dissipation, and off-site sediment tracking to prevent substantial soil erosion during construction (refer to Section 2.4.10, Hydrology and Water Quality).
- A Hydrology and Hydraulics Study was prepared by Ardolino Coastal Engineering for the project (Appendix F). Proposed new stormwater drainage facilities would include a biofiltration basin to capture runoff and protect downstream resources.
- The project would be required to comply with the Encinitas Grading Ordinance. Compliance with these regulations would minimize the potential for water and wind erosion.

Due to these factors, the project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant.

c. Would the project 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?

Less Than Significant Impact. The Geotechnical Study (Appendix E) concluded that the potential for lateral spreading, liquefaction, subsidence or seismically induced dynamic settlement at the site is considered low due to the dense nature of the soil materials underlying the site and the lack of near surface water. Further, the project would be designed and constructed in compliance with the California Building Code design standards and incorporate geotechnical recommendations from the Geotechnical Study to ensure soil stability and proper engineering design of the proposed single-family residence and ADU, thus reducing potential impacts related to an unstable geologic unit or soil to a less than significant level. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslide, lateral spreading, subsidence, liquefaction, or collapse, and impacts would be less than significant.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. The exploratory test trenches conducted for the Geotechnical Study (Appendix E) encountered two soil types below the project site, including topsoil, fill, and weathered materials, as well as granitic material. Laboratory tests indicate that topsoil, fill, and weather materials have a very high potential for expansion, and are not considered suitable for the support of structures and structural improvements in their present state; however, these materials may be used as re-compacted fill below 2 feet of pad subgrade where interior slab on grade floors are proposed, provided the recommendations of the Geotechnical Study are followed. Granitic material is considered suitable for the support of structures and structural improvements, provided the recommendations of the Geotechnical Study are followed as well. Therefore, the Geotechnical Study recommends a 2-foot cap of import material with very low expansion potential in areas of proposed new slab-on-grade floors.

The project would be designed and constructed in compliance with the California Building Code design standards and incorporate geotechnical recommendations from the Geotechnical Study to ensure soil stability and proper engineering design of the proposed single-family residence and ADU, thus reducing potential impacts related to geologic units or soils to a less than significant level. Therefore, the project would not create a substantial risk to life or property, and impacts would be less than significant.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project does not propose any septic tanks or alternative wastewater disposal systems. The project's wastewater would connect to sewer lines and facilities operated and maintained by the Leucadia Wastewater District. Therefore, the project would have no impact related to the use of septic tanks or alternative wastewater disposal systems.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated. Impacts on paleontological resources occur when excavation activities encounter fossiliferous geological deposits and cause physical destruction of fossil remains. Fossil remains, fossil sites, fossil-producing geologic formations, and geologic formations with the potential for containing fossil remains are considered paleontological resources or have the potential to be paleontological resources. Fossil remains are considered important if they are well preserved, identifiable, type/topotypic specimens, age diagnostic, useful in environmental reconstruction, and/or represent new, rare, and/or endemic taxa. The potential for impacts on fossils depends on the sensitivity of the geologic unit and the amount and depth of grading and excavation.

According to the California Department of Conservation Geologic Map of California (DOC 2022b), the project site is underlain with Cretaceous and Pre-Cretaceous metamorphic formations of sedimentary and volcanic origin and, more specifically, Santiago Peak Volcanic rocks, which have a high or moderate paleontological potential. Therefore, it is assumed that the project site is considered sensitive for paleontological resources. The project would involve limited grading and excavation, which could result in the unanticipated discovery of paleontological resources during ground-disturbing activities, as well as the potential to damage or destroy paleontological resources that may be present below the ground surface. Therefore, Mitigation Measure GEO-1 includes a Paleontological Data Recovery and Monitoring Plan as a condition of approval for the potential discovery of buried resources. With implementation of Mitigation Measure GEO-1, impacts related to paleontological resources would be less than significant.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential paleontological resources impacts are mitigated to levels that are less than significant.

GEO-1: Qualified Paleontologist and Paleontological Data Recovery and Monitoring Plan. Prior to grading permit issuance, grading and excavation activities, and building permit issuance, the project applicant shall hire a qualified paleontologist to monitor the site. A qualified paleontologist is defined as an individual who has a master of science or doctorate degree

in paleontology or geology and who is a recognized expert in the identification of fossil materials and the application of paleontological recovery procedures and techniques. If resources are identified, a paleontological monitoring and recovery program shall be completed consisting of the following measures, which shall be included on project grading plans to the satisfaction of the City of Encinitas' Development Services Department:

1. The project applicant shall retain the services of a qualified paleontologist to conduct a paleontological monitoring and recovery program. As part of the monitoring program, a paleontological monitor may work under the direction of a qualified paleontologist. A paleontological monitor is defined as an individual having experience in the collection and salvage of fossil materials.
2. The qualified paleontologist shall attend the project pre-construction meeting to consult with the grading and excavation contractors concerning the grading plan and paleontological field techniques.
3. The qualified paleontologist or paleontological monitor shall be on site on a full-time basis during the original cutting of previously undisturbed portions of the underlying very old paralic deposits. If the qualified paleontologist or paleontological monitor ascertains that the noted formations are not fossil-bearing, the qualified paleontologist shall have the authority to terminate the monitoring program.
4. If fossils are discovered, recovery shall be conducted by the qualified paleontologist or paleontological monitor. In most cases, fossil salvage can be completed in a short period of time, although some fossil specimens (such as a complete large mammal skeleton) may require an extended salvage period. In these instances, the paleontologist (or paleontological monitor) shall have the authority to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner.
5. If subsurface bones or other potential fossils are found anywhere on the project site by construction personnel in the absence of a qualified paleontologist or paleontological monitor, the qualified paleontologist shall be notified immediately to assess their significance and make further recommendations.
6. Fossil remains collected during monitoring and salvage shall be cleaned, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall be deposited (as a donation) in a scientific institution with permanent paleontological collections, such as the San Diego Natural History Museum.

Prior to building permit issuance, a final summary report outlining the results of the mitigation program shall be prepared by the qualified paleontologist and submitted to the City of Encinitas' Development Services Department for concurrence. This report shall include discussions of the methods used, stratigraphic sections exposed, fossils collected, and significance of recovered fossils, as well as appropriate maps.

2.4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Setting

The Encinitas 2020 CAP incorporates the 2019 Housing Element Update residential units into the growth projections and presents associated updates and revisions to the CAP measures. The Encinitas CAP sets a target to reduce emissions by 44 percent below 2012 levels by 2030. The CAP includes various strategies to help achieve that goal through building efficiency, renewable energy, water efficiency, clean and efficient transportation, reducing off-road equipment, zero waste, and carbon sequestration. Projects consistent with the CAP would result in less than significant GHG emissions. The Encinitas CAP does not provide a screening threshold to screen out projects that would result in a less than cumulatively considerable impact related to GHG emissions. However, the City of Encinitas Green Building Ordinance includes requirements in order for new development to meet the goals of the Encinitas 2020 CAP. The City's Green Building Ordinance requirements align with the following CAP strategies:

- **BE-1:** Adopt a Residential Energy Efficiency Ordinance
- **BE-2:** Require Decarbonization of New Residential Buildings
- **BE-3:** Adopt Higher Energy Efficiency Standards for Commercial Buildings
- **BE-4:** Require Decarbonization of New Commercial Buildings
- **RE-2:** Require New Homes to Install Solar Photovoltaic (PV) Systems
- **RE-3:** Require Commercial Buildings to Install Solar Photovoltaic Systems
- **CET-4:** Require Residential Electric Vehicle Charging Stations (EVCS)
- **CET-5:** Require Commercial Electric Vehicle Charging Stations (EVCS)

The City provides compliance checklists for new developments to ensure consistency with Green Building Ordinance requirements, based on the type of development. The Single-Family Green Building Checklist includes the following requirements for new single-family residential construction (includes new, detached ADUs):

- All newly constructed single-family buildings are required to install solar photovoltaic equipment sized according to California Title 24, Part 6, Energy Code, Section 150.10(a), which otherwise applies to newly constructed buildings.
- For each family dwelling, a dedicated 208/240-volt branch circuit shall be installed in the raceway required by Section 4.106.4.1 ("EV-Ready"). The branch circuit and overcurrent protective device shall be rated at 40 amperes minimum.
- Newly constructed single-family dwellings shall be pre-plumbed for a graywater system in accordance with Chapter 15 of the California Plumbing Code and including a connection to in a convenient location for integration of the graywater system with landscape irrigation systems and accepting graywater from all sources permissible in conformance with the definition of graywater as per Section 14876 of the California Water Code.

Impact Analysis

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. The proposed project would generate GHG emissions during construction and operation. However, the project would include construction and operation of only one single-family residence and one ADU. The proposed project would be constructed in compliance with the City's Green Building Ordinance requirements, with the inclusion of solar panels, an EV-Ready garage, and a graywater system. The City's Green Building Ordinance requirements were developed to meet the goals of the Encinitas 2020 CAP; therefore, the proposed project would be consistent with and would facilitate implementation of the CAP. Given the small nature of the project, the proposed project would not generate significant GHG emissions, and impacts would be less than significant.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The project would comply with applicable measures identified in the Encinitas CAP. The proposed project would be constructed in compliance with the City's Green Building Ordinance requirements, which were developed to meet the goals of the Encinitas 2020 CAP; therefore, the proposed project would be consistent with and would facilitate implementation of the CAP. The City's Green Building Ordinance for new single-family residential construction provides for solar panels; an EV-Ready garage; and a graywater system.

In addition, the CAP relies on the City's growth projections, which are developed based on proposed buildout of land uses identified in the Encinitas General Plan and planned for in the 2019 Housing Element Update. The Encinitas CAP climate projections assume buildout of the Encinitas General Plan, including the Housing Element Update. Therefore, a project that generates similar or fewer emissions than what is allowable under the existing Encinitas General Plan designation

would also comply with the Encinitas CAP. The proposed project would include construction and operation of one single-family residence and one ADU. Therefore, the proposed project would be consistent with the current land use designation and zoning of the site (Rural Residential [RR]). As such, the physical changes associated with project implementation, including construction and operational GHG emissions, are consistent with and were anticipated by the Encinitas General Plan, 2019 Housing Element Update, and CAP.

Further, the project would comply with the 2022 California Building Code and CALGreen, as well as all other federal and state regulations relating to energy efficiency and reduction of GHG emissions. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the GHG emissions, and impacts would be less than significant.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. 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 it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. 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, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

Environmental Setting

The California Health and Safety Code, Chapter 6.95, Section 25501(n)(1), defines a hazardous material as "any material that because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Thus, the term "hazardous material" is a broad term for all substances that may be hazardous, specifically including hazardous substances and hazardous waste. Substances that are flammable, corrosive, reactive, oxidizers, radioactive, combustible, or toxic are considered hazardous.

Impact Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. Construction activities associated with the project would involve the use of chemical substances, such as solvents, paints, fuel for equipment, and other potentially hazardous materials. These materials are common to typical construction activities and do not pose a significant hazard to the public or the environment. Adherence to regulations, including federal and local regulations, and standard protocols during the storage, transportation, disposal, and use of any hazardous materials would minimize the hazard to the public or the environment during construction. The project would not result in a significant hazard to the public or environment because all storage, handling, transport, use, and disposal of hazardous substances during construction would be in full compliance with local, state, and federal regulations.

Long-term operation of the proposed single-family residence and ADU would not involve large quantities of hazardous materials and would be consistent with operational activities associated with the surrounding residences. California Government Code, Section 65850.2, requires that no final certificate of occupancy or its substantial equivalent be issued unless there is verification that the owner or authorized agent has met, or is meeting, the applicable requirements of the California Health and Safety Code, Division 20, Chapter 6.95, Article 2, Sections 25500–25520. Project operation would not create a significant hazard to the public or the environment because it does not propose the storage, use, transport, use, or disposal of hazardous substances.

Therefore, due to the strict requirements that regulate hazardous substances and the fact that the initial planning, ongoing monitoring, and inspections would occur in compliance with local, state, and federal regulation, the project would not result in any potentially significant impacts related to the routine transport, use, and disposal of hazardous substances.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. As described above, storage, handling, transport, use, and disposal of hazardous substances during construction would be in full compliance with local, state, and federal regulations. Additionally, the project would not be located on a hazardous materials site (refer to Section 2.4.9[d], Hazards and Hazardous Materials). Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts would be less than significant.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. La Costa Canyon High School is located approximately 700 feet west of the project site. Long-term operation of the proposed single-family residence and ADU would not involve large quantities of hazardous materials and would be consistent with operational activities associated with the surrounding residences. Therefore, the project would not result in any potentially significant impacts related to the routine transport, use, and disposal of hazardous substances or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts related to emission or handling of hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would be less than significant.

d. Would the project 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 it create a significant hazard to the public or the environment?

No Impact. According to EnviroStor (DTSC 2023) and GeoTracker (SWRCB 2023), the project is not located on a hazardous materials site pursuant to California Government Code, Section 65962.5. Therefore, the proposed project would not result in a significant hazard to the public or the environment due to the presence of hazardous materials sites identified pursuant to California Government Code, Section 65962.5.

e. Would the project 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, result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. No public or private airports are within 2 miles of the project site, and the project site is outside an Airport Land Use Plan. The closest (public) airport is McClellan-Palomar Airport, approximately 4.8 miles northwest of the project site, and no private airstrips are within the immediate vicinity. Therefore, no impact would occur.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The project would not substantially impair an adopted Emergency Response Plan or Emergency Evacuation Plan. Project access has been designed in conformance with state law and local regulations and in coordination with the Encinitas Fire Department. The project complies with emergency access requirements, including turning radius and maneuverability of large emergency vehicles such as fire trucks and ambulances. Per Encinitas Fire Department emergency vehicle requirements, the paved width of Wishbone Way meets the requirement for a 24-foot-wide paved surface to provide all-weather driving capabilities, including the turnaround at the northern end of the cul-de-sac, and meets the 75,000-pounds-per-square-inch (psi) requirement. In

addition, the proposed driveway would be 16 feet wide and meeting the 75,000 psi requirement. The driveway would have an unobstructed vertical clearance of 13 feet and 6 inches per the Wildland Fire Protection Plan (FPP) (Appendix G) prepared for the project. Further, the project would be consistent with the current land use designation and zoning of the site (Rural Residential [RR]); therefore, the fire service associated with the project is consistent with and is anticipated by the Encinitas General Plan. Therefore, the project would not substantially impair an adopted Emergency Response Plan or Emergency Evacuation Plan, and impacts would be less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant with Mitigation Incorporated. As described further in Section 2.4.20, Wildfire, the project site is located in a Very High Fire Hazard Severity Zone as designated by the California Department of Forestry and Fire (CAL FIRE 2021). The open space to the north of the project site poses a wildland fire threat to the bordering homes. The City of Encinitas typically requires a 100-foot fuel modification buffer. However, the required 100-foot buffer can be reduced through recommendations and measures provided in a Fire Protection Plan. To avoid further impacts to Diegan coastal sage scrub habitat (refer to Section 2.4.4, Biological Resources), the project proposes a 50-foot defensible space buffer between the proposed structures and the open space easement, which would result in a 50-foot reduction in the typical 100-foot Fuel Modification Zone requirement established by the City. To mitigate for the reduction in defensible space, the Wildland FPP (Appendix G) requires the project to implement Mitigation Measure WF-1 and Mitigation Measure WF-2 to harden the proposed structures and increase the effectiveness of the defensible open space. Mitigation Measure WF-1 would require the deck, windows, and walls to have upgraded fire and ember resistance. Additionally, an emergency irrigation system would be required, which would reduce flame lengths and fire intensity should a fire occur. Under Mitigation Measure WF2, a 6-foot-tall masonry wall shall be installed, and landscaping shall be fire resistant, conforming to the City's accepted Fuel Modification Zone requirements for the Immediate Zone (property within 50 feet from the structures to the open space). These requirements minimize the chance for landscaping to ignite and spread fire to the proposed structures. In addition to implementing Mitigation Measure WF-1 and Mitigation Measure WF-2, the project would comply with- regulations relating to emergency access and water supply specified in the California Fire Code. Implementation of these fire safety standards would occur during the building permit process.

The location of the project in relation to the open space drainage, along with the additional requirements listed in the Wildland FPP (Appendix G), would substantially improve survivability of the proposed structures from fire and reduce the chance of ignition. In its overall fire hazard assessment of the project, the Wildland FPP (Appendix G) determined that the project would exceed the fire resistance and safety requirements prescribed in the California Fire Code. Based

on review of the project by City staff and through compliance with the Encinitas Fire Department's conditions, impacts would be less than significant with implementation of Mitigation Measure WF-1 and Mitigation Measure WF-2.

Mitigation Measures

Mitigation Measures WF-1 and WF-2 as outlined in Section 2.4.20, Wildfire, are required as part of the project to ensure that wildfire impacts are mitigated to levels that are less than significant.

2.4.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
iii. 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?	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Setting

A Hydrology and Hydraulics Study was prepared for the project by Ardolino Coastal Engineering, dated March 2024 (Appendix F). The impact analysis below is based on the analysis and findings of the Hydrology and Hydraulics Study (Appendix F).

The project site is currently undeveloped. The drainage characteristics of the site consist generally of sheet flow from the southeast to the northwest across moderate existing slopes into a natural drainage channel/watercourse (Encinitas Creek), which flows westerly across the site. Drainage from the cul-de-sac of Wishbone Way flows in a westerly direction and discharges onto the site into the watercourse before being routed into an underground storm drain system and ultimately discharging to the Pacific Ocean (Appendix F).

Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The proposed development consists of a single-family residence and an ADU, with an outdoor patio deck, pool areas, garage, concrete driveway, and decomposed granite turn around. The total impervious area of the project would be 9,962 sf. Construction of the project would require grading and other ground-disturbing activities that could result in erosion and siltation affecting the watercourse (Encinitas Creek). The project would incorporate an erosion control plan that would be approved by City and enforced by City inspectors on site. In addition, the project would incorporate various construction BMPs, including erosion and sediment control, water flow dissipation, off-site sediment tracking, and materials and waste management.

Operationally, the proposed drainage design for the project includes the construction of a single biofiltration basins located on the downhill side of the residence and ADU structures. The biofiltration basins would be used for detention and standard treatment of stormwater on the site. The Hydrology and Hydraulics Study (Appendix F) determined that the proposed development and storm drain design would be capable of not only safely conveying the 100-year storm runoff flow (refer to Section 2.4.10[c], Hydrology and Water Quality) but would include biofiltration to ensure that the discharge from the project site is treated and would not pose any significant impact or threat to the water quality of the Pacific Ocean or the public storm drain system. To ensure that stormwater quality issues are addressed to the maximum extent practical, the peak discharge for the project site would be used to adequately size the components of the storm drain system for the project. Therefore, the Hydrology and Hydraulics Study (Appendix F) concludes that the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. With implementation of proposed construction BMPs and installation of the proposed biofiltration basins, the project would have a less than significant impact on water quality standards and waste discharge requirements and would not substantially degrade surface or groundwater quality.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. As identified by the San Diego Basin Plan, the project site drains within Carlsbad Hydrologic Unit, specifically the San Marcos Hydrologic Area and the Batiquitos Hydrologic Subarea (904.00, 904.50, and 4.51, respectively). The Regional Water Quality Control Board has designated water quality objectives for waters of the San Diego region to protect the existing and potential beneficial uses of each hydrologic unit. The Batiquitos Hydrologic Subarea has the following existing and potential beneficial uses for inland surface waters, coastal waters, and groundwater: municipal and domestic supply; agricultural supply; industrial service supply;

contact water recreation; non-contact water recreation; warm freshwater habitat; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; marine habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and, rare, threatened, or endangered species habitat. Water quality objectives are those as listed in Table 3-2 of the Water Quality Control Plan for the San Diego Basin (RWQCB 2016) for the Carlsbad Hydrologic Unit (4.50).

BMPs would be implemented to ensure that potential pollutants would be reduced to the maximum extent practicable so as not to increase the level of pollutants in receiving waters and reduce impacts on stormwater quality and hydromodification. Construction BMPs would include erosion and sediment control, water flow dissipation, off-site sediment tracking, and materials and waste management.

Implementation of the proposed single-family residence and ADU would not include development activities that could otherwise deplete groundwater supplies. Infiltration would be maintained through project design, including the biofiltration basin, decomposed granite turnaround, proposed landscaping, and the open space easement on the site. The proposed project would not interfere substantially with groundwater recharge, and potential impacts to groundwater supplies would be less than significant.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iii. 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?

iv. Impede or redirect flood flows?

Less Than Significant Impact. Construction of the project would require grading and other ground-disturbing activities that could result in erosion and siltation affecting the watercourse (Encinitas Creek). However, the project would implement an erosion control plan and incorporate construction BMPs, including but not limited to erosion and sediment control, water flow dissipation, off-site sediment tracking, and materials and waste management measures. Implementation of BMPs would minimize the potential for stormwater runoff, erosion, and siltation during construction.

The Hydrology and Hydraulics Study (Appendix F) performed a hydrologic analysis on the project site in both the existing and proposed conditions, which determined that the 100-year peak runoff flow to the project site is 2.26 cubic feet per second under existing conditions. Under proposed

conditions, the 100-year peak runoff flow would be 3.01 cubic feet per second. Therefore, as a result of the development, the peak runoff from the project site would increase by 0.69 cubic feet per second. As previously described, the proposed drainage design for the project includes the installation of a single biofiltration basin for detention and standard treatment of stormwater on the site. The minimum volume of detention required to mitigate peak flows is 1,029 cubic feet. The proposed biofiltration basin would include a detention volume of 1,296 cubic feet located on the downhill side of the proposed residence and ADU structure. Therefore, the proposed development and proposed storm drain design would be capable of safely conveying the 100-year storm runoff flow and would not increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. The Hydrology and Hydraulics Study (Appendix F) prepared for the project determined that the proposed development and storm drain improvements would not significantly alter the existing drainage patterns. In addition, infiltration would be limited through project design, including lining the biofiltration basin with impermeable material, decomposed granite turnaround, proposed landscaping, and the open space easement on the site, to avoid exceeding the capacity of the existing public storm drain system. Impervious areas on the site would increase by only 9,962 square feet. Further, the proposed basin would include biofiltration to ensure that the discharge from the project site is treated and would not contribute polluted runoff to the watercourse (Encinitas Creek) or the Pacific Ocean.

Therefore, with installation of the proposed biofiltration basin, the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on or off site; substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site; create or contribute runoff water that would exceed the capacity of existing stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Impacts would be less than significant.

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The project site is not located within Federal Emergency Management Agency, County Floodplain, County Floodway, or Dam Inundation Flood Zones. In addition, the project site is not located within a Tsunami or Seiche Inundation Zone. Therefore, no impacts would occur.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The project site would be in compliance with applicable Encinitas Municipal Code sections. Refer to Sections 2.4.10(a) through 2.4.10(d), Hydrology and Water Quality, above. Therefore, the project would not conflict with or obstruct implementation of a

Water Quality Control Plan or Sustainable Groundwater Management Plan. Impacts would be less than significant.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Environmental Setting

The Encinitas General Plan land use and zoning designations for the project site are Rural Residential (RR).

Impact Analysis

a. Would the project physically divide an established community?

No Impact. The project does not propose the introduction of new major infrastructure such as roadways, water supply systems, or utilities to the area that would have the potential to physically divide an established community. The project was accounted for in the Encinitas General Plan and is consistent with the Rural Residential (RR) General Plan land use and zoning designation for the site. Therefore, the project is consistent with the use regulations in place and surrounding land uses and would not significantly disrupt or physically divide an established community. No impact would occur.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. The project complies with all land use plans, policies, and regulations. As discussed previously, the project would be consistent with the current Encinitas General Plan land use and zoning designation of Rural Residential (RR). Therefore, the project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. As discussed in Section 2.4.4, Biological Resources, the project is located within a Cultural/Natural Resources Overlay Zone according to Encinitas Municipal Code, Title 30, Chapter 30.34.050. In accordance with this code, the project has undertaken a site-specific survey and implemented applicable mitigation measures. In addition, the project would comply with applicable policies related to biological resources in the Resource Management Element, including Policy 3.6 related to mature trees and Policy 10.1 related to environmentally sensitive habitat. The project would result in a less than significant impact related

to consistency with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Setting

The nearest active mine to the City is the Superior Ready Mix – San Pasqual Quarry, which primarily produces sand and gravel and is located approximately 21 miles east of the project site (DOC 2016).

Impact Analysis

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Less Than Significant Impact. The project site has been classified by the California Department of Conservation Division of Mines and Geology as Mineral Resource Significance (MRZ-3), where the significance of mineral deposits cannot be determined from the available data, but with no active mines (DOC 2016). According to the Geotechnical Study (Appendix E) prepared for the project, the project site is underlain with granitic material. However, the project site is surrounded by developed residential land uses and La Costa Canyon High School, which would be incompatible with future extraction of mineral resources on the project site. A future mining operation at the project site would likely create a significant impact to neighboring properties for issues such as noise, air quality, traffic, and possibly other impacts. Therefore, implementation of the project would not result in the loss of availability of a known mineral resource that would be of value since the mineral resource extraction would not occur at the site due to incompatible land uses. Impacts would be less than significant.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The project site is not located in an area that has Mineral Resource Zone 2 (MRZ-2), where adequate information indicates that significant mineral deposits are present, or a likelihood of their presence and development should be controlled. In addition, the site is not located in designated lands, nor is it located within 1,300 feet of such lands. Therefore, the project would not

result in the loss of availability of locally important mineral resources. Therefore, no potentially significant loss of availability of a locally important mineral resource recovery (extraction) site delineated on a local General Plan, Specific Plan, or other land use plan would occur as a result of this project. No impact would occur.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or 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, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Setting

The Encinitas General Plan Noise Element considers noise sensitive land uses to be land uses associated with indoor and/or outdoor human activities that may be subject to stress and/or significant interference from noise. They include residential (single- and multi-family dwellings, mobile home parks, dormitories, and similar uses); transient lodging (including hotels, motels, and similar uses); hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care; and public or private educational facilities, libraries, churches, and other places of public gathering.

Impact Analysis

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. The project includes the construction of a single-family residence and an ADU on an approximately 2.47-acre project site. The project would be consistent with the Encinitas General Plan, Noise Ordinance, and other applicable noise standards, as described below.

Encinitas General Plan Noise Element

The Encinitas General Plan Noise Element establishes a goal for maximum outdoor noise levels in residential areas as a day-night average sound level (Ldn) of 60 decibels (dB). However, the Noise Element states that new construction or development should not result in noise levels above an Ldn of 70 dB at low-density residential uses. Construction equipment is anticipated to be

composed of a loader, dozers, excavators, trucks, and scrapers. Grading equipment would be spread out over the project site. Given the short-term, temporary, and small nature of the proposed project, construction noise is not anticipated to exceed the maximum 70 community noise equivalent level (CNEL) dB noise level identified in the Encinitas General Plan Noise Element.

Operation of the proposed single-family residence and ADU would result in typical noise sources associated with low-density residential uses (e.g., noise from landscaping equipment, operation of the garage door, etc.). Ambient noise levels would be minimal and consistent with the surrounding residential neighborhood. As such, operation of the proposed project is not anticipated to exceed the goal of Ldn 60 dB.

Noise Ordinance

Section 9.32.410 of the Encinitas Municipal Code restricts the operation of construction equipment to the hours of 7 a.m. to 7 p.m., Mondays through Saturdays. The Encinitas Municipal Code also states that it is unlawful to operate construction equipment that exceeds a noise level of 75 dBA for more than 8 hours during any 24-hour period when measured at residential property lines. Based on the typical construction activities for a single-family residence, noise levels are only expected to be 75 dBA or greater at residential property lines when activity is taking place within 35 to 65 feet of the nearest property line and, at all other times, would be less than 75 dBA. Due to the large area of the project site, this scenario is only expected to take place for very brief periods of time throughout the day, and for this reason, construction limited to the 12 allowable hours of operation established within the code would comply with the City's noise regulations. General good practice measures would also be followed during construction, including reasonable maintenance of equipment, conservative planning of simultaneous equipment operation, and use of equipment with effective mufflers.

Noise limits specified in Section 30.40.010 of the Encinitas Municipal Code must be met at neighboring property lines. The City bans noise from residential areas above 50 dB between the hours of 7 a.m. and 10 p.m. and above 45 dB from 10 p.m. to 7 a.m. As described above, operation of the project would result in minimal noise sources, which would be consistent with the surrounding residential neighborhood. As such, operation of the proposed project is not anticipated to exceed the noise level limits identified in the Encinitas Noise Ordinance.

Therefore, the project would not contribute to a cumulatively considerable exposure of persons or generation of noise levels in excess of standards established in the Encinitas General Plan, Noise Ordinance, and applicable standards of other agencies.

b. Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Section 9.32.410 of the Encinitas Municipal Code restricts the operation of construction equipment to the hours of 7 a.m. to 7 p.m., Mondays through Saturdays. The Encinitas Municipal Code also states that it is unlawful to operate construction equipment that exceeds a noise level of 75 dBA for more than 8 hours during any 24-hour period when measured at residential property lines. Project construction would not involve the use of ground vibration-intensive activities, such as pile driving and blasting. Activities involving pile driving and blasting typically generate the highest vibration levels compared to other construction methods and are, therefore, of greatest concern when evaluating construction-related vibration impacts. Pieces of equipment that generate lower levels of ground vibration, such as graders, would be used during construction. In addition, groundborne vibration attenuates rapidly from the source. The nearest sensitive receptor, residences directly south, are located over 50 feet away from the project site. Therefore, the project would not result in excessive groundborne vibration or groundborne noise levels affecting nearby sensitive receptors. General good practice measures during construction would also be followed, including reasonable maintenance of equipment, conservative planning of simultaneous equipment operation, and using equipment with effective mufflers.

During operation, no major sources of groundborne vibration are anticipated because residences are not a typical source of vibration. Therefore, less than significant impacts related to groundborne vibration would occur from operation of the project. Therefore, the project would not result in the generation of excessive groundborne vibration or groundborne noise levels. The impact would be less than significant.

c. Would the project, for a project located within the vicinity of a private airstrip or 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, expose people residing or working in the project area to excessive noise levels?

No Impact. No public or private airports are within 2 miles of the project site, and the project site is outside an Airport Land Use Plan. The closest (public) airport is McClellan-Palomar Airport, approximately 4.8 miles northwest of the project site, and no private airstrips are within the immediate vicinity. Therefore, no impact would occur.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned 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)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

As of 2020, the City of Encinitas has a population of 62,007 (U.S. Census Bureau 2020).

Impact Analysis

a. Would the project induce substantial unplanned 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)?

Less Than Significant Impact. The project proposes a single-family residence and ADU. Implementation of the project would not result in substantial population growth and would be consistent with the current land use designation and zoning of the site (Rural Residential [RR]). Therefore, the physical changes associated with the project including residential density and water and sewer service are consistent with and were anticipated by the Encinitas General Plan. The project would not indirectly induce substantial unplanned population growth as the project is proposing the addition of one residence and one ADU. Therefore, impacts related to population growth would be less than significant.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is currently undeveloped and vacant. Therefore, the proposed project would not displace existing people or housing, necessitating the construction of replacement housing elsewhere, and there would be no impact.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Environmental Setting

Fire protection in the City is provided by the Encinitas Fire Department, and police protection in the City is provided by the San Diego County Sheriff's Department North Coastal Station.

Impact Analysis

a. 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:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

Less Than Significant Impact. As described in Section 2.4.14, Population and Housing, the proposed single-family residence and ADU would not result in substantial population growth and would be consistent with the current land use designation and zoning of the site (Rural Residential [RR]). The project would not result in the need for new or significantly altered public services or facilities (including but not limited to fire protection facilities, sheriff facilities, schools, or parks)

in order to maintain acceptable service ratios, response times, or other performance service ratios or objectives for any public services. In addition, the surrounding residential development is already being serviced by these facilities. Therefore, the project would not have an adverse physical effect on the environment because the project does not require new or significantly altered services or facilities to be constructed in order to provide service for one single-family residence and an ADU. Impacts would be less than significant.

Refer to Section 2.4.20, Wildfire, for further information related to fire protection and Section 2.4.16, Recreation, for further information related to recreational facilities.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Environmental Setting

The City's Parks, Beaches and Trails Division maintains and operates 20 unique community parks, three sports parks, a world-class skatepark, and a 2-acre off-leash dog park. This division is responsible for the maintenance and repair of all park, beach, and trail facilities, including 10 miles of streetscapes, 82 acres of open space, 152 acres of both developed and undeveloped parks, 45 acres of beaches, and 40 miles of recreational trails.

Impact Analysis

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?

Less Than Significant Impact. The project proposes a single-family residence and ADU. Implementation of the project would not result in substantial population growth that would increase the use of existing recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, impacts to existing recreational facilities would be less than significant.

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?

No Impact. The project proposes a single-family residence and ADU in a developed residential neighborhood. No public recreational facilities are proposed. The proposed project would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No impact would occur.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

Environmental Setting

SANDAG is the designated congestion management agency for the San Diego region. SANDAG is responsible for preparing the Regional Transportation Plan, of which the Congestion Management Program is an element, to monitor transportation system performance, develop programs to address near- and long-term congestion, and better integrate land use and transportation planning decisions. The Congestion Management Program includes a requirement for enhanced CEQA review applicable to certain large developments that generate an equivalent of 2,400 or more average daily vehicle trips or 200 or more peak hour vehicle trips. These large projects must complete a traffic analysis that identify the project's impacts on Congestion Management Program system roadways, their associated costs, and appropriate mitigation.

The City has also developed an overall programmatic solution that addresses existing and projected future road deficiencies in the City. The Transportation Impact Fee program creates a mechanism to proportionally fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development.

Impact Analysis

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The project includes construction of a 3,740 sf single-family residence and a 1,000 sf ADU, with a decomposed granite turn-around and concrete driveway with access from Wishbone Way. The project would not have a direct impact related to a conflict with any plans, ordinances, or policies addressing the circulation system. Given that construction worker trips would be temporary and would be dispersed along different routes based on the origin of the trips, construction worker commuting is not expected to have a significant effect on the capacity of the transportation system.

Operationally, the project does not propose new use types or structures that would substantially increase operational vehicle trips to the site. Implementation of the project would be consistent with the current land use designation and zoning of the site (Rural Residential [RR]). Therefore, the physical changes associated with the project, including residential density and vehicle trips, are consistent with and were anticipated by the Encinitas General Plan. The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including public transit and non-motorized travel, and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and public transit. In addition, implementation of the project would not result in the construction of any road improvements or new road design features that would interfere with the provision of public transit, bicycle, or pedestrian facilities or generate sufficient travel demand to increase demand for transit, pedestrian, or bicycle facilities. Therefore, the project would not conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

b. Would the project or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impact. Per CEQA Guidelines, Section 15064.3, land use projects should be evaluated based on vehicle miles traveled. As discussed above, traffic associated with project would only primarily occur during the grading phase of construction. CEQA Guidelines, Section 15064.3, states that, for many projects, a qualitative analysis of construction traffic may be appropriate. Since construction traffic is temporary and workers are either traveling to the project jobsite or another jobsite elsewhere, the impact on vehicle miles traveled is less than significant.

Operationally, the project would not produce substantial traffic or trips compared to existing conditions. The Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018) recommends that projects that generate fewer than 110 average daily traffic (ADT) may be considered small projects that have a less than significant

impact for vehicle miles traveled under CEQA. The project includes a single-family residence and ADU in a developed residential neighborhood. Based on SANDAG's Not so Brief Guide (2002), a rural single-family residence would generate approximately 12 trips per day. Therefore, the proposed single-family residence and ADU would not generate 110 or more ADT. Therefore, the project would not conflict with, and is consistent with, CEQA Guidelines, Section 15064.3(b). Impacts would be less than significant.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The project would not substantially increase driving hazards due to a geometric design feature or incompatible uses. The project includes a single-family residence and ADU and does not propose new use types or structures that would substantially increase operational trips to the site. Vehicle trips to and from the project site would primarily occur during proposed grading activities, and would access the site via the proposed on-site driveway connected to Wishbone Way. The cul-de-sac turnaround on Wishbone Way, along with the turning radius on the proposed on-site decomposed granite turn-around, would accommodate maneuverability of large trucks and vehicles, including grading equipment, as well as fire trucks per County roadway standards in the case of an emergency. Additionally, the project does not propose any changes to roadways or construction of any new roadways. Therefore, there would not be a substantial increase in hazards due to a geometric design feature or incompatible uses. Impacts would be less than significant.

d. Would the project result in inadequate emergency access?

Less Than Significant Impact. The project would not generate traffic volumes that would impede emergency access. The cul-de-sac turnaround on Wishbone Way and the turning radius on the proposed on-site decomposed granite turn-around would accommodate maneuverability of large trucks and vehicles, including emergency vehicles. The project would not alter any established emergency vehicle routes or otherwise interfere with emergency access. Therefore, impacts related to emergency access would be less than significant.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

Environmental Setting

Two Native American tribes use the area within and surrounding the City of Encinitas, the Luiseño and the Kumeyaay. Kumeyaay territory ranges from the San Luis Rey River in the north to the Salton Sea and Sand Hills in the east, and south to the Todos Santos Bay south of Ensenada, Mexico, and east to the Hardy River in Baja California, Mexico. Kumeyaay spoke three distinct Yuman language family dialects (still often generalized as Diegueño), including Ipai in the north, Tipai in the south, and a third hypothesized dialect in Baja's southern interior (Luomala 1978). The Kumeyaay occupied semi-sedentary villages or rancherias. They hunted small game and gathered acorns, grass seeds, and other plant resources. Kumeyaay stone tools include complex chipped and groundstone industries, which are commonly manufactured using locally abundant quartzite, felsite, andesite, and fine-grained granitics. Obsidian, chalcedony, chert, and other stone tool materials were also used, but were acquired through trade (Robbins-Wade 1994).

An archaeological field survey was conducted on February 17, 2022, to identify any unrecorded resources on the project site. Noah Deragon, of Jamul Indian Village, served as Native American monitor during the archaeological field survey. The impact analysis below is based in part on the analysis and findings of the Cultural Resource Survey Report (Appendix C).

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant Impact. As described in Section 2.4.5, Cultural Resources, the records search prepared as part of the Cultural Resource Survey Report concluded that no cultural resources have been recorded on the project site. Within 1 mile of the project site, 18 prehistoric resources have been recorded. The prehistoric resources consist of primarily habitation and camp sites along with lithic scatters and an isolate. No prehistoric cultural resources were observed on the project site during the archaeological field survey. The project site overall was brush-covered and dominated by slopes. Santiago Peak Volcanic rock outcrops were present, but the quality of the material was too coarse for the production of stone tools. A portion of the area has been previously disturbed by a sewer line through the northwestern corner of the project and a few associated and mechanically made Santiago Peak Volcanic rock chips were present in this area. The sloping habitat appears to have been generally unsuitable for prehistoric occupation and use. The absence of prehistoric resources on the project site and the limited potential for buried cultural resources indicates that the potential for impacts to an unknown buried tribal cultural resource is very low. Therefore, impacts would be less than significant.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation Incorporated. A Sacred Lands Files search was requested on February 14, 2022 (Appendix C). The results of the Sacred Lands Files search were received on April 7, 2022, indicating negative results but included a list of Native American tribes that may have knowledge of cultural resources in the area. A Native American monitor (Noah Deragon) from Jamul Indian Village participated in the field survey conducted for the Cultural Resource Survey Report.

Pursuant to AB 52, consultation was initiated by the City with culturally affiliated tribes on June 30, 2023. Formal consultation was conducted with the San Luis Rey Band of Mission Indians per their request on July 19, 2023, and with the Rincon Band of Luiseño Indians per their request on July 21, 2023. City staff met with San Luis Rey on August 23, September 8, and October 3, 2023,

to discuss project concerns, proposed mitigation measures, and the results of the cultural report. City staff met with Rincon on August 8, 2023, to discuss project concerns and proposed mitigation measures. Rincon submitted a letter that included draft mitigation measures to be incorporated for the project. Both San Luis Rey and Rincon revised the mitigation measures and concurred in letters dated October 3 and October 10, 2023, that no further changes are needed. City staff received a letter from Rincon on October 10, 2023, and a letter from San Luis Rey on November 16, 2023, concluding consultation. As a result of AB 52 consultation, Mitigation Measures CUL-1 through CUL-6 shall be implemented, requiring monitoring during construction and implementation of a Cultural Resource Mitigation Monitoring Program for proper treatment if artifacts are found. With implementation of Mitigation Measures CUL-1 through CUL-6, impacts to tribal cultural resources would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measures CUL-1 through CUL-6 outlined in Section 2.4.5, Cultural Resources, would be required as part of the project to ensure that potential tribal cultural resources impacts are mitigated to levels that are less than significant.

2.4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. 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?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Setting

In San Diego County, the County Department of Environmental Health and Quality Local Enforcement Agency issues solid waste facility permits with concurrence from the California Department of Resources Recycling and Recovery (CalRecycle) under the authority of the California Public Resources Code (Sections 44001–44018) and California Code of Regulations, Title 27, Division 2, Subdivision 1, Chapter 4 (Section 21440 et seq.).

Impact Analysis

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. The proposed project would construct a single-family residence and ADU on an approximately 2.47-acre site. Proposed stormwater drainage facilities would include a single biofiltration basin located on the downhill side of the proposed residence and ADU structure. The biofiltration basin would be used for detention and for standard stormwater

treatment. Connection to the existing Olivenhain Municipal Water District water line along Wishbone Way would be established to supply water to the proposed residence and ADU. As discussed further in Sections 2.4.19(b) and 2.4.19(c), Utilities and Service Systems, the project would not require the construction or expansion of water or wastewater treatment facilities. No expanded telecommunications facilities would be required. Therefore, the project would not require the construction of new or expanded facilities, which could cause significant environmental effects. Impacts would be less than significant.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. The Olivenhain Municipal Water District provides water to the project site. Limited water required during the construction phase would be trucked in as necessary. Additionally, operation of the proposed single-family residence and ADU would generate minimal water demand consistent with the surrounding residences. In addition, the Olivenhain Municipal Water District plans for future water supplies based in part on the growth assumptions in the Encinitas General Plan. The proposed project would be consistent with the Rural Residential (RR) General Plan and zoning designation for the site. As such, the proposed project's water service is consistent with and was anticipated by the Encinitas General Plan. Therefore, the project would have sufficient water supplies available to serve the project.

c. Would the project 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?

Less Than Significant Impact. The project would connect to the Leucadia Wastewater District sewer lines, which convey to two treatment plants, including the Encina Water Pollution Control Facility and the Gafner Reclamation Plant. The Encina Water Pollution Control Facility has a daily capacity of 1 million gallons per day, and the Gafner Reclamation Plant has a daily capacity of 7.11 million gallons per day (Dexter Wilson Engineering, Inc. 2013). Operation of the proposed single-family residence and ADU would generate minimal wastewater consistent with the surrounding residences. In addition, the Leucadia Wastewater District plans for future asset management activities and capacity based in part on the growth assumptions in the Encinitas General Plan. The proposed project would be consistent with the Rural Residential (RR) General Plan and zoning designation for the site. As such, the proposed project's sewer service is consistent with and was anticipated by the Encinitas General Plan. Therefore, the project would not interfere with the Leucadia Wastewater District's service capacity.

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact. CALGreen requires covered projects to recycle and/or salvage for reuse a minimum 65 percent of the non-hazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent. The project would recycle and reuse construction materials consistent with CALGreen requirements.

Operation of the proposed single-family residence and ADU would generate similar amounts of solid waste consistent with the surrounding residences. Six permitted active landfills with remaining capacity are in San Diego County, including Borrego Landfill, Otay Landfill, West Miramar Landfill, Sycamore Landfill, San Onofre Landfill, and Las Pulgas Landfill (refer to Table 2, Permitted Active Landfills in San Diego County) (CalRecycle 2019). Therefore, there is sufficient existing permitted solid waste capacity to accommodate the project's solid waste disposal needs, and the project would not impair the attainment of solid waste reduction goals. A less than significant impact would occur.

Table 2. Permitted Active Landfills in San Diego County

Landfill	Permitted Throughput (tpd)
Borrego Landfill	50
Otay Landfill	6,700
West Miramar Landfill	8,000
Sycamore Landfill	5,000
San Onofre Landfill	250
Las Pulgas Landfill	400

Source: CalRecycle 2019.
Notes: tpd = tons per day

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. As described above, the project would recycle and reuse construction materials consistent with CALGreen requirements. Trash collection at the project site would be served by EDCO Disposal, similar to the rest of the City, which would deposit all solid waste at a permitted solid waste facility. All solid waste facilities, including landfills, require solid waste facility permits to operate. In San Diego County, California Public Resources Code (Sections 44001–44018) and California Code of Regulations, Title 27, Division 2, Subdivision 1, Chapter 4 (Section 21440 et seq.), authorize the County Department of Environmental Health, Local Enforcement Agency to issue solid waste facility permits. The six landfills previously described are permitted landfills and EDCO is a licensed hauler. Therefore, operation of the project would comply with federal, state, and local statutes and regulations related to solid waste, and impacts would be less than significant.

Mitigation Measures

The analysis completed for this section indicates that no significant impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

2.4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☒	☐	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☒	☐	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Environmental Setting

A Wildland FPP (Appendix G) was prepared for the project by Santa Margarita Fire Consulting, LLC, dated January 24, 2024, and approved by the City Fire Department on February 15, 2024. The impact analysis below is based on the analysis and findings of the Wildland FPP (Appendix G).

Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. As described in Section 2.4.9(f), Hazards and Hazardous Materials, the project would not substantially impair an adopted Emergency Response Plan or Emergency Evacuation Plan. Project access has been designed in conformance with state law and local regulations and in coordination with the Encinitas Fire Department. The project complies with emergency access requirements, per the San Diego County Fire Code and Consolidated Fire Code, including turning radius and maneuverability of large emergency vehicles, such as fire trucks and ambulances. Further, the project would contribute its fair share toward funding the appropriate fire and emergency medical services to adequately serve the project, as determined through required development fees. Therefore, the project would not substantially impair an adopted Emergency Response Plan or Emergency Evacuation Plan, and impacts would be less than significant.

b. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant with Mitigation Incorporated. The project site is located in a Very High Fire Hazard Severity Zone as designated by the California Department of Forestry and Fire (CAL FIRE 2021). Given that the project is infill in nature, construction of the project would result in increased wildland fire resistance to the surrounding homes and neighborhood. The location of the project, with a westerly aspect and being surrounded by estate homes to the north, east, and south, provides built-in fire protection. If the home had an easterly aspect, the home would not have enough fire protection and would be a conduit for fire to spread to the other homes.

However, the open space to the west poses a wildland fire threat to the bordering homes. The homes that border these open space drainages require additional wildland fire resistance measures. To avoid further impacts to Diegan coastal sage scrub habitat (refer to Section 2.4.4, Biological Resources), the project proposes a 50-foot defensible space buffer between the proposed structures and the open space easement, which would result in a 50-foot reduction in the 100-foot accepted Fuel Modification Zone requirement established by the City. To mitigate for the reduction in defensible space, the Wildland FPP (Appendix G) requires the project to implement Mitigation Measure WF-1 and Mitigation Measure WF-2 to harden the proposed structures and increase the effectiveness of the defensible open space. Mitigation Measure WF-1 would require the deck, windows, and walls to have upgraded fire and ember resistance. An emergency irrigation system would be required, which would reduce flame lengths and fire intensity should a fire occur. Under Mitigation Measure WF-2, landscaping shall be fire resistant, conforming to the City's accepted Fuel Modification Zone requirements for the Immediate Zone, and would minimize the chance for landscaping to ignite and spread fire to the proposed structures. In addition to implementing Mitigation Measure WF-1 and Mitigation Measure WF-2, the project would comply with regulations relating to emergency access and water supply specified in the California Fire Code. Implementation of these fire safety standards would occur during the building permit process.

The location of the project in relation to the open space drainage, along with the additional requirements listed in the Wildland FPP, would substantially improve survivability of the proposed structures from fire and reduce the chance of ignition. In its overall fire hazard assessment of the project, the Wildland FPP (Appendix G) determined that the project would exceed the fire resistance and safety requirements prescribed in the California Fire Code. Based on review of the project by City staff and through compliance with the Encinitas Fire Department's conditions, impacts would be less than significant with implementation of Mitigation Measure WF-1 and Mitigation Measure WF-2.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less Than Significant with Mitigation Incorporated. As described above, implementation of the proposed project would require a 50-foot defensible space buffer between the proposed structures and the open space easement, which would result in a 50-foot reduction in the 100-foot Fuel Modification Zone requirement established by the City. To mitigate for this lack of defensible space, the Wildland FPP (Appendix G) requires the project to implement Mitigation Measure WF-1 and Mitigation Measure WF-2 to harden the proposed structures and increase the effectiveness of the defensible open space. As detailed in Section 2.4.20(b), Wildfire, the project is expected to result in less than significant impacts related to risk of wildfire with implementation of Mitigation Measure WF-1 and Mitigation Measure WF-2.

Additionally, implementation of the project, including the 50-foot defensible space buffer, would result in potentially significant impacts to biological resources related to disturbance and removal of Diegan coastal sage scrub habitat and impacts to sensitive bird species. As discussed in Section 2.4.4, Wildfire, implementation of Mitigation Measure BIO-1 through Mitigation Measure BIO-3 would reduce impacts to biological resources to a less than significant level.

Therefore, with the implementation of Mitigation Measure WF-1, Mitigation Measure WF-2, and Mitigation Measure BIO-1 through Mitigation Measure BIO-3, the project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Impacts would the less than significant with implementation of these mitigation measures.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. As discussed in Section 2.4.10, Hydrology and Water Quality, the project would include installation of a single biofiltration basin with a proposed detention volume of 1,183 cubic feet located on the downhill side of the proposed residence and ADU structure. The proposed development and storm drain design would be capable of safely conveying the 100-year storm runoff flow. The Hydrology and Hydraulics Study (Appendix F) prepared for the project determined that the proposed development and storm drain improvements would not significantly alter the existing drainage patterns and have been designed to accommodate applicable fire flows. Therefore, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential wildfire impacts are mitigated to levels that are less than significant:

WF-1: **Harden the Structure.** All new structures shall be constructed to the 2022 City of Encinitas Fire Code and the State of California Fire and Building Code Standards. Each of the proposed buildings shall comply with the enhanced ignition-resistant construction standards of the 2022 California Building Code (Chapter 7A). These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors:

- **L-metal:** All exterior walls shall install L-metal under the bottom plate and behind the weep screed and stucco. The metal shall allow the stucco weep screed to work while keeping any embers and fire from penetrating the bottom plate, sheer panel, and studs. The applicant has agreed to pay for additional inspection of the L-metal installation, if necessary. The applicant shall request the L-metal inspection at the same time as the hydrology inspection. Refer to L-metal detail in Appendix B of the Wildland Fire Protection Plan.
- **Windows:** All windows on the structures shall be dual paned and dual tempered.
- **Decks:** The entire deck walking material shall meet the California Building Code, Chapter 7, Section 709A.3, standards for ignition resistance. (The code only requires the first 10 feet from the structure to be ignition resistant.) The underside of the proposed decks shall have Frontline Wildfire Defense system fire sprinklers installed and be protected to grade by either masonry walls or fire-resistant exterior wall material meeting the requirements of California Building Code, Chapter 7, Section 707A.8.
- **Emergency Irrigation System:** Due to the constraints imposed by the biological open space easement, an emergency irrigation system shall be installed. The emergency exterior automatic irrigation sprinklers shall also be installed along the top of the masonry walls for the purpose of reducing fire intensity and flame lengths should a fire occur. A combination of 50 percent spray and 50 percent rotary heads with overlapping patterns shall be directed toward the undeveloped land to the north, west, and southwest of the property. The system shall be designed and installed so that all potentially hazardous flammable vegetation shall be simultaneously irrigated (sprayed) from the masonry wall out for a minimum distance of 20 feet. Spraying heads along with longer ranging rotary spray heads (approximately 20 gallons per minute) shall be installed to increase the coverage to 50 feet from the masonry wall. Frontline has a new system that can be automatically activated. Defense System 2 is the only exterior wildfire sprinkler system powered by Frontline's 24/7 wildfire tracking software. The all-new Auto Activation feature

automatically turns on the Frontline system when fire is within 7 miles—more than 100 times faster than traditional sensor-based systems that can only detect fire within a few hundred feet of the home. See Appendix G, Wildland Fire Protection Plan, for exact specifications and details of how the Frontline system shall work.

- The emergency irrigation system shall be capable of being automatically or manually activated prior to the arrival of a wildfire for the purpose of reducing fire intensity and flame lengths should a fire occur. The sprinkler system shall be able to be remotely operated (refer to Appendix C of the Wildland Fire Protection Plan for details). The system can be designed to work off the domestic water supply. The wildfire sprinkler system shall be designed by a Fire Protection Engineer and the plan submitted for approval to the Encinitas Fire Department prior to issuance of building permits.
- A combination of 50 percent spray and 50 percent rotary heads shall be directed toward the wildland fuels. The emergency irrigation system shall be designed and installed so that all the wildland fuels shall be simultaneously watered (sprayed) for a minimum distance of 20 feet followed by a rotary spray head capable of reaching 50 feet. A minimum of 20 gallons per minute shall be applied to the vegetation in the wetland setback area.
- The system shall be tested twice yearly, preferably in May or June and on September 1 (prior to the onset of Santa Ana winds), for a period not to exceed 2 minutes to ensure that all spray heads are functional and that adequate water pressure is available. A report/letter shall be kept on file by the homeowner indicating the date of the test and that the system was in proper working order.
- The system shall be inspected and tested by the Encinitas Fire Department prior to receiving final inspection on the home. The Frontline Wildfire Defense System shall be installed under the eaves and any other appendages such as decks, patio covers, and trellises.

WF-2: **Defensible Space (Fuel Modification Zones).** The following features shall be included to increase the effectiveness of the defensible space:

- A 6-foot masonry wall or precast concrete wall shall be installed at the 50-foot fire buffer line. The Frontline Wildfire Defense system shall be installed on top of the masonry wall. See Appendix C of the Wildland Fire Protection Plan.
- The property shall follow the guidelines of the Immediate Zone for the 50 feet from the structures to the open space easement (masonry wall), instead of only 5 feet, as described further below.
  - Plants used in the fuel modification areas or landscapes shall include drought -tolerant, fire-resistive trees, shrubs, and groundcovers. The landscape plan, planting list, and spacing shall be reviewed and approved by the City of

Encinitas Fire Prevention Bureau. The landscape plan shall meet the City of Encinitas and San Diego County water-efficient landscaping requirements and shall choose plants from the ignition resistant landscaping list. The intent of the lists is to provide examples of plants that are less prone to ignite or spread flames to other vegetation and combustible structures during a wildfire. Additional plants can be added to the landscape plant material palette with the approval from the City of Encinitas Fire Prevention Bureau.

- Landscape Plans shall be in accordance with the following criteria:
  1. Landscape Plan prepared and submitted for approval before the "hydro-framing" inspection.
  2. All fire resistive tree species planted and maintained at a minimum of 10 feet from the tree's drip line to any combustible structure. Non-fire resistive trees (including conifers, pepper trees, eucalyptus, cypress, and palms [Washingtonia and Phoenix species]), shall not be planted.
  3. Limited planting of large unbroken masses especially trees and large shrubs. Groups should be two–three trees or shrubs maximum, with mature foliage of any group separated horizontally by at least 10 feet, if planted on less than 20 percent slope and 20 feet if planted on greater than 20 percent slope. If shrubs are located underneath a tree's drip line, and the lowest branch should be at least three times as high as the understory shrubs or 10 feet, whichever is greater.
  4. Non-combustible surface (pavement, concrete, decomposed granite, etc.) for pathways to side yards and backyards.
  5. Irrigated wet zone (water conserving irrigation systems with efficient drip emitters and "smart" controllers and use of California Friendly landscape concepts).
  6. No tree limb encroachment within 10 feet of a structure or chimney, including outdoor fireplaces.
  7. Tree maintenance includes limbing-up (canopy raising) 6 feet or one-third the height of the tree, whichever is greater, and removal of dead foliage and branches.
- The project shall make the entire 50 feet from the structures to the masonry wall follow the guidelines above instead of the first 5 feet normally required. The applicant shall submit the landscape plan for approval to the City of Encinitas Fire Prevention Bureau and shall have the landscaping installed prior to getting final inspection on the structures. The recommended practice is to have the landscape plan approved on or around the hydro inspection.
- This zone includes the area under and around all attached decks and requires the most stringent wildfire fuel reduction. The zone is designed to be ember-

resistant and keep fire or embers from igniting materials that can spread the fire to homes. The following provides guidance for this zone that are above and beyond the normal immediate zone requirements:

- Hardscape like gravel, pavers, concrete, and other noncombustible mulch materials should be used. Do not use combustible bark or mulch.
- All accessory items (outdoor furniture, planters, etc.) shall be non-combustible.
- All fencing, gates, arbors, and patio covers shall be built with either heavy timber or noncombustible alternatives.
- Garbage and recycling containers should be relocated outside this zone.

Mitigation Measure WF-2 shall be shown on the grading plan and the building permit plans to demonstrate compliance. The landscape plan must be approved through the building permit process, and a final inspection shall be required.

2.4.21 Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have the potential to substantially 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, substantially 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?	☐	☒	☐	☐
b. 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)?	☐	☒	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino,(1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

Impact Analysis

a. Does the project have the potential to substantially 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, substantially 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?

Less Than Significant with Mitigation Incorporated. Per the instructions for evaluating environmental impacts related to Mandatory Findings of Significance in this IS/MND, 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 were considered in the response to each question in Sections 2.4.4, Biological Resources, and 2.4.5, Cultural Resources, of this IS/MND. As a result of this evaluation, the proposed project was determined to have potential significant effects related to biological

resources, cultural resources, geology and soils (paleontological resources), hazards and hazardous materials, tribal cultural resources, and wildfire. However, mitigation has been included that clearly reduces these effects to a level below significance.

As a result of this evaluation, there is no substantial evidence that, after mitigation, significant effects associated with the project would result. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

b. 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)?

Less Than Significant with Mitigation Incorporated. Table 3, Cumulative Projects, lists past, present, and future projects located within a 2-mile radius of the project that were considered and evaluated as a part of this IS/MND.

Table 3. Cumulative Projects

Project Name	Address	Description
The Sanctuary	Northwest of Rancho Santa Fe Road	9 dwelling units; APN 265-331-49

Per the instructions for evaluating environmental impacts in this IS/MND, the potential for adverse cumulative effects were considered in the response to each question in Sections 2.4.1, Aesthetics, through 2.4.20, Wildfire, of this IS/MND. In addition to project-specific impacts, this evaluation considered the proposed project's potential for significant cumulative effects. As a result of this evaluation, the proposed project was determined to have potential significant effects related to biological resources, cultural resources, geology and soils (paleontological resources), hazards and hazardous materials, tribal cultural resources, and wildfire. However, mitigation has been included that reduces these effects to a level below significance.

As a result of this evaluation, there is no substantial evidence that, after mitigation, there are cumulative effects associated with the project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant with Mitigation Incorporated. In the evaluation of environmental impacts in this IS/MND, the potential for adverse direct or indirect impacts to human beings were considered in the response to certain questions in Sections 2.4.1, Aesthetics; 2.4.3, Air Quality; 2.4.7, Geology and Soils; 2.4.9, Hazards and Hazardous Materials; 2.4.10, Hydrology and Water Quality; 2.4.13, Noise; 2.4.14, Population and Housing; 2.4.17, Transportation; and 2.4.20, Wildfire. As a result of this evaluation, the proposed project was determined to have potential significant effects related

to biological resources, geology and soils (paleontological resources), hazards and hazardous materials, and wildfire. However, mitigation has been included that clearly reduces these effects to a level below significance. Therefore, there is no substantial evidence that, after mitigation, there are adverse effects to human beings associated with the project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

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Section 4 References

CARB (California Air Resources Board). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April.

CalRecycle (California Department of Resources Recycling and Recovery). 2019. "SWIS Facility/Site Search." Accessed April 2424. https://www2.calrecycle.ca.gov/SolidWaste/Site/Search.

Caltrans (California Department of Transportation). 2010. Transportation Project-Level Carbon Monoxide Protocol. UCD-ITS-RR-97-21. Revised December 1997. Converted to searchable PDF on October 13. Accessed April 2424. http://www.dot.ca.gov/env/air/docs/co-protocol-searchable.pdf.

Caltrans. 2023. California State Scenic Highways. Accessed April 2424. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

CAL FIRE. 2009. "Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE." Accessed April 2424. https://osfm.fire.ca.gov/media/5960/encinitas.pdf.

City of Encinitas. 2011. Encinitas General Plan Resource Management Element. Accessed April 2424. https://archive.encinitasca.gov/WebLink/DocView.aspx?id=835470&dbid=0&repo=CityofEncinitas.

City of Encinitas. 2020. "Encinitas 2020 Climate Action Plan." Adopted 2018. Revised November 2020. Accessed April 2424. https://www.encinitasca.gov/home/showpublisheddocument/1698/637999947050530000.

City of Encinitas. 2021. "Encinitas Historical Imagery Viewer 1988–2021." Accessed April 2424. https://encinitas.maps.arcgis.com/apps/webappviewer/index.html?id=f0f688e36acc4da8adbfe21ad75916c3.

County of San Diego. 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality. Accessed April 2424. https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf.

County of San Diego. 2010. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources. September 15. Accessed April 2424. https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/Biological_Guidelines.pdf

Dexter Wilson Engineering, Inc. 2013. Leucadia Wastewater District Asset Management Plan. Accessed April 2424. https://www.lwwd.org/sites/default/files/2020-11/Asset_Management_Plan_0.pdf.

DOC (California Department of Conservation). 2016. "Mines Online." Accessed April 2424. https://maps.conservation.ca.gov/mol/index.html.

DOC. 2022a. Farmland Mapping and Monitoring Program. Accessed April 2424. https://www.conservation.ca.gov/dlrp/fmmp.

DOC. 2022b. "Compilation of Quaternary Surficial Deposits." Accessed April 2424. https://maps.conservation.ca.gov/cgs/QSD/.

DTSC (California Department of Toxic Substances Control). 2023. EnviroStor.

Luomala, Katharine. 1978. Tipai-Ipai. In California (pp. 592-609), edited by R.F. Heizer. Handbook of North American Indians, Vol. 8, W.C. Sturtevant, general editor, Smithsonian Institution.

OPR (Governor's Office of Planning and Research). 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." Accessed April 2424. https://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf.

Robbins-Wade, Mary. "1994 Prehistoric Settlement Pattern of Otay Mesa, San Diego County, California." Proceedings from Society for California Archaeology Conference of 2005. Accessed April 2424. www.scahome.org/publications/.../Proceedings.05Robbins.pdf.

RWQCB (Regional Water Quality Control Board). 2016. Water Quality Control Plan for the San Diego Basin.

SANDAG (San Diego Association of Governments). 2002. Not So Brief Guide to Trip Generation Rates for the San Diego Region. April.

SWRCB (State Water Resources Control Board). 2023. GeoTracker.

U.S. Census Bureau. 2020. "QuickFacts: Encinitas City, California." Accessed April 2424. https://www.census.gov/quickfacts/fact/table/encinitascitycalifornia/POP010210.

USEPA (U.S. Environmental Protection Agency). 2022. "Criteria Air Pollutants." Last updated August 9. Accessed April 2424. https://www.epa.gov/criteria-air-pollutants.

Appendix A. Biology Field Survey

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July 12, 2021
Second Revision August 23, 2023
Third Revision February 20, 2024

RE: Results of a Biology Field Survey of the Wishbone Way SFR Project Site, Encinitas

Dear Mr. Tidwell:

This report documents the results of a biological resources field study and a protocol California Gnatcatcher presence/absence survey of your Wishbone Way Single Family Residential (SFR) project site in the City of Encinitas (Figures 1 and 2). The study area for this survey consists of APN 264-222-33, an approximately 2.47-acre vacant property located west of and adjoining the terminus of Wishbone Way (Figure 3). Development of this vacant property would result in impacts to biological resources, hence the need to assess the project with respect to compliance with the California Environmental Quality Act (CEQA) and related local, state, and federal statutes and regulations.

The purpose of the study is to: (1) identify the onsite habitat-types that could be affected by site grading and development; (2) assess the site for the presence of any number of special status plants or animals that are known from the vicinity, including state and federally listed Rare, Threatened and Endangered Species; (3) quantify project-related impacts to sensitive biological resources, if present, and (4) provide general recommendations for mitigation to ensure project consistency with CEQA and other environmental regulations.

The survey work completed for this report includes a baseline site inventory and a focused search for sensitive biological resources, including special status species. The goal of the field effort was (1) to identify and map the biological resources associated with the property, and (2) to assemble a vascular plant and vertebrate animal inventory of the site, to the extent feasible given survey limitations.

The project is located in the eastern part of the City, within the Encinitas Southern Brown Family Trust parcels "Softline Focused Planning Area" (FPA), as defined in the Multiple Habitat Conservation Program (MHCP) Subregional Plan, which was developed for certain north San Diego County cities in anticipation of Subarea Plan preparation and implementation. The City of Encinitas is not actively working on a Subarea Plan at this time, and one is not anticipated in the near future. The project site is also adjacent City of Carlsbad open space lands to the west.

METHODS

Field survey of the property were completed on the mornings of 8 April, 13 May, 25 May, 1 June, 8 June, 15 June, and 23 June 2021. Brandon D. Myers, Associate Biologist, participated in most of the field surveys. Weather conditions were conducive to field surveying, with clear skies to overcast skies and temperatures in the low 60°s to mid 70°s on all survey days. All areas of the site were slowly walked, and all plants and animals encountered were inventoried in the field as encountered. Habitats were mapped with the aid of a recent aerial photograph of the site.

The entire property was examined along with adjoining areas. All habitats were mapped in the field. Wildlife observations were made casually. Binoculars were used to aid in observations and all wildlife species observed were noted. Animal nomenclature used in this report is taken from American Ornithologist's Union (1983, as updated) for birds, Jones, et. al (1992) for mammals, and Stebbins (2004) for herpetofauna. Botanical nomenclature follows Hickman (1993). Sensitive species status follows Skinner and Pavlik (1994), California Department of Fish and Game (2012), and U.S. Fish and Wildlife Service (2014).

RESULTS

Plant Communities

The Wishbone Way site currently supports two relatively discrete plant communities or habitat-types: (1) Diegan Coastal Sage Scrub and (2) Disturbed Habitat (Figure 4 & 5). In addition, a well-vegetated watercourse runs through the canyon at the bottom of the property.

1. Diegan Coastal Sage Scrub – 1.82 acre

The majority of the Wishbone Way site supports Diegan Coastal Sage Scrub vegetation. Indicators include California Sagebrush *(Artemisia californica)*, Flat-top Buckwheat *(Eriogonum fasciculatum),* Laurel Sumac *(Malosma laurina),* and other native shrubs. Most of the Diegan Coastal Sage Scrub on the site is found on the south and westerly facing slopes. Diegan Coastal Sage Scrub is considered a sensitive habitat-type, of high biological resource value.

2. Disturbed Habitat – 0.65 acre

Disturbed Habitat is found on the southern and eastern limits of the property. This vegetation is associated with ongoing clearing presumably a result of fuel management along Wishbone Way and the neighboring property to the south. The vegetation consists of mostly ruderal weeds including Black Mustard *(Brassica nigra),* Castor Bean *(Ricinus communis),* Tocalote *(Centaurea melitensis),* and many others. Also present in this area are non-native ornamentals along the southern and western property limits. Disturbed Habitat is of little to no biological resource value and is not considered a sensitive habitat-type.

Flora and Fauna

Fifty-five vascular plants and twenty-three vertebrate animals were detected during the field surveys of the site. Most of the plants and animals observed in association with the property are typical of the diversity normally found in this part of Encinitas. A complete list of the plants and animals observed onsite is presented in Table 1, attached.

Sensitive Resources

1. Sensitive Plant Communities/Habitats

Sensitive vegetation communities consist of; (1) those recognized as "sensitive" by the City of Encinitas or the Wildlife Agencies (California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service); (2) those which are known to be rare within the region; (3) those which are known to support populations of sensitive animal or plant species; and/or (4) those which serve as important wildlife corridors.

Diegan Coastal Sage Scrub is considered sensitive by the City of Encinitas and the Wildlife Agencies. The onsite habitat is constant with stands on the natural lands to the west.

2. Sensitive Species

Two sensitive plant species and one sensitive animal species were detected during the survey for this report. Sensitive species are those plants and animals listed as Rare, Endangered, Threatened, or otherwise noteworthy by the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the California Native Plant Society (CNPS), the National Audubon Society, the City of Encinitas, or other conservation agencies, organizations, or local biologists.

San Diego County Viguiera (*Bahiopsis laciniata)*
Listing: California Rare Plant Rank; List 4.3
Federal/State status: none
Distribution: This distinctive species occurs from about Mission Valley in central San Diego County south to adjacent areas in northern Baja California along the coast and in foothill areas. Reported localities in San Diego County include Mission Valley, La Mesa, El Cajon, Portrero, Dehesa, Otay, and Tecate. Many populations are threatened by development, although it remains common where it occurs. Also found in Orange County
Habitat: Occurs in coastal sage scrub, maritime scrub, and xeric chaparral, occasionally as a co-dominant
Status on Site: San Diego County Viguiera is found on south-facing slopes on the eastern portion of the site. It may have been first established in this canyon area as a result of hydroseeding of nearby areas.

San Diego Marsh Elder (*Iva hayesiana)*
Listing: California Rare Plant Rank; List 2B.2
Federal/State status: none
Distribution: Native populations are restricted to Coastal San Diego County in California. Localities in San Diego County include coastal playas, inland to Jamul Mountains and Otay Mesa.
Habitat: Occurs in riparian and floodplain-coastal sage scrub ecotones.
Status on Site: San Diego Marsh Elder is patchy along the drainage area onsite. It extends offsite both upstream and downstream in a continuation of the drainage.

California Gnatcatcher (*Polioptila californica)*
Listing: FEDERAL THREATENED SPECIES
State statis: California Species of Special Concern (CDFW, 2016)
Distribution: From Ventura County south to the cape region of Baja California, Mexico.
Habitat(s): Resident (non-migratory) species that occurs in coastal scrubs and chaparral scrub habitats.
Status on site: A single California Gnatcatcher was observed near the central portion of the property (Figures 3 and 4) within the Diegan Coastal Sage Scrub.

A variety of additional sensitive plants is known from the vicinity of this property. This includes Orcutt's Brodiaea *(Brodiaea orcuttii)*, Southwestern Spiny Rush *(Juncus acutus* ssp. *leopoldii)*, San Diego Sagewort *(Artemisia palmeri),* and others. None of these species were detected during the survey.

It is expected that a few wide-ranging sensitive animals, such as various native bats *(Eumops, Nyctinomops*, others) and fossorial reptiles *(Eumeces, Diadophis)* could utilize this site in relatively low numbers. However,

given the size of the property, no significant populations of additional sensitive animals would be expected, in any case.

A protocol California Gnatcatcher presence/absence survey was performed to determine if the project site is occupied by California Gnatcatchers. The results of this survey can be found in Attachment B of this report.

Wetlands

The onsite wetland resources were assessed by me (Vince Scheidt) on March 2, 2022. The drainage feature which bisects the northern third of the property was examined in the field, measured, and mapped on a recent aerial photo. All riparian species and habitats were identified as they were encountered.

The project site supports a well-defined watercourse that runs along the northern portion of the property, entering the property from east and exiting to the west (Figure 5). The condition of the watercourse consists of exposed rock and cobbles through the majority. The vegetation along the watercourse includes some riparian indicator species, including large numbers of San Diego Marsh-Elder (*Iva hayesiana*) covering the bead of the flowline on the eastern portion of the drainage. The drainage was dry during the survey, as well as the prior field surveys of the property. The watercourse appears to carry significant flow during and briefly after major rainfall events. The watercourse qualifies as a federal/state "waters" on the basis of hydrology and hydrophytes.

The proposed grading plan will avoid and buffer the watercourse, placing the entirety of the drainage and a suitable biological buffer of approximately 50 feet into a biological open space easement (Figure 5). At this time, it is recommended that no clearing take place in this drainage or in the 50-foot biological buffer area. This will protect the watercourse and the adjoining areas of sensitive upland Coastal Sage Scrub vegetation within the biological buffer.

IMPACTS

Development of the Wishbone Way property will result in certain unavoidable impacts due to grading, construction, landscaping, and other associated changes in land-use. The local fire authority has approved a modified 50-foot buffer requirement for brush removal from the edge of the proposed structure. Native vegetation and native species are present in these areas, and these resources will be directly and indirectly affected by future site development. This loss is considered "**significant"**, as defined by CEQA. Mitigation will be required to offset impacts to a level of "**less than significant"**. A synopsis of project-related impacts to habitats and recommended mitigation measures is presented in Table 2. The project limits development to the southern portion of the parcel. This will ensure wildlife connectivity of any wildlife corridors on adjacent open space by the preservation of the northern portion of the parcel.

MITIGATION

Mitigation is required to compensate for impacts associated with development of the project site. In order to mitigate all direct and indirect effects associated with grading, construction, and related infrastructure improvements, the following recommendations are provided:

- Mitigation for impacts to 0.42 acres of Diegan Coastal Sage Scrub requires 0.84 acres of mitigation at a ratio of 2:1. This can be achieved by dedicating an easement over a portion of the property as compensatory, onsite biological open space (Figure 3). It is recommended that a 1.47 acre biological open space easement be dedicated on the northern portion of the property. This area contains high value Diegan Coastal Sage Scrub and sensitive species. Preservation of this areas will ensure connectivity to adjacent open space in the FPA to the west. Table 1 presents habitat mitigation requirements associated with the project footprint, which include brush management.

- The applicant will need to prepare a long-term management plan for the biological open space and provide an entity and source of funding to maintain the biological open space in perpetuity. The preparation and approval of this plan will be a condition of project approval.

- Because the Diegan Coastal Sage Scrub vegetation is considered "occupied" by California Gnatcatcher, it will be necessary to secure project clearances from the U.S. Fish and Wildlife Service to cover incidental take of this federally-listed species. A "low effect" HCP screening form has been prepared and should be submitted to the Service as a condition of project approval. Construction must take place outside the California Gnatcatcher breeding season, defined as from February 15 – August 31 of each year. If construction con not be delayed to outside the breeding season, preconstruction surveys will be required. Seasonal restrictions on grading, clearing, modification, and noise-generating construction activities to avoid general avian breeding impacts in compliance with the MBTA and the CFGC include the following: No habitat removal will be permitted during the period of February 15 – August 31. If vegetation clearing or construction cannot be avoided during the breeding season, then preconstruction nest clearance surveys will be conducted no more than 3 days prior to the start of activities. If a nest is found, a no-work buffer zone will be established around the nest until the young have fledged, as determined by a qualified biologist. The width of the buffer zone would be determined by a qualified biologist based on the species, and this width would be approved by the city.

- Site grading and/or the removal of vegetation within 300 feet of any potential migratory bird or raptor nesting location should not be permitted during the spring/summer bird breeding season, defined as from 1 January to 31 August of each year. This is required in order to ensure compliance with the Sections 3503, 3503.5, 3511, and 3513 of the California Fish and Game Code and the Migratory Bird Treaty Act. This will minimize chances for the incidental take of migratory songbirds or raptors. Should it be necessary to conduct grading or other habitat-disturbing activities during the bird breeding season, a preconstruction nesting survey of all areas within 300 feet of the proposed activity will be required. The results of the survey will be provided in a report to the Director of Planning for concurrence with the conclusions and recommendations.

Thanks for the opportunity to provide this analysis. Please contact me if you have questions.

Very truly yours,

Vincent N. Scheidt
Biological Consultant

Attachments:

Bibliography
Table 1. Flora and Fauna Detected
Table 2. Impact and Mitigation Analysis
Figure 1. U.S.G.S Quadrangle
Figure 2. Vicinity Exhibit
Figure 3. Aerial Photo
Figure 4. Biological Resources on Aerial Photo
Figure 5. Biological Resources, Fire Clearing Setbacks, and Proposed Open Space on Site Plan
Attachment A. Site Photos
Attachment B. Protocol California Gnatcatcher Survey Report

BIBLIOGRAPHY

American Ornithologists' Union, committee on classification and nomenclature. 2014. A.O.U. Checklist of North American Birds. 55th Supplement.

California Department of Fish and Wildlife, Natural Diversity Database. 2021. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. 126 pp.

California Department of Fish and Wildlife. 2021. State & Federally Listed Endangered & Threatened Animals of California. 14 pp.

California Department of Fish and Wildlife, Natural Diversity Database. 2021. Special Animals List. Periodic publication. 51 pp.

California Native Plant Society (CNPS). 2021. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA.

Hickman, J. C. (Ed.). 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley, 1400 pp.

Holland, R.F. 1986 (as amended; 1996). Preliminary descriptions of the terrestrial natural communities of California. California Nongame-Heritage Program. 156p.

Jones, J. K., et al. 1992. Revised checklist of North American mammals north of Mexico. Occas. Papers Mus., Texas Tech University, 146:1-23.

Stebbins, R. 2003. Western Reptiles and Amphibians. Peterson Field Guide Series, Houghton-Mifflin.

United States Fish and Wildlife Service. 2021. Endangered and Threatened Wildlife and Plants; Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions. Federal Register 50 CFR 17.

Table 1. Flora and Fauna Detected – Wishbone Way Project

Scientific Name	Common Name
Plants	
Acmispon glaber	Deerweed
Artemisia californica	California Sagebrush
Avena barbata *	Slender Wild Oat
Baccharis pilularis	Coyote Brush
Bahiopsis laciniata	**San Diego County Viguiera**
Brachypodium distachyon *	Purple False-Brome
Brassica nigra *	Black Mustard
Bromus diandrus *	Ripgut Brome
Bromus hordeaceus *	Common Soft Brome
Bromus rubens *	Red Brome
Cenchrus setaceus *	Fountain Grass
Centaurea melitensis *	Maltese Star-Thistle
Chenopodiastrum murale *	Nettle-Leaved Goosefoot
Chlorogalum parviflorum	Small-Flowered Soaproot
Cynara cardunculus *	Artichoke Thistle
Cynodon dactylon *	Bermuda Grass
Cyperus eragrostis	Tall Flatsedge
Diplacus x australis	San Diego Monkeyflower
Dipterostemon capitatus	Typical Blue Dicks
Ehrharta erecta *	Panic Veldtgrass
Eriogonum fasciculatum	California Buckwheat
Erodium cicutarium *	Common Stork's-Bill
Eucrypta chrysanthemifolia	Common Eucrypta
Foeniculum vulgare *	Fennel
Geranium dissectum	Cut-Leaved Crane's-Bill
Hedypnois rhagadioloides *	Cretanweed
Helminthotheca echioides *	Bristly Oxtongue
Hirschfeldia incana *	Shortpod Mustard
Hordeum murinum *	Wall Barley
Iva hayesiana	**San Diego Marsh-Elder**
Lactuca serriola *	Prickly Lettuce
Logfia gallica *	Narrowleaf Cottonrose
Lupinus hirsutissimus	Stinging Lupine
Lupinus truncatus	Collared Annual Lupine
Lysimachia arvensis *	Scarlet Pimpernel
Malosma laurina	Laurel Sumac
Malva nicaeensis *	Bull Mallow
Marah macrocarpa	Chilicothe
Medicago polymorpha *	Bur Clover
Melilotus indicus *	Small Melilot
Myoporum laetum *	Ngaio
Nassella lepida	Foothill Needle Grass
Oxalis pes-caprae *	Bermuda Buttercup
Phalaris caroliniana *	Carolina Canarygrass
Phoenix canariensis *	Canary Island Palm
Polypogon monspeliensis *	Rabbitfoot Grass
Pseudognaphalium biolettii	Two-Color Rabbit Tobacco
Ricinus communis *	Castor Bean
Rumex crispus *	Curly Dock

Table 1. Flora and Fauna Detected – Wishbone Way Project

Scientific Name	Common Name
Plants (cont)	
Salsola sp. *	Russian Thistle
Salvia mellifera	Black Sage
Scrophularia californica	California Bee Plant
Sonchus asper *	Prickly Sowthistle
Sonchus oleraceus *	Common Sow-Thistle
Vulpia myuros *	Rat's-Tail Fescue
Birds	
Callipepla californica	California Quail
Carduelis psaltria	Lesser Goldfinch
Carpodacus mexicanus	Housefinch
Chamaea fasciata	Wrentit
Corvus brachyrhynchos	Common Crow
Falco sparverius	American Kestrel
Icterus cucullatus	Hooded Oriole
Melospiza melodia	Song Sparrow
Mimus polyglottos	Mockingbird
Myiarchus cinerascens	Ash-throated Flycatcher
Pipilo crissalis	California Towhee
Pipilo maculatus	Spotted Towhee
Polioptila californica	**California Gnatcatcher**
Psaltriparus minimus	Bushtit
Sayornis nigricans	Black Phoebe
Selasphorus sasin	Allen's Hummingbird
Thryomanes bewickii	Bewick's Wren
Zenaida macroura	Mourning Dove
Mammals	
Neotoma macrotis	Big-eared Woodrat
Spermophilus beecheyi	California Ground Squirrel
Sylvilagus auduboni	Desert Cottontail Rabbit
Thomomys bottae	Valley Pocket Gopher
Reptiles	
Sceloporus occidentailis	Western Fence Lizard

Total = 55 plants, 23 animals detected

* = non-native or non-indigenous taxon **BOLD** = Sensitive Species

Table 2. Impact and Mitigation Analysis – Wishbone Way Project, Encinitas

Biological Resource	Pre-development Acreage	Potential Impact[1]	Applicable Mitigation Ratio	Required Mitigation	Acre Within On-site Open Space
Diegan Coastal Sage Scrub	1.82 acres	0.42 acre	2-to-1	0.84 acre	1.40 acres less 0.17 acre[2]
Disturbed Habitat	0.65 acre	0.58 acre	none	none	0.07 acre
Total	**2.47 acres**	**1.00 acre**	**--**	**0.84 acre**	**1.30 acres**[3]

[1] *Includes 50-70 feet of brush clearing from the edge of the habitable structure.*
[2] *Represents excluded 0.17 acre sewer easement*
[3] *The 1.30 acres of vegetation within open space excludes a 0.17 acre sewer easement area*

Figure 1. U.S.G.S. "Encinitas, California" Quadrangle - Wishbone Way Project Site, Encinitas

Figure 2. Vicinity Exhibit - Wishbone Way Project Site, Encinitas

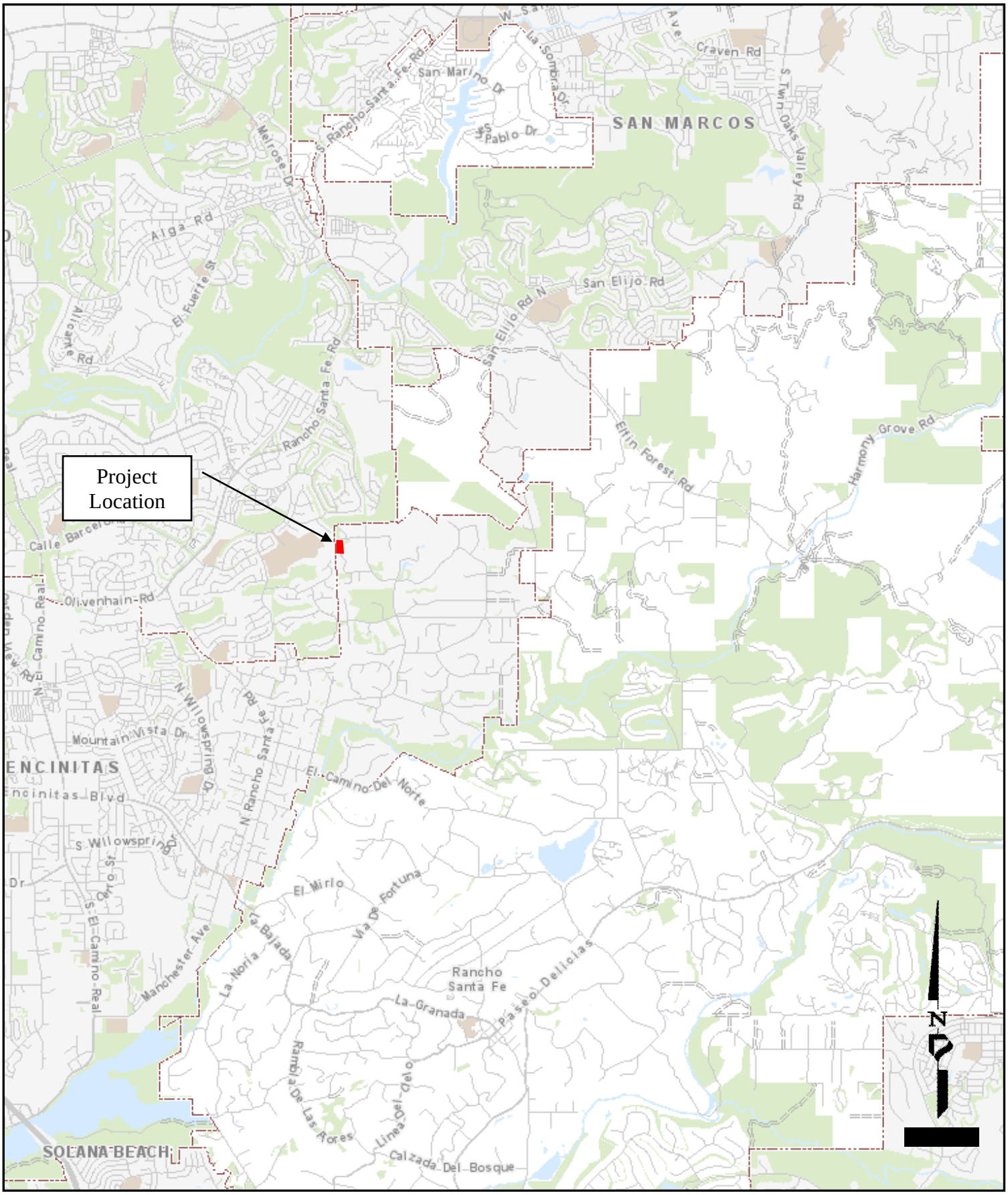


Figure 3. Aerial Photo Showing Study Area - Wishbone Way Project, Encinitas

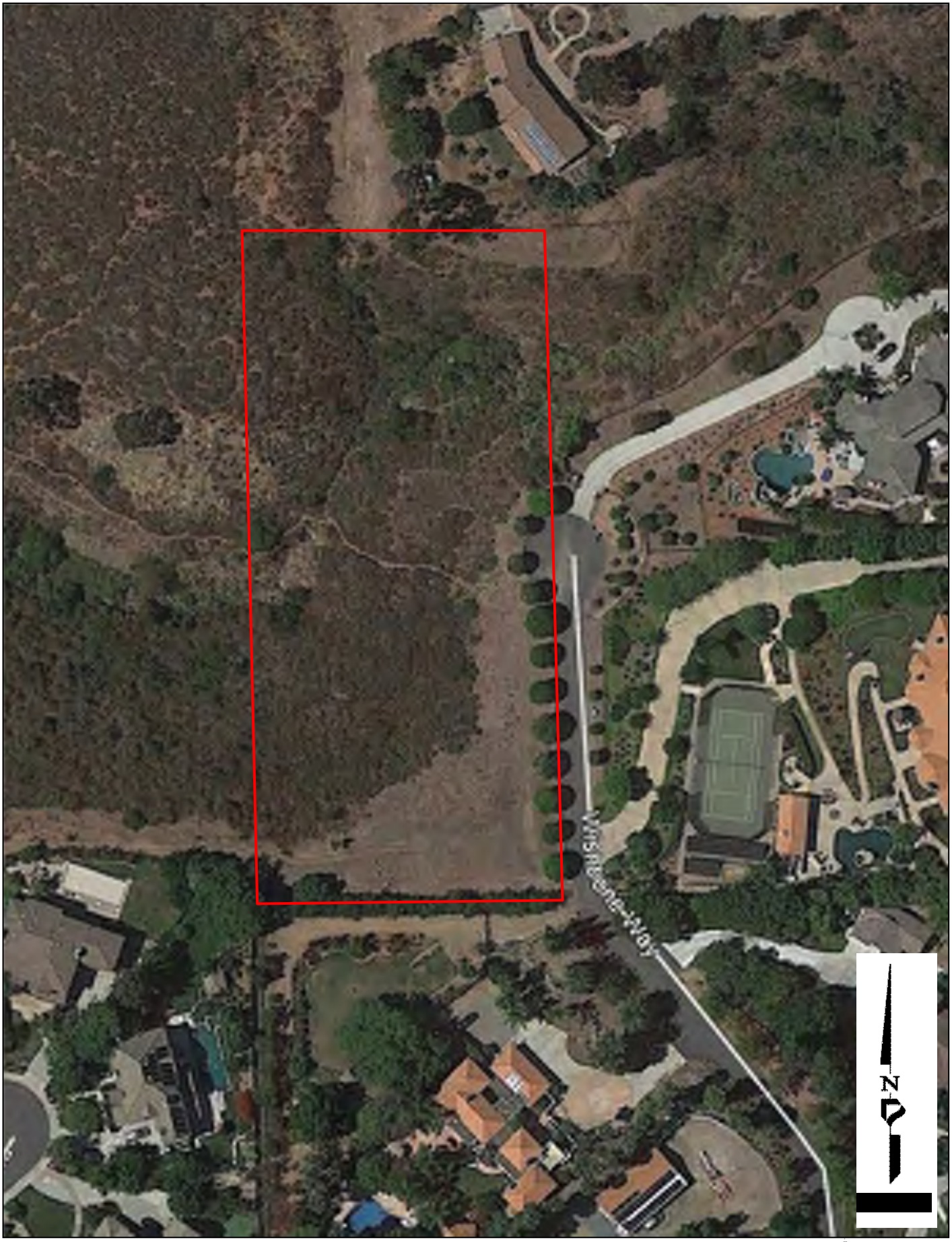


Figure 4. Biological Resources on Aerial Photo - Wishbone Way Project, Encinitas

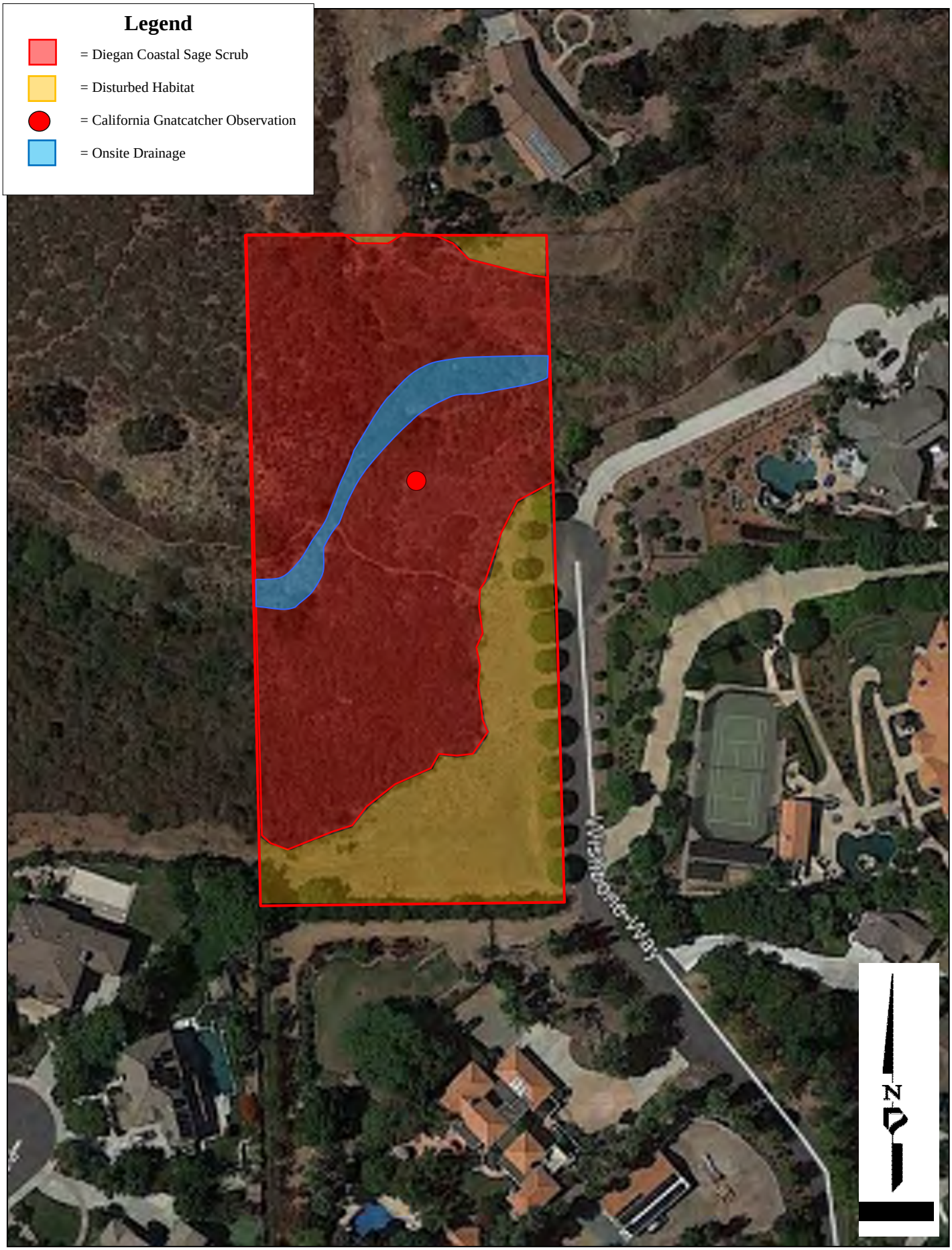
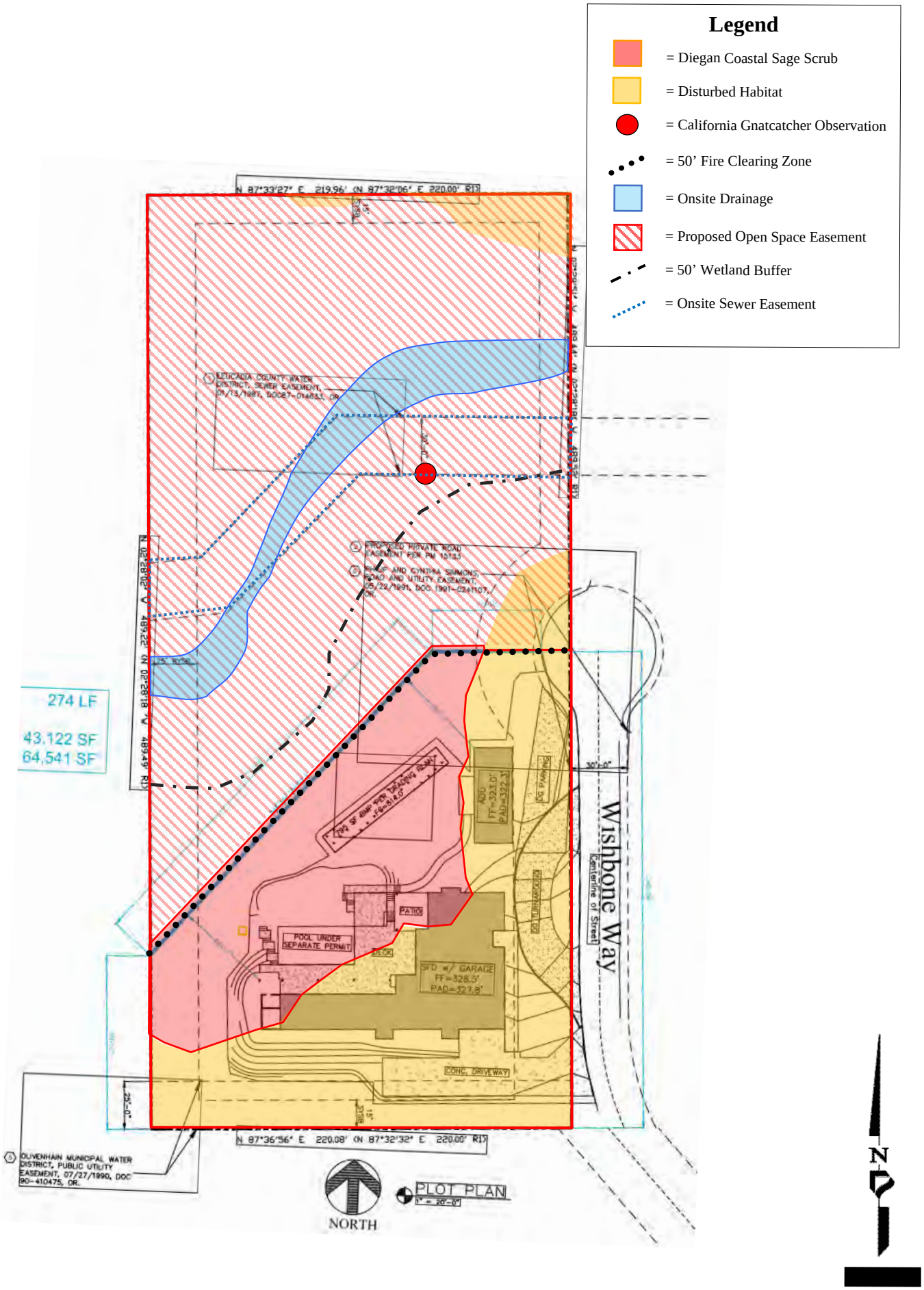


Figure 5. Biological Resources, Fire Clearing, on Site Plan - Wishbone Way Project, Encinitas



Attachment A
Site Photos

[redacted]

[redacted]

[redacted]

Attachment B.
California Gnatcatcher Survey Report

REPORT OF A PROTOCOL FIELD SURVEY
FOR
CALIFORNIA GNATCATCHER
(*POLIOPTILA CALIFORNICA*)

Wishbone Way Single Family Residential Project

Encinitas, Californi[redacted]

Prepared for

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DG Design & Build
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3158 Occidental Street
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September 2021

Vincent N. Scheidt, MA
Biological Consultant
TE788133-6

INTRODUCTION

This report presents the results of a protocol presence/absence field survey of the Wishbone Way Single Family Residential (SFR) project site for California Gnatcatcher (*Polioptila californica*), a federally-listed Threatened Species. The project site, which is located in the City of Encinitas (Figure 1), supports Diegan Coastal Sage Scrub (CSS). Because the Wishbone Way Single Family Residential project site supports CSS, the property was surveyed for the presence or absence of California Gnatcatcher (CAGN), which is a year-round resident species in this and similar habitat-types, although it does sometimes disperse into unsuitable habitat for a period during fledging in the fall.

Diegan Coastal Sage Scrub covers a majority of the project site. This diverse, native vegetation-type is dominated by California Sagebrush *(Artemisia californica)*, Flat-top Buckwheat *(Eriogonum fasciculatum)*, Laurel Sumac *(Malosma laurina)*, and other scrub species.

GOAL OF STUDY

The goal of this study was to survey the Wishbone Way SFR project site to determine the presence or absence of CAGN. Any other listed species detected during the surveys were to be documented. This directed study has been provided pursuant to the current U.S. Fish and Wildlife Service (FWS) survey protocol for this species.

METHODS

Fieldwork associated with this study consisted of a series of six focused field surveys completed on the following dates and under the following conditions:

Date	Hours	Conditions
15 May 2021	08:00 –09:30	Cloudy skies; very light W breeze; Temps in the low 60°s
25 May 2021	07:45 – 09:30	Clear skies; no wind; Temps in the high 60°s
01 June 2021	08:00 – 09:00	Overcast skies; no wind; Temps in the mid 60°s
08 June 2021	08:00 – 10:00	Overcast skies; 5-10 mph winds; Temps in the mid 60°s
16 June 2021	09:00 – 10:45	Overcast to partially cloudy skies; No wind; Temps mid to high 60°s
25 June 2021	10:00 – 11:00	Overcast to partially cloudy skies; No wind; temps mid 60°s

Field surveys were conducted by the author in possession of Federal 10 (a) (1) (a) Recovery Permit #TE788133 and Associate Biologist Brandon Myers.

Field surveys were completed by slowly walking random transects through all areas of potential gnatcatcher habitat on the property. Specimens were visually searched for at all times, and playback calls of this species were broadcast using a hand-held minicassette tape to assist with the detection of specimens. Weather conditions were generally conducive to CAGN field surveying on each of the survey dates. Particular attention was paid to areas that had the highest probability of supporting this species, based on the experience of the surveyor. Binoculars were used to aid in observations, and all avifauna detected were noted (Table 1). Nomenclature used in this report is taken from standard field references, including the American Ornithological Union (AOU), and others.

RESULTS

California Gnatcatcher Habitat Assessment

California Gnatcatchers occur in coastal and interior areas of coastal sage and related scrub habitats typically dominated by California Sagebrush, Flat-top Buckwheat, Laurel Sumac, and other soft-woody shrubs. The project site supports CSS that is suitable habitat for CAGN foraging, although it is impacted to a degree by edge effects from adjoining development. With respect to gnatcatcher occupancy, the quality of the onsite habitat is considered moderate, based mostly on the influence of edge effects.

California Gnatcatcher Presence/Absence

CAGN was detected on the Wishbone Way SFR project site during one of the six protocol field surveys.

CONCLUSIONS AND RECOMMENDATIONS

As stated above, the Wishbone Way SFR project site supported CAGN during the field survey. Based on the quality of the habitat and observation during the nesting season, it is likely that CAGN breeds nearby and uses the property for foraging. The specimens detected were persistent in a single small area of the site (see Figure 2) within the CSS, possibly near a nest site. Specimens were never observed on any other areas of the property.

Table 1. Avifauna Detected – Wishbone Way Single Family Residential

Scientific Name	Common Name
Callipepla californica	California Quail
Carduelis psaltria	Lesser Goldfinch
Carpodacus mexicanus	Housefinch
Chamaea fasciata	Wrentit
Corvus brachyrhynchos	Common Crow
Falco sparverius	American Kestrel
Icterus cucullatus	Hooded Oriole
Melospiza melodia	Song Sparrow
Mimus polyglottos	Mockingbird
Myiarchus cinerascens	Ash-throated Flycatcher
Pipilo crissalis	California Towhee
Pipilo maculatus	Spotted Towhee
Polioptila californica	**California Gnatcatcher**
Psaltriparus minimus	Bushtit
Sayornis nigricans	Black Phoebe
Selasphorus sasin	Allen's Hummingbird
Thryomanes bewickii	Bewick's Wren
Zenaida macroura	Mourning Dove

Figure 1. Regional Location – Wishbone Way Single Family Residential Project
Portion of the U.S.G.S. "Encinitas" 7.5' Quadrangle Map

Figure 2. Aerial Photo Showing California Gnatcatcher Observation Area - Wishbone Way Single Family Residential Project Site, Encinitas

Appendix B. Wetland Survey

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VINCENT N. SCHEIDT

Biological Consultant

3158 Occidental Street • San Diego, CA • 92122-3205 • 858-457-3873 • 858-336-7106 cell • email: vince.scheidt@gmail.com

Memorandum

To: Kevin Danzell

From: Vince Scheidt, Biological Consultant

Date: March 21, 2022

RE: Wetlands Survey – Wishbone Way SF Residential Project, Encinitas

Per your request, I have completed a survey of wetland resources associated with your Wishbone Way Single Family Residential Project in Encinitas. This City has asked that you identify and map all wetland resources in conjunction with the approval of a development permits to allow the construction of a single-family home on this property.

In order to evaluate site wetland resources, I completed a site reconnaissance inspection of the subject property on March 2, 2022. The drainage feature which bisects the northern third of the property was examined in the field, measured, and mapped on a recent aerial photo. All riparian species and habitats were identified as they were encountered.

The subject property supports a well-defined watercourse that runs along the northern portion of the property, entering the property from east and exiting to the west (Figure 1). The vegetation along the watercourse consists of exposed rock and cobbles, with some riparian indicator species, including large numbers of San Diego Marsh-Elder *(Iva hayesiana)* covering the bead of the flowline on the eastern portion of the drainage. The drainage was dry during this and the prior field surveys of the property, although it certainly carries significant flows during and briefly after major rainfall events. The watercourse qualifies as a federal/state "waters" on the basis of hydrology and hydrophytes.

The proposed grading plan will avoid and buffer the watercourse, placing the entirety of the drainage and a suitable biological buffer of approximately 50 feet into a biological open space easement. At this time, it is recommended that no clearing take place in this drainage or in the biological buffer area. This will protect the watercourse and the adjoining areas of sensitive upland Coastal Sage Scrub vegetation within the buffer.

Figure 1. Grading Plan – Wishbone Way SFR Project

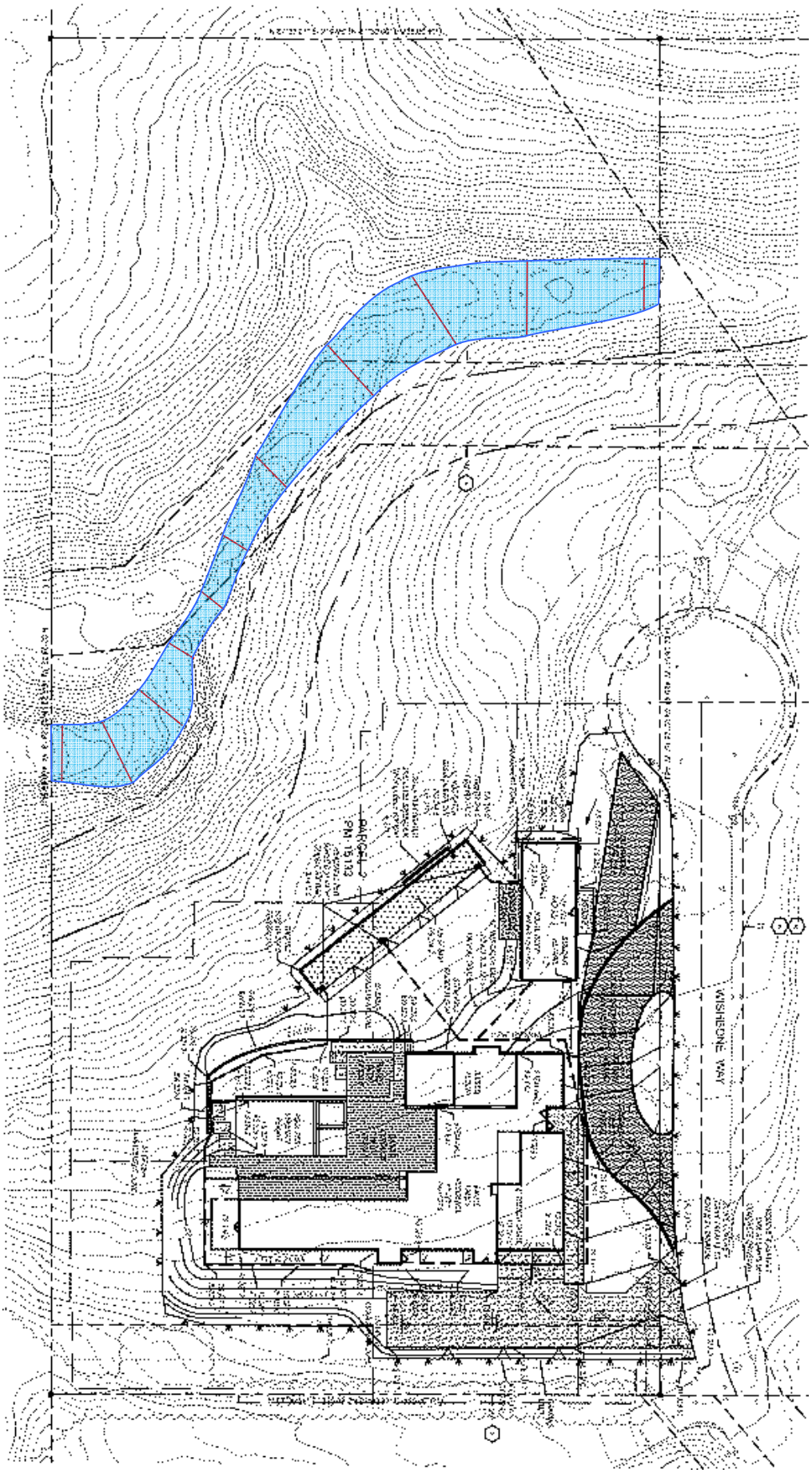

Photo 1. View of the drainage looking west. Note steep slopes. The drainage varies in width as it meanders across the property.

Photo 2. View of the drainage looking east. Note dense cover of San Diego Marsh-Elder (red arrow) obscuring the rock-strewn creek bed.

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Appendix C. Cultural Resource Survey Report

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CULTURAL RESOURCE SURVEY REPORT
FOR THE
2901 WISHBONE WAY RESIDENCE PROJECT,
CITY OF ENCINITAS, CALIFORNIA
(LDEV-017128-2021)

Prepared for:
Mr. Kevin Dalzell
DG Design & Build
162 S. Rancho Santa Fe Road #E70-535
Encinitas, CA 92024

Prepared by:

Laguna Mountain Environmental, Inc.
3421 Voltaire Street
San Diego, CA 92106

Andrew R. Pigniolo, RPA

October 2023

Laguna Mountain Environmental, Inc.

CULTURAL RESOURCE SURVEY REPORT
FOR THE
2901 WISHBONE WAY RESIDENCE PROJECT,
CITY OF ENCINITAS, CALIFORNIA
(LDEV-017128-2021)

Prepared for:
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Encinitas, CA 92024

Prepared by:

Laguna Mountain Environmental, Inc.
3421 Voltaire Street
San Diego, CA 92106

Andrew R. Pigniolo, MA, RPA

October 2023

National Archaeological Data Base Information
Type of Study: Cultural Resource Survey
Sites: None
USGS Quadrangle: Encinitas 7.5'
Area: 2.47 Acres
Key Words: City of Encinitas, Cultural Resource Survey, 2901 Wishbone Way, Negative Survey

TABLE OF CONTENTS

Section **Page**

ABSTRACT.. iii

I. INTRODUCTION. 1
- A. Project Description.. 1
- B. Project Personnel. 1
- C. Structure of the Report.. 4

II. NATURAL AND CULTURAL SETTING. 5
- A. Natural Setting. 5
- B. Cultural Setting. 6
- C. Prior Research. 9
- D. Native American Consultation/Participation. 12

III. RESEARCH DESIGN AND SURVEY METHODS. 13
- A. Research Design.. 13
- B. Methods. 13

IV. SURVEY RESULTS. 14

V. SUMMARY AND RECOMMENDATIONS. 16

VI. REFERENCES. 20

APPENDICES
- A. Resume of Principal Investigator
- B. Record Search Confirmation
- C. Native American Correspondence

LIST OF FIGURES

Number	Title	Page
1	Regional Location Map	2
2	Project Location	3
3	Project Overviews	15

LIST OF TABLES

Number	Title	Page
1	Cultural Resource Investigations within One Mile of the Project Area	10
2	Recorded Cultural Resources within One Mile of the Project Area	12

ABSTRACT

Laguna Mountain Environmental, Inc. (Laguna Mountain) conducted an intensive archaeological survey for the 2901 Wishbone Way Residence Project in City of Encinitas, California. This investigation included a review of archaeological and historical information in addition to an archaeological field survey of the project area.

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA), the California Code of Regulations (CCR), and related implementing regulations and guidelines. The City of Encinitas will serve as lead agency for the project and CEQA compliance.

A records search covering the project area and a one-mile radius was conducted at the South Coastal Information Center. At least 53 cultural resource studies have been undertaken within one mile of the project. Most of these studies deal with residential and commercial development projects, historic structure assessments, and infrastructure development. No cultural resources have been recorded within the project area but 19 cultural resources have been recorded within one mile of the project area; 18 prehistoric and 1 historic. The prehistoric resources consist of primarily habitation and camp sites along with lithic scatters and an isolate. The historic site is the ruins of an adobe built in 1842. Additionally, a records search of the Sacred Lands Files of the Native American Heritage Commission (NAHC) was requested by Laguna Mountain.

The archaeological survey was conducted by Mr. Andrew R. Pigniolo, RPA on February 17, 2022. Mr. Noah Deragon, of Jamul Indian Village, served as Native American monitor for the project. Fieldwork included an intensive 10 to 15-m interval transect survey throughout the project area. The eastern and southern margins of the project area have been previously disturbed by clearing and grading in relation to the adjacent development and road. Most of the project was covered in natural shrub vegetation. Surface visibility was good with limited non-native weed cover and open understory below existing shrub vegetation. Survey visibility averaged approximately 60 percent. Shallow native soils were observed throughout the property and the cultural resources survey of the project adequately served to identify cultural resources.

No prehistoric cultural resources were observed within the project area. Santiago Peak Volcanic rock outcrops were present, but the quality of the material was too coarse for the production of stone tools. A portion of the area has been disturbed by a sewer line through the northwestern corner of the project.

The absence of cultural resources within the project area and the limited potential for buried cultural resources based on shallow soils indicates that no significant impacts to cultural resources will result from this project. Native American concerns for the potential that buried cultural resources might be impacted has resulted in a recommendation of archaeological and Native American monitoring during project construction.

I. INTRODUCTION

A. Project Description

The proposed project is the single family residence on 2.47 acres of land. The project area is located in the west-central coast portion of San Diego County in the City of Encinitas (Figure 1). The project is a vacant parcel on the east side of Wishbone Way (APN 294-222-33-00), east of Interstate 5 and Rancho Santa Fe Road. Encinitas Creek passes through the northwest corner of the property, Maverick Way is across the creek to the west, and there are residences to the immediate south and on the east side of Wishbone Way. The project is located in an unsectioned portion of the Los Encinitos land grant in Township 13 South and Range 3 West, shown on the Rancho Santa Fe 7.5' USGS quadrangle (Figure 2).

The proposed project includes construction of a single family residence along with a garage and driveway. The driveway will provide access from Wishbone Way. Construction will include grading and excavation for foundations and utilities.

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA) and their implementing guidelines and regulations. The City of Encinitas will serve as lead agency for the project and CEQA compliance. The archaeological survey was conducted to determine if any cultural resources eligible for inclusion in the California Register of Historic Resources (California Register) would be affected by this project.

B. Project Personnel

The cultural resource survey was conducted by Laguna Mountain Environmental, Inc. (Laguna Mountain), whose cultural resources staff meet state and local requirements. Mr. Andrew R. Pigniolo served as Principal Investigator for the project and conducted the field survey. Mr. Pigniolo is a member of the Register of Professional Archaeologists (RPA) and meets the Secretary of the Interior's standards for qualified archaeologists. Mr. Pigniolo has an M.A. degree in Anthropology from San Diego State University and has more than 42 years experience in the San Diego region. His resume is included in Appendix A.

Ms. Carol Serr conducted the records search, prepared the report graphics, and formatted the report. She has a B.A. in Anthropology from San Diego State University and more than 42 years of experience doing San Diego County archaeology.

Mr. Noah Deragon, of Jamul Indian Village, served as the Native American monitor for the project. He has more than two years experience conducting Native American monitoring in San Diego County.

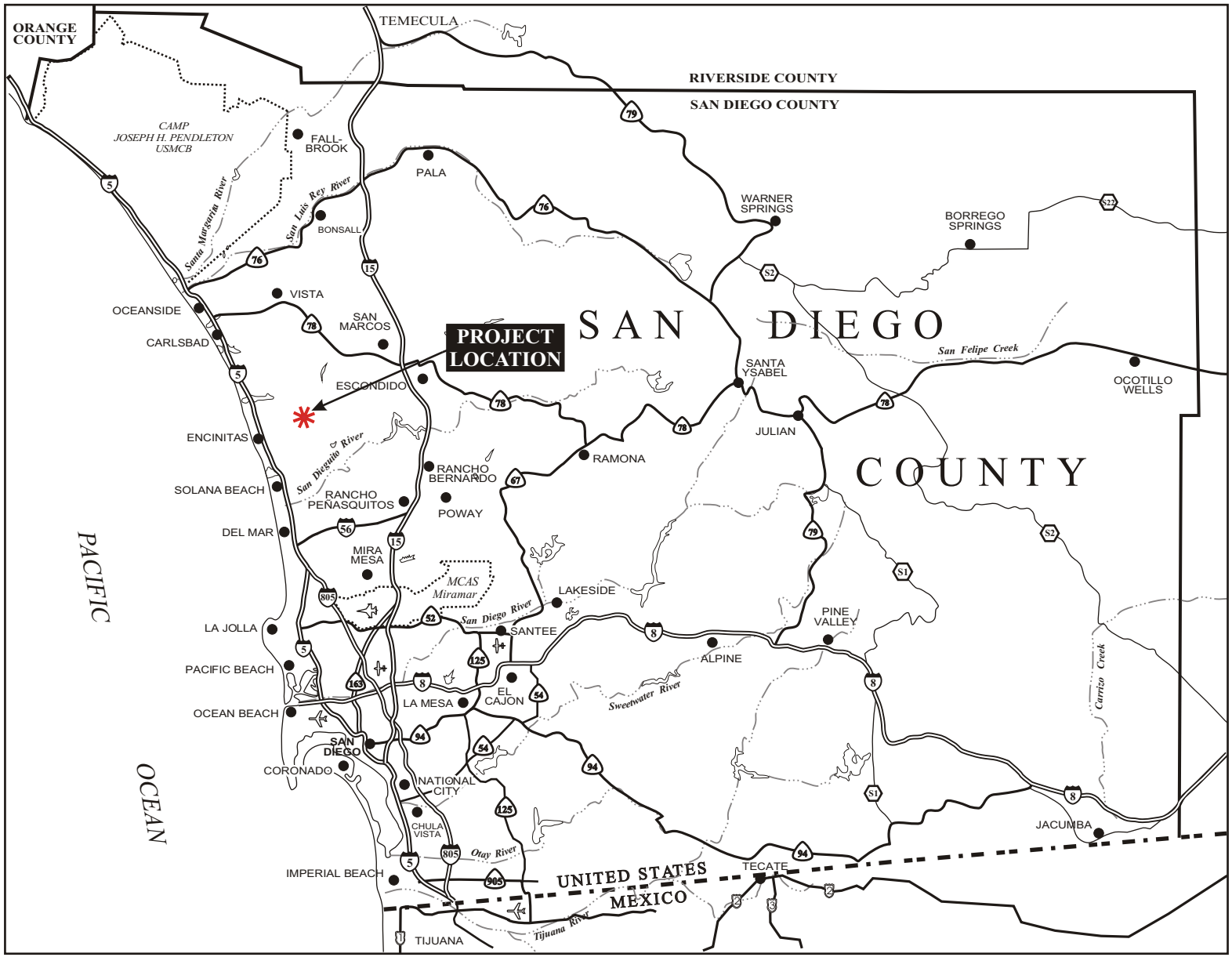
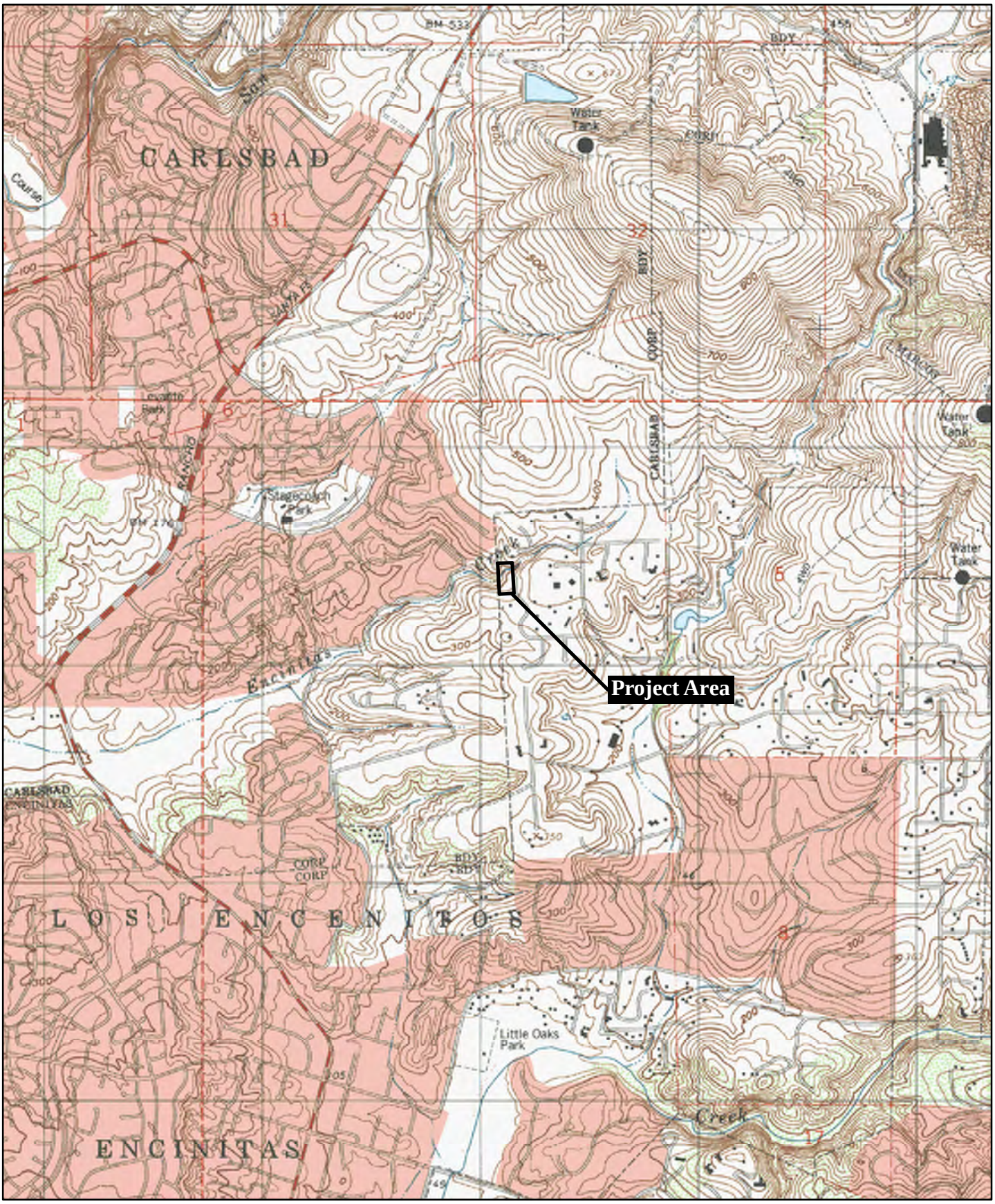


Figure 1
Regional Location Map

Laguna Mountain Environmental, Inc.



Source: USGS 7.5' Rancho Santa Fe Quadrangle

Figure 2
Project Location

0 1,000 2,000 Feet

Laguna Mountain Environmental, Inc.

C. Structure of the Report

This report follows the State Historic Preservation Office's guidelines for Archaeological Resource Management Reports (ARMR). The report introduction provides a description of the project and associated personnel. Section II provides background on the project area and previous research. Section III describes the research design and survey methods, while Section IV describes the survey results. Section V includes a summary and recommendations, and Section VI provides the references cited.

II. NATURAL AND CULTURAL SETTING

The following environmental and cultural background provides a context for the cultural resource inventory.

A. Natural Setting

The project area is located in the north central-coast portion of San Diego County approximately 5 miles inland from the Pacific Ocean and about 2.5 miles southeast of Batiquitos Lagoon. Elevation ranges from between 260 and 325 feet above mean sea level. The property includes a ridge slope west of Wishbone Way, a steep-sided gully along Encinitas Creek, and another slope on the northern edge of the project. The property does not appear to have been disturbed or used for agricultural purposes in the past. The construction of Wishbone Way, beginning in 1989, may have impacted the very eastern margin, along with the planting of a north-south oriented row of trees here, in 2003. The project vicinity includes low-density residential development to the south and east, but open space exists to the west.

The geomorphology of the project area is a product of the region's geologic history. During the Jurassic and late Cretaceous Periods (>100 million years ago) a series of volcanic islands paralleled the current coastline in the San Diego region. The remnants of these islands stand as Mount Helix, Black Mountain, and the Jamul Mountains among others. This island arc of volcanos spewed out vast layers of tuff (volcanic ash) and volcanic breccia that have since been metamorphosed into hard rock of the Santiago Peak Volcanic formation. These fine-grained rocks provided a regionally important resource for Native American flaked stone tools.

At about the same time, a granitic and gabbroic batholith was being formed east of these volcanoes. This batholith was uplifted and forms the granitic rocks and outcrops of the Peninsular Range and the foothills to the west. In San Diego County the large and varied crystals of these granitic rocks provided particularly good abrasive surfaces for Native American seed processing. These outcrops were frequently used for bedrock milling of seeds. The batholith contains numerous pegmatite dikes. This was a good source of quartz, a material used by Native Americans for flaked stone tools and ceremonial purposes.

As the Peninsular Batholith rose, it warped and metamorphosed the overlying sediments, forming the Julian Schist (Remeika and Lindsay 1992). This formation contains quartzite, a material also used for Native American flaked stone tools. Its relatively poor flaking qualities made this quartzite less popular for tool making than the quartz and Santiago Peak materials.

The project area is underlain by the Santiago Peak Volcanic Formation (Kennedy and Tan 2005). This portion of the formation consists of undivided metasedimentary and metavolcanic rocks. It includes a wide variety of low- to high-metamorphic grade metavolcanic and metasedimentary rocks that are mostly volcaniclastic breccia and metaandesitic flows, tuffs and tuff breccia (Kennedy and Tan 2005).

Soils in the project area are San Miguel rocky silt loam (Bowman 1973). The San Miguel series consists of well-drained, shallow to moderately deep silt loams that have a clay subsoil. These soils are derived from metavolcanic rock. In a representative profile, the surface layer is light yellowish-brown and very pale brown, medium acid and strongly acid silt loam about 8 inches thick. The subsoil is strong-brown and yellowish-brown, strongly acid and very strongly acid clay and gravelly clay. At a depth of about 23 inches is hard metavolcanic rock. Rocks cover about 10 percent of the surface (Bowman 1973).

The closest fresh water source is Encinitas Creek crossing the northwestern corner of the project area. The climate of the region can generally be described as Mediterranean, with cool, wet winters and hot, dry summers. Rainfall limits vegetation growth, but the drought deciduous coastal sage scrub vegetation remains throughout most of the project area. Components of this community provided important resources to Native Americans in the region. Sage seed, yucca, buckwheat, acorns, and native grasses formed important food resources to Late Prehistoric Native Americans.

Animal resources in the region probably included deer, fox, raccoon, skunk, bobcats, coyotes, rabbits, and various rodent, reptile, and bird species. Small game, dominated by rabbits, was relatively abundant. Coastal resources include shellfish, fish, and other animal species, and are located on the open coast roughly two miles west and in Batiquitos Lagoon.

B. Cultural Setting

Paleoindian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleoindian period, which has locally been termed the San Dieguito complex/tradition. The Paleoindian period is thought to have occurred between 9,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted point complexes such as Clovis, the San Dieguito complex is still seen as a hunting focused economy with limited use of seed grinding technology. The economy is generally seen to focus on highly ranked resources such as large mammals and relatively high mobility which may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and also near the coast where it was first documented at the Harris Site.

Early Archaic Period

Native Americans during the Archaic period had a generalized economy that focused on hunting and gathering. In many parts of North America, Native Americans chose to replace this economy with types based on horticulture and agriculture. Coastal southern California economies remained largely based on wild resource use until European contact (Willey and Phillips 1958). Changes in hunting technology and other important elements of material culture have created two distinct subdivisions within the Archaic period in southern California.

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on the use of grinding and seed processing technology. At sites dated between approximately 8,000 and 1,500 years before present (BP), the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identify a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto and Elko series projectile points, large bifaces, manos and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in technology within this relatively long chronological unit appear limited. Several scientists have considered changes in projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change (Moratto 1984), but these units are poorly defined locally due to poor site preservation.

Late Prehistoric Period

Around 2,000 BP, Yuman-speaking people from the eastern Colorado River region began migrating into southern California, representing what is called the Late Prehistoric Period. The Late Prehistoric Period in San Diego County is recognized archaeologically by smaller projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on inland plant food collection and processing, especially acorns (True 1966). Inland semi-sedentary villages were established along major watercourses, and montane areas were seasonally occupied to exploit acorns and piñon nuts, resulting in permanent milling features on bedrock outcrops. Mortars for acorn processing increased in frequency relative to seed grinding basins. This period is known archaeologically in southern San Diego County as the Yuman (Rogers 1945) or the Cuyamaca Complex (True 1970).

The Kumeyaay (formerly referred to as Diegueño) who inhabited the southern region of San Diego County, western and central Imperial County, and northern Baja California (Almstedt 1982; Gifford 1931; Hedges 1975; Luomala 1976; Shipek 1982; Spier 1923) are the direct descendants of the early Yuman hunter-gatherers. Kumeyaay territory encompassed a large and diverse environment, which included marine, foothill, mountain, and desert resource zones. Their language is a dialect of the Yuman language, which is related to the large Hokan super family.

There seems to have been considerable variability in the level of social organization and settlement variance. The Kumeyaay were organized by patrilineal, patrilocal lineages that claimed prescribed territories, but did not own the resources except for some minor plants and eagle aeries (Luomala 1976; Spier 1923). Some lineages occupied procurement ranges that required considerable residential mobility, such as those in the deserts (Hicks 1963). In the mountains, some of the larger groups occupied a few large residential bases that would be occupied biannually, such as those occupied in Cuyamaca in the summer and fall, and in Guatay or Descanso during the rest of the year (Almstedt 1982; Rensch 1975). According to Spier (1923), many Eastern Kumeyaay spent the period of time from spring through autumn in larger residential bases in the upland procurement ranges, and wintered in mixed groups in residential bases along the eastern foothills on the edge of the desert (i.e., Jacumba and Mountain Springs). This variability in settlement mobility and organization reflects the great range of environments in the territory.

Acorns were the single most important food source used by the Kumeyaay. Their villages were usually located near water, which was necessary for leaching acorn meal. Other storable resources such as mesquite or agave were equally valuable to groups inhabiting desert areas, at least during certain seasons (Hicks 1963; Shackley 1984). Seeds from grasses, manzanita, sage, sunflowers, lemonade berry, chia, and other plants were also used along with various wild greens and fruits. Deer, small game, and birds were hunted and fish and marine foods were eaten. Houses were arranged in the village without apparent pattern. The houses in primary villages were conical structures covered with tule bundles, having excavated floors and central hearths. Houses constructed at the mountain camps generally lacked any excavation, probably due to the summer occupation. Other structures included sweathouses, ceremonial enclosures, armadas, and acorn granaries. The material culture included ceramic cooking and storage vessels, baskets, flaked lithic and ground stone tools, arrow shaft straighteners, stone, bone, and shell ornaments.

Hunting implements included the bow and arrow, curved throwing sticks, nets and snares. Shell and bone fishhooks, as well as nets, were used for fishing. Lithic materials including quartz and metavolcanics were commonly available throughout much of the Kumeyaay territory. Other lithic resources, such as obsidian, chert, chalcedony, and steatite, occur in more localized areas and were acquired through direct procurement or exchange. Projectile points including the Cottonwood Series points and Desert Side-notched points were commonly produced.

Kumeyaay culture and society remained stable until the advent of missionization and displacement by Hispanic populations during the eighteenth century. The effects of missionization, along with the introduction of European diseases, greatly reduced the native population of southern California. By the early 1820s, California was under Mexico's rule. The establishment of ranchos under the Mexican land grant program further disrupted the way of life of the native inhabitants.

Ethnohistoric Period

The Ethnohistoric period refers to a brief period when Native American culture was initially being affected by Euroamerican culture and historical records on Native American activities were limited. When the Spanish colonists began to settle California, the project area was within the territory of a loosely integrated cultural group historically known as the Kumeyaay or Northern and Southern Diegueño because of their association with the San Diego Mission. The Kumeyaay as a whole speak a Yuman language, which differentiates them from the Luiseño, who speak a Takic language to the north (Kroeber 1976). Both of these groups were hunter-gatherers with highly developed social systems. European contact introduced diseases that dramatically reduced the Native American population and helped to break down cultural institutions. The transition to a largely Euroamerican lifestyle occurred relatively rapidly in the nineteenth century.

Historic Period

Cultural activities within San Diego County between the late 1700s and the present provide a record of Native American, Spanish, Mexican, and American control, occupation, and land use. An abbreviated history of San Diego County is presented for the purpose of providing a background on the presence, chronological significance, and historical relationship of cultural resources within the county.

Native American control of the southern California region ended in the political views of western nations with Spanish colonization of the area beginning in 1769. De facto Native American control of the majority of the population of California did not end until several decades later. In southern California, Euroamerican control was firmly established by the end of the Garra uprising in the early 1850s (Phillips 1975).

The Spanish Period (1769-1821) represents a period of Euroamerican exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego and San Luis Rey Missions. The mission system used Native Americans to build a footing for greater European settlement. The mission system also introduced horses, cattle, agricultural goods and implements; and provided construction methods and new architectural styles. The cultural and institutional systems established by the Spanish continued beyond the year 1821, when California came under Mexican rule.

The Mexican Period (1821-1848) includes the retention of many Spanish institutions and laws. The mission system was secularized in 1834, which dispossessed many Native Americans and increased Mexican settlement. After secularization, large tracts of land were granted to individuals and families, and the rancho system was established. Cattle ranching dominated other agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblos of San Diego and Los Angeles were established during this period, and Native American influence and control greatly declined. The Mexican Period ended when Mexico ceded California to the United States after the Mexican-American War of 1846-48.

Soon after American control was established (1848-present) gold was discovered in California. The tremendous influx of American and Europeans that resulted, quickly drowned out much of the Spanish and Mexican cultural influences and eliminated the last vestiges of de facto Native American control. Few Mexican ranchos remained intact because of land claim disputes and the homestead system increased American settlement beyond the coastal plain.

C. Prior Research

This archaeological investigation includes archival and other background studies performed prior to Laguna Mountain's field survey of the project area. The archival research consisted of literature and record searches at local archaeological repositories, in addition to an examination of historic maps, and historic site inventories. This information was used to identify previously recorded resources and determine the types of resources that might occur in the survey area.

The records and literature search for the project was conducted at the South Coastal Information Center at San Diego State University. The records search included a one-mile radius of the project area to provide background on the types of sites that would be expected in the region (Appendix B). Copies of historic maps were provided by the South Coastal Information Center.

A records search revealed that at least 53 cultural resource studies have been undertaken within one mile of the project (Table 1). Most of these studies deal with residential and commercial development projects, historic structure assessments, and infrastructure development.

Table 1. Cultural Resource Investigations within One Mile of the Project Area

Author(s)	Report Title	Year
Advance Planning & Research	Copper Creek Hills Subdivision TM 3668 Log #77-8-104, Olivenhain	1977
Advance Planning & Research	Terral Subdivision TM 3904 EAD Log # 78-8-286, Olivenhain	1979
American Pacific Environmental Consultants	Archaeological Reconnaissance of the Rancho Verde Property	1981
Berryman	Cultural Resources Survey of the Wiegand Parcel	1988
Berryman and Hatley	Archaeological Survey for Wyer Property, San Diego	1974
Bissell and Raschke	Cultural and Paleontological Resources Literature Review of the Carlsbad/La Costa Project Area	1988
Bull	Radial Posthole Tests at La Costa Far South (Including Santa Fe Knolls)	1976
Bull	Archaeological Investigations Santa Fe Knolls	1979
City of Carlsbad	La Costa Master Plan and General Plan Amendment	1975
Cleland	Negative Archaeological Survey, O'Brien Lot Split, Encinitas	1993
Cook	Archaeological Reconnaissance of the Copper Creek Hills Lot Split, San Diego County	1977
Cordova	Archaeological Survey for Pole Brushing Project, Various Locations, San Diego County	2015
Cotton/Beland Associates	Stagecoach Park, City of Carlsbad Draft Environmental Impact Report	1985
Duke	Cultural Resource Assessment AT&T Wireless Services Facility No. 10047A-05, San Diego County	2002
Gallegos and Carrico	The La Costa Site SDi-4405 (W945) 7000Years Before Present, Carlsbad	1985
Gallegos and Pigniolo	Cultural Resource Survey of the Rancho Santa Fe Road Alignment, Carlsbad	1989
Gallegos et al.	A Cultural Resource Overview for the Encinitas Planning Area	1986
Gross	Radiocarbon Dates from CA-SDI-11483, an Archaeological Site in the City of Encinitas	1999
Gross and Robbins-Wade	Archaeological Testing Program and Data Recovery Plan for Santa Fe Highlands (The Rice Property), Carlsbad	1989
Gross and Robbins-Wade	Archaeological Survey of the Shelley Carlsbad Property	1989
Hanna	The Phase II Archaeological Test of Malcolm J. Rogers' Site SDM-W-181 at La Costa Town Center in the City of Carlsbad	1991
Harris	First Supplement: Rancho Santa Fe Bridge Replacement Project	2000
Harris	First Supplement: Rancho Santa Fe Road Bridge Replacement Project	2000
Hector	Report on the Monitoring and Preservation of the Great Western Archaeological Site, Rancho Santa Fe	1983
Hector and Patterson	Archaeological and Biological Resources of Rancho Verde	1986
Kaldenberg	The Results of a Five-Percent Archaeological Test Excavation at Santa Fe Glens (SDM-W-181-"A"), Carlsbad	1974
Kaldenberg	An Intensive Archaeological Reconnaissance of the La Costa Land Company Property, Carlsbad	1976
Kaldenberg	An Archaeological Impact Report on La Costa Far South (Easterly Area) Including Santa Fe Knolls	1976
Kyle	Cultural Resources Survey, Berg Property, 3637 Copper Crest Road, City of Encinitas	2008
Kyle and Gallegos	Archaeological Test of Five Prehistoric Sites for the Rancho Santa Fe Road Alignment Project	1992
McGinnis and Baksh	Cultural Resources Survey Report for the Dotts Property	2003
Moriarty et al.	Archaeological/Historical Survey Widders Project, San Diego	1978
NiGhabhlain	Cultural Resources Survey of the Diehl Property, Encinitas	2000

Table 1. Cultural Resources Investigations within One Mile of the Project Area
(Continued)

Author(s)	Report Title	Year
Norwood	A Cultural Resource Reconnaissance for the Rice Property, San Diego County	1981
Pierson	An Archaeological Survey of the Dowsing Project, Dusty Trail, Encinitas	1999
Pletka	Cultural Resource Assessment AT&T Wireless Services Facility No. 20035, Encinitas	2003
Polan	Archaeological Investigation of TPM 13777	1977
RECON	Environmental Impact Report for the Woolley Annexation EIR 82-3	1982
Robbins-Wade	Archaeological Resources Inventory for Denk Reservoir and Unit G Parallel Pipelne, Olivenhain, San Diego County	2002
Robbins-Wade	Archaeological Resources Inventory for Unit G Parallel Pipeline and Denk Reservoir Inlet/Outlet Project, Olivenhain	2002
Robbins-Wade	Oceanside Boulevard and Crouch Property, Archaeological Survey	2003
Robbins-Wade	Archaeological Resoruces Inventory for Unit G Pipeline 1 and Denk Reservoir Inlet/Outlet Project, Olivenhain	2004
Robbins-Wade	Archaeology Survey, Northwest Quadrant Recycled Water Pipelines Project, Encinitas and Carlsbad	2006
Seeman	Draft Environmental Impact Report Revised Parks and Recreation Element, Carlsbad	1982
Smith	An Evaluation of Cultural Resources within the Arroyo La Costa Project, City of Carlsbad	1900
Smith	Results of an Archaeological Study for the Shelly Carlsbad Subdivision Project an Archaeological Test of Four Prehistoric Sites Conducted in Accordance with CEQA and the Guidelines of the City of Carlsbad	1991
Smith	Archaeological Survey of the Hamilton Lot Split	1991
Smith	An Archaeological Survey of the Chan Residence Project, City of Encinitas	1993
Westec Services	Environmental Data Statement San Onofre to Encina 230 kV Transmission Line Addendum No. 3	1979
White	2000+/- Foot Sewer Alignment in the Olivenhain Area of the City of Carlsbad	1990
Whitney-Desautels	Archaeological and Historical Literature Search and Records Check for Alternative Alignments for Highway 680 San Diego County	1991
Zepeda-Herman	Updated Cultural Resources Survey for the La Costa Town Square Project, Carlsbad	2012
Zepeda-Herman	Results of the Archaeological Monitoring Program for the La Costa Town Square Project, Carlsbad	2013

No cultural resources have been recorded within the project area but 19 cultural resources have been recorded within one mile of the project area; 18 prehistoric and 1 historic (Table 2). The prehistoric resources consist of primarily habitation and camp sites along with lithic scatters and an isolate. The historic site is the ruins of an adobe residence built in 1842 by Andres Ibarra, now located on the slope of Stagecoach Community Park.

Historic maps and aerial photographs of the area were reviewed during the current project. They indicate that the project was not disturbed by agricultural use in the past and only the southeast corner has been graded in the last 10 years. Planting of trees along the west side of Wishbone Way in 2003 border the project area and may have disturbed this very edge of the parcel.

Table 2. Recorded Cultural Resources within One Mile of the Project Area

Resource No.	Resource Type	Recorder (Year)
P-37-004395	Archaic Habitation and Shell Midden	Kaldenberg (1975)
P-37-004402/8696	Prehistoric Habitation and Cremation Remains	Neiswender (1975); Kyle et al. (1992); Shulz et al. (2012)
P-37-004403	Prehistoric Habitation	Kaldenberg (1975)
P-37-004404	Prehistoric Lithic Scatter	Kaldenberg (1975)
P-37-004405	Prehistoric Lithic and Shell Scatter	Kaldenberg (1975)
P-37-004406	Prehistoric Bedrock Milling Station and Lithic Scatter	Neiswender (1975)
P-37-004407	Historic Encinitas Adobe Ruins	Kaldenberg (1975)
P-37-004408	Prehistoric Temporary Camp	Kaldenberg (1975)
P-37-004409	Prehistoric Temporary Camp	Kaldenberg (1975)
P-37-004410	Prehistoric Habitation with Shell	Kaldenberg (1975)
P-37-005075	Prehistoric Habitation	Carrico (1977); Bull (1977)
P-37-005232	Prehistoric Lithic Scatter	Norwood (1977)
P-37-005233	Prehistoric Temporary Camp	Bull (1977); Walker (1981); Robbins-Wade (1995)
P-37-007128	Prehistoric Bedrock Milling Station	Franklin (1979)
P-37-008436/8437	Prehistoric Lithic Scatter	Cardenas (1980); Davis (1989); Robbins-Wade (1995)
P-37-008697	Prehistoric Habitation	Kaldenberg (1975); Garrett & Zepeda-Herman (2013)
P-37-010536	Prehistoric Lithic Scatter	Walker (1981); Robbins-Wade (1995)
P-37-032610	Prehistoric Isolate Artifacts	Zepeda-Herman et al. (2012)
P-37-032611/ CA-SDI-20674	Prehistoric Habitation	Zepeda-Herman et al. (2012)

D. Native American Consultation/Participation

Federal law and City of San Diego Guidelines identify Native American consultation and participation as an important aspect of the cultural resource evaluation process. A Sacred Lands Files search was requested on February 14, 2022 (Appendix C). The results of the Sacred Lands Files search were received on April 7, 2022 indicating negative results but sent a list of Native American tribes that may have knowledge of cultural resources in the area (see Appendix C). The City of San Diego, as Lead Agency, will conduct Native American consultation for this project.

A Native American Monitor from Jamul Indian Village participated in the project fieldwork. Mr. Noah Deragon served as Native American Monitor during the survey phase of the project.

III. RESEARCH DESIGN AND SURVEY METHODS

A. Research Design

The goals of the current project were to identify any cultural resources within the project impact area through archaeological survey. To accomplish these goals, background information was examined and assessed. Based on a review of background information, it was determined that there was potential for the presence of prehistoric resources. The current field survey was conducted to identify any unrecorded resources within the project area.

B. Methods

The archaeological survey was conducted by Mr. Andrew R. Pigniolo, RPA on February 17, 2022. Mr. Noah Deragon, of Jamul Indian Village, served as Native American monitor for the project. Fieldwork included an intensive 10 to 15-m interval transect survey throughout the project area. The eastern and southern margins of the project area have been previously disturbed by clearing and grading in relation to the adjacent development and road. Most of the project was covered in natural shrub vegetation. Surface visibility was good with limited non-native weed cover and open understory below existing shrub vegetation. Survey visibility averaged approximately 60 percent. Shallow native soils were observed throughout the property and the cultural resources survey of the project adequately served to identify cultural resources.

IV. SURVEY RESULTS

No prehistoric cultural resources were observed within the project area. The project area overall was brush-covered and dominated by slopes (Figure 3). Santiago Peak Volcanic rock outcrops were present, but the quality of the material was too coarse for the production of stone tools. A portion of the area has been previously disturbed by a sewer line through the northwestern corner of the project and a few associated and mechanically made Santiago Peak Volcanic rock chips were present in this area. The sloping habitat appears to have been generally unsuitable for prehistoric occupation and use. No cultural resources were present in the project area.

a. Overview, Looking South (PR-08332-004)

b. Overview, Looking Northeast (PR-8332-008)

Figure 3
Project Overviews

V. SUMMARY AND RECOMMENDATIONS

The goal of the project was to identify resources that may be impacted by the project. The cultural resource survey did not identify any cultural resources within the project area. No impacts to cultural resources will result from this project.

The absence of cultural resources within the project area and the limited potential for buried cultural resources based on shallow soils indicates that no significant impacts to cultural resources will result from this project. Native American concerns for the potential that buried cultural resources might be impacted has resulted in a recommendation of archaeological and Native American monitoring during project construction.

The following mitigation measures (CUL-1 through CUL-6) have been established to ensure that no significant impacts result from project construction.

CUL-1 Due to the high potential for uncovering unknown subsurface archaeological resources, including Native American tribal cultural resources, cultural resource mitigation monitoring shall be undertaken for any and all on-site and off-site ground disturbing activities. If on-site and/or off-site ground disturbing activities (e.g., exploratory trenching or excavations) are required for any informal or formal solicitation (written or spoken) of construction bids or similar requirements, all applicable requirements identified in mitigation measures CUL-2 to CUL-6 shall be undertaken by the applicant and/or owner.

CUL-2 A Cultural Resource Mitigation Monitoring Program shall be conducted to provide for the identification, evaluation, treatment, and protection of any cultural resources that are affected by or may be discovered during the construction of the proposed project. The monitoring shall consist of the full-time presence of a qualified archaeologist and a traditionally and culturally affiliated (TCA) Native American monitor for, but not limited to, any clearing or grubbing of vegetation, tree removal, demolition and/or removal of remnant foundations, pavements, abandonment and/or installation of infrastructure; grading or any other ground disturbing or altering activities, including the placement of imported fill materials (note: all fill materials shall be absent of any and all cultural resources); and related road improvements. Other tasks of the monitoring program shall include the following:

1. The requirement for cultural resource mitigation monitoring shall be noted on all applicable construction documents, including demolition plans, grading plans, etc.

2. The qualified archaeologist and TCA Native American monitor shall attend all applicable pre-construction meetings with the Contractor and/or associated Subcontractors.

3. The qualified archaeologist shall maintain ongoing collaborative consultation with the TCA Native American monitor during all ground disturbing or altering activities, as identified above.

4. The qualified archaeologist and/or TCA Native American monitor may halt ground disturbing activities if archaeological artifact deposits or cultural features are discovered. In general, ground disturbing activities shall be directed away from these deposits for a short time to allow a determination of potential significance, the subject of which shall be determined by the qualified archaeologist and the TCA Native American monitor, in consultation with the TCA Tribes. Ground-disturbing activities shall not resume until the qualified archaeologist, in consultation with the TCA Native American monitor, deems the cultural resource or feature has been appropriately documented and/or protected. At the discretion of the qualified archaeologist's, the location of ground disturbing activities may be relocated elsewhere on the project site to avoid further disturbance of cultural resources.

5. The avoidance and protection of discovered unknown and significant cultural resources and/or unique archaeological resources is the preferable mitigation for the proposed project. If avoidance is not feasible a Data Recovery Plan may be authorized by the City as the lead agency under CEQA. If a data recovery is required, then the TCA Tribes shall be notified and consulted in drafting and finalizing any such recovery plan.

6. The qualified archaeologist and/or TCA Native American monitor may also halt ground disturbing activities around known archaeological artifact deposits or cultural features if, in their respective opinions, there is the possibility that they could be damaged or destroyed.

CUL-3 Prior to the issuance of a grading permit, and subject to approval of terms by the City, the applicant or owner, and/or contractor shall enter into a Pre-Excavation Agreement with a TCA tribe. The purpose of this agreement shall be to formalize protocols and procedures between the applicant or owner, and/or contractor, and the TCA Tribe for the protection and treatment of, but not limited to, such items as Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through the cultural resource mitigation monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, soil surveys, grading, or any other ground disturbing activities.

CUL-4 Prior to the issuance of a grading permit, the applicant or owner, and/or contractor shall provide a written and signed letter to the City's Director of Development Services, stating that a City-approved qualified archaeologist and a TCA Native American monitor have been retained at the applicant or owner and/or contractor's expense to implement the monitoring program, as described in the pre-excavation agreement. A copy of the letter shall be included in the grading plan submittals for the grading permit.

CUL-5 Prior to the release of the grading bond, a Monitoring Report and/or Evaluation Report, which describes the results, analysis and conclusions of the cultural resource mitigation monitoring efforts (such as, but not limited to, the Research Design and Data Recovery Program) shall be submitted by the qualified archaeologist, along with the TCA Native American monitor's notes and comments, to the City's Director of Development Services for approval.

CUL-6 The landowner shall relinquish ownership of all tribal cultural resources collected during the cultural resource mitigation monitoring conducted during all ground disturbing activities, and from any previous archaeological studies or excavations on the project site to the TCA Tribes for respectful and dignified treatment and reburial on project site, including reburial, in accordance with the Tribe's cultural and spiritual traditions. All cultural materials that are associated with burial and/or funerary goods will be repatriated to the Most Likely Descendant as determined by the Native American Heritage Commission per California Public Resources Code Section 5097.98.

VI. REFERENCES

Almstedt, Ruth F.
1982 Kumeyaay and `IIpay. In *APS/SDG&E Interconnection Native American Cultural Resources*, edited by C. M. Woods, pp. 6-20. Prepared by Wirth Associates, San Diego for San Diego Gas & Electric.

Bowman, Roy H.
1973 *Soil Survey, San Diego Area, California*. United States Department of Agriculture.

Gifford, E.W.
1931 *The Kamia of Imperial Valley*. Bulletin 98, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Hedges, Ken
1975 Notes on the Kumeyaay: A Problem of Identification. *Journal of California Anthropology* 2(1):71-83.

Hicks, Fredrick N.
1963 Ecological Aspects of Aboriginal Culture in the Western Yuman Area. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.

Kennedy, Michael P., and Siang S. Tan
2005 *Geologic Map of the Oceanside* 30' x 60' Quadrangle, California. California Geological Survey.

Kroeber, A. L.
1976 *Handbook of the Indians of California*. Reprinted. Drover Publications, New York. Originally published 1925, Bulletin No. 78, Bureau of American Ethnology Smithsonian Institute, Washington, D.C.

Luomala, Katherine
1976 Flexibility in Sib Affiliation among the Diegueño. In *Native Californians: A Theoretical Retrospective*, edited by L. J. Bean, and T. C. Blackburn, pp. 245-270. Ballena Press, Socorro, New Mexico.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, New York.

Phillips, George Harwood
1975 *Chiefs and Challengers: Indian Resistance and Cooperation in Southern California*. University of California Press, Los Angeles.

Remeika, Paul, and Lowell Lindsay
1992 *Geology of Anza-Borrego: Edge of Creation*. Sunbelt Publications. San Diego, .

Rensch, Hero E.
1975 *The Indian Place Names of Rancho Cuyamaca*. Acoma Books, Ramona, California.

Rogers, Malcolm J
1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1(2): 157-198.

Shackley, M. Steven
1984 *Archaeological Investigations in the Western Colorado Desert: A Socioecological Approach*, Vol. 1. Prepared by Wirth Environmental Services, A Division of Dames & Moore, San Diego for San Diego Gas & Electric.

Shipek, Florence
1982 The Kamia. In *APS/SDG&E Interconnection Project: Native American Cultural Resources*, edited by C. M. Woods, pp. 21-33. Prepared by Wirth Associates, San Diego for San Diego Gas & Electric.

Spier, Leslie
1923 Southern Diegueño Customs. *University of California Publications in American Archaeology and Ethnology* 20:292-358.

State of California, Department of Parks and Recreation.
1976 *California Inventory of Historic Resources*. Department of Parks and Recreation, Sacramento, California.

1992 *California Historical Landmarks*. Department of Parks and Recreation, Sacramento California.

True, D.L.
1966 Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.

1970 *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. Archaeological Survey Monograph, Department of Anthropology, University of California, Los Angeles.

Willey, G. R., and P. Phillips
1958 *Method and Theory in American Archaeology*. University of Chicago Press.

APPENDICES

A. Resume of Principal Investigator
B. Record Search Confirmation
C. Native American Correspondence

APPENDIX A

RESUME OF PRINCIPAL INVESTIGATOR

ANDREW R. PIGNIOLO, M.A., RPA
Principal Archaeologist
Laguna Mountain Environmental, Inc.

Education

San Diego State University, Master of Arts, Anthropology, 1992
San Diego State University, Bachelor of Arts, Anthropology, 1985

Professional Experience

2002-Present	Principal Archaeologist/President, Laguna Mountain Environmental, Inc., San Diego
1997-2002	Senior Archaeologist, Tierra Environmental Services, San Diego
1994-1997	Senior Archaeologist, KEA Environmental, Inc., San Diego
1985-1994	Project Archaeologist/Senior Archaeologist, Ogden Environmental and Energy Services, San Diego
1982-1985	Reports Archivist, Cultural Resource Management Center (now the South Coastal Information Center), San Diego State University
1980-1985	Archaeological Consultant, San Diego, California

Professional Affiliations

Register of Professional Archaeologists (RPA), 1992-present
Qualified Archaeology Consultant, San Diego County
Qualified Archaeology Consultant, City of San Diego
Qualified Archaeology Consultant, City of Chula Vista
Qualified Archaeology Consultant, Riverside County
Society for American Archaeology
Society for California Archaeology
Pacific Coast Archaeological Society
San Diego County Archaeological Society

Qualifications

Mr. Andrew Pigniolo is a certified archaeology consultant for the County and City of San Diego. Mr. Pigniolo has more than 38 years of experience as an archaeologist, and has conducted more than 800 projects throughout southern California and western Arizona. His archaeological investigations have been conducted for a wide variety of development and resource management projects including water resource facilities, energy utilities, commercial and residential developments, military installations, transportation projects, and projects involving Indian Reservation lands. Mr. Pigniolo has conducted the complete range of technical studies including archaeological overviews and management plans, ethnographic studies, archaeological surveys, test excavations, historical research, evaluations of significance under CEQA and Section 106, data recovery programs, and monitoring projects. He has received 40 hour HAZWOPPER training and holds an active card for hazardous material work.

REPRESENTATIVE PROJECTS

Proposed SDG&E Sunrise Powerlink Project, San Diego to Imperial Valley, California *(San Diego Gas and Electric).* Mr. Pigniolo served as the Principal Investigator and archaeological monitor for this project whose purpose is the installation of a new transmission line corridor running from San Diego to Imperial Valley. This phase of the project included the preliminary reporting of any cultural resources observed during field visits to the proposed impact areas. Mr. Pigniolo recorded sites encountered during monitoring, and collected GPS points and photographs of the sites for future review. Mr. Pigniolo also conducted the cultural resources portion of the environmental training for this project.

Princess Street Monitoring and Data Recovery Project at the Spindrift Site *(City of San Diego).* Mr. Pigniolo served as a Principal Investigator of an archaeological monitoring and data recovery program at the Spindrift Site in the community of La Jolla. The effort was initially to provide archaeological monitoring of a utility undergrounding project. The presence of the major prehistoric village site within the project alignment quickly became evident prior to construction monitoring and a data recovery plan was prepared prior to the start of work. Data recovery included the excavation of 25 controlled units and the water screening of 100 percent of the archaeological site material impacted during trenching. More than 40 fragmented human burials were encountered. Working with Native American monitors and representatives, the remains were repatriated.

Cultural Resource Survey, Geotechnical Monitoring, and Testing for the La Jolla View Reservoir Project, La Jolla, City of San Diego, California (*IEC*). Mr. Pigniolo served as Principal Investigator and conducted an archaeological survey on an approximately 15-acre study area, in the La Jolla Natural Park area on Mount Soledad above La. In addition to the field survey, geotechnical work was monitored by an archaeologist and Native American monitor. One small prehistoric cobble procurement site (CA-SDI-20843) was tested to determine site significance. Due to surface visibility constraints from dense vegetation, monitoring by an archaeological and a Native American monitor during construction excavation and grading was recommended to ensure sensitive features not identified during the survey are not present or impacted by the project.

City of San Diego Sever Group 783 Project, San Diego, California *(Orion Construction Company.)* Mr. Pigniolo was the Principal Investigator for an archaeological monitoring project for a sewer line replacement in the eastern portion of the City of San Diego. The project included archaeological construction monitoring in an urban environment.

Cultural Resource Monitoring and Treatment of CA-SDI-20861 for the 1941-1945 Columbia Street Project, City of San Diego, California (*Jeff Svitak Inc.*) Mr. Pigniolo served as Principal Investigator of an archival research and an archaeological and Native American monitoring program of building demolition and construction excavation for a multi-family dwelling in the Little Italy community of the City of San Diego. The project consisted of archaeological and historical research prior to fieldwork, archaeological monitoring of foundation removal and construction excavation, and the recovery and analysis of historic artifacts discovered during monitoring. Site CA-SDI-20861 was treated as a significant cultural resource and the recovery and analysis of the cultural material served as mitigation for the project impacts to the site.

Cultural Resource Salvage and Monitoring within a Portion of CA-SDI-39/17372 at 1891 Viking Way, La Jolla, City of San Diego, California (*Ayers General Contracting, Inc.*) Mr. Pigniolo served as Principal Investigator of an archaeological salvage and documentation program in addition to construction monitoring for the residence located at 1891 Viking Way, in the La Jolla. The project included the demolition and replacement of an existing retaining wall, and the replacement of additional yard hardscape. The City of San Diego archaeologist determined that construction work was occurring within site CA-SDI-39 and required work to stop and a treatment plan to partially mitigate impacts to the site be prepared. The project included a salvage effort to partially mitigate impacts to this portion of the site, through documentation and artifact recovery and to recover any impacted human remains as part of mitigation. Three phases of treatment were conducted including a 100 percent recovery program for human remains and associated grave goods and monitoring of final construction disturbance and backfilling.

Muller Residence Archaeological Survey, Testing, and Evaluation, Carmel Valley, City of San Diego, California (*Mr. Rolf Muller*) Mr. Pigniolo served as Principal Investigator and Project Manager of a cultural resource survey and testing and evaluation program of a residential parcel proposed for development. The survey indicated the presence of a portion of a prehistoric shell midden within the project area. The testing program indicated a deeply buried archaeological deposit with a high level of integrity. Impact avoidance through redesign was recommended under City of San Diego Historical Resources Guidelines.

Cultural Resource Monitoring for The San Diego County Administration Center Waterfront Park Project, San Diego, California (*McCarthy Building Companies, Inc.*) Mr. Pigniolo served as Principal Investigator of a cultural resource monitoring program for the Water Front Park Project at the San Diego County Administration Building in the City of San Diego. The monitoring program included excavation near the dredge fill/native ground contact. Historic maps indicated that the entire project area was located on man-made land created from bay dredge spoils. The monitoring program identified a small historic-age boat that probably sank in the bayfront prior to filling of the area. Based on the current County guidelines, this resource qualifies as significant for its information potential and has been treated as such. The boat was documented and avoided, and left in place.

13th and C Streets Evaluation Project, City of San Diego, California (*WM Builders*) Mr. Pigniolo served as Principal Investigator of a archaeological/historical resource assessment for a commercial development project in the City of San Diego. The project area is in the downtown portion of San Diego. A records search, literature review, examination of historic maps, records, and city directories was used to assess the potential for buried historic resources within the project area. Potential buried historic resource locations were identified and a testing plan was developed.

U. S. Army Yuma Proving Ground (YPG) Native American Consultation Plan, Yuma, Arizona (*Yuma Proving Ground*). Mr. Pigniolo served as principal author of a Native American consultation plan for YPG to provide guidance and information to U.S. Army commanders and Army resource managers at YPG for consultation with Native American groups. Consultation was conducted in a manner that is consistent with federal laws and regulations that mandate consultation and the consultation plan was designed to ensure the participation of Native American groups early in the planning process.

All American 105 Race Project, West Mesa, Imperial County, California (*Legacy 106, Inc*.). Mr. Pigniolo served as Principal Investigator, report author, and crew chief for an archaeological survey for a proposed off-road vehicle race course in the West Mesa area of Imperial County. The survey covered Bureau of Land Management (BLM) lands and included close coordination with BLM staff. The survey included a proposed 7.5 mile course with a very short time-frame. The goal was project alignment adjustment and realignment to avoid resource impacts where possible. A variety of prehistoric cultural resources including 10 sites and seven isolates were encountered. Human remains were identified and avoided. The race route was realigned to avoid significant resource impacts allowing the race to proceed on schedule.

Alpine Fire Safe Council Brush Management Monitoring Project, Alpine Region, San Diego County, California (*Alpine Fire Safe Council*) Mr. Pigniolo served as Principal Investigator for a cultural resources monitoring and protection program on four project areas surrounding Alpine. Cultural resources identified during previous surveys within the vegetation treatment areas were flagged for avoidance. The project included hand clearing and chaparral mastication near residential structures to create a fire buffer zone. Vegetation removal was monitored to ensure cultural resources obscured by heavy vegetation were not impacted by the project and that all recorded cultural resources were avoided. The Bureau of Land Management served as Lead Agency for the project.

APPENDIX B

RECORD SEARCH CONFIRMATION

South Coastal Information Center
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-5320
Office: (619) 594-5682
www.scic.org
scic@mail.sdsu.edu

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM
CLIENT IN-HOUSE RECORDS SEARCH

Company: Laguna Mtn

Company Representative: Carol Serr

Date: 2/21/2022

Project Identification: Wishbone Way Proj #2203

Search Radius: 1 mile

Historical Resources: SELF

Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: SELF

Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: SELF

A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: SELF

The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Copies: 139

Hours: 1

Carol Serr

This is not an invoice. Please pay from the monthly billing statement

APPENDIX C

NATIVE AMERICAN CORRESPONDENCE

Laguna Mountain Environmental, Inc.

February 14, 2022

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

Subject: Wishbone Way Survey Project (Job #2203)

Dear Chairperson,

Laguna Mountain Environmental is conducting an archaeological survey at 2901 Wishbone Way in the City of Encinitas, in San Diego County. The project involves the construction of a single family residence on a vacant lot (APN 294-222-33-00).

The project area is approximately 2.5 acres, located east of Interstate 5 and Rancho Santa Fe Road on the east side of Wishbone Way. Encinitas Creek passes through the northwest corner of the property. The project area is shown on the Rancho Santa Fe 7.5' USGS quadrangle, in Township 13 South, Range 3 West, within an unsectioned portion of Pueblo Lands (see attached figure).

We respectfully request any information and input that you may have regarding Native American concerns either directly or indirectly associated with this project area. We would also appreciate a current list of appropriate Native American contacts for the area in order to elicit local concerns. If you or your files have any information about cultural resources or traditional cultural properties located on or near the project site, please contact me. If I can provide any additional information, please contact me immediately at (858) 505-8164. Thank you for your assistance.

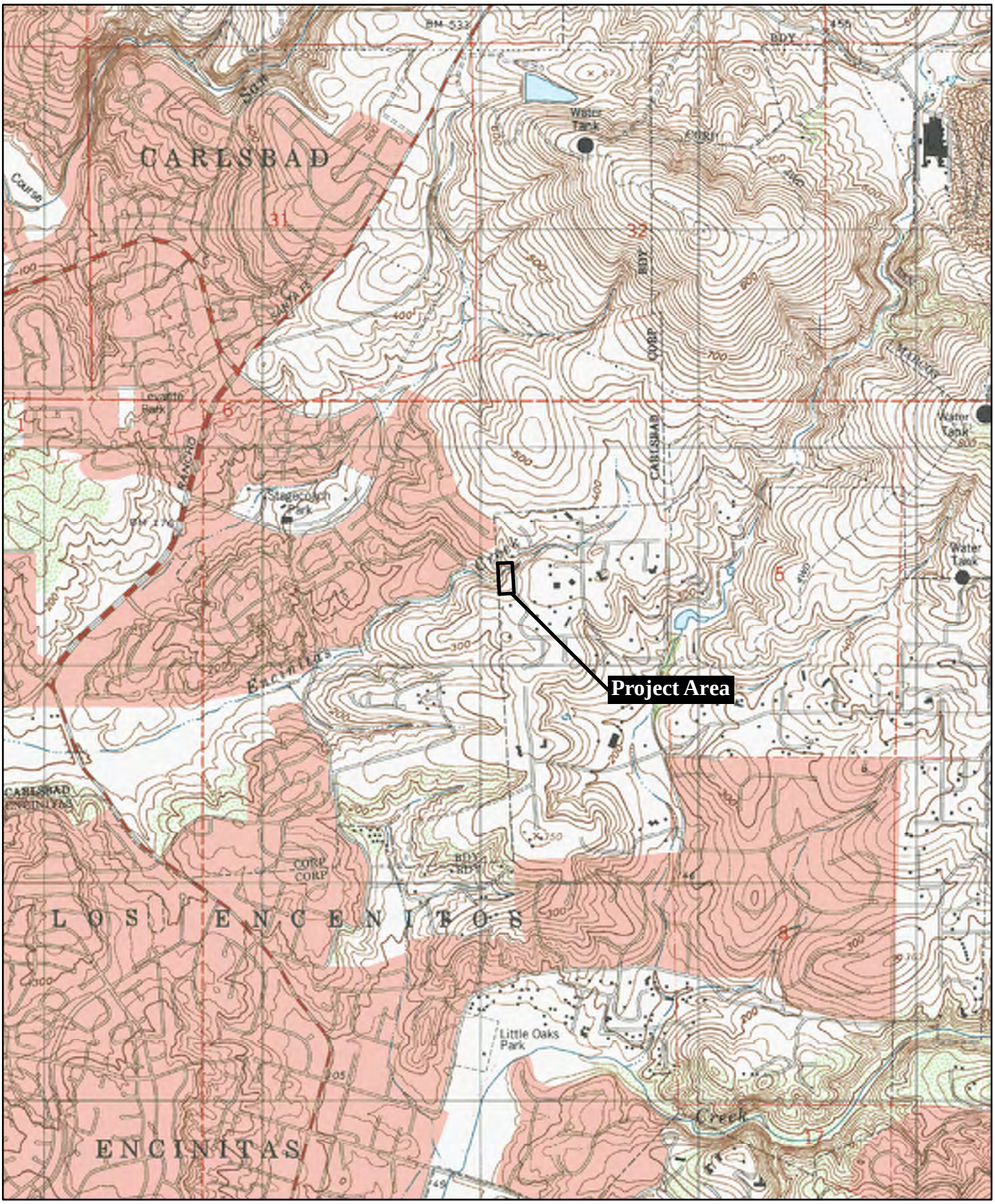
Sincerely,

Andrew R. Pigniolo

Andrew Pigniolo, M.A., RPA
Principal Archaeologist

Attachments:
Project Location map
Sacred Lands File & Native American Contacts List Request Form

3421 Voltaire Street ✦ San Diego, CA 92106
Phone: (858) 505-8164
E-mail: Laguna@LagunaEnv.com



Source: USGS 7.5' Rancho Santa Fe Quadrangle

0 1,000 2,000 Feet

Project Location

Laguna Mountain Environmental, Inc.

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax: (916) 373-5471
nahc@nahc.ca.gov

Information below is Required for a Sacred Lands File Search

Project: __Wishbone Way Survey _____

County__San Diego_____

USGS Quadrangle (7.5') Name ___Rancho Santa Fe _____

Township _13S____ Range __3W__ Section(s) __none_

Company/Firm/Agency: __Laguna Mountain Environmental, Inc.__ _____

Contact Person: ___Andrew Pigniolo_____

Street Address: ____3421 Voltaire Street_____

City: ___San Diego_____Zip:___92106_____

Phone: __858.505.8164_____

Fax: _____

Email: ____Laguna@lagunaenv.com_____

Project Description:

The project involves the construction of a single family residence on a vacant lot.

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

PARLIAMENTARIAN
Russell Attebery
Karuk

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 7, 2022

Andrew Pigniolo
Laguna Mountain Environmental, Inc.

Via Email to: Laguna@lagunaenv.com

Re: Wishbone Way Survey Project, San Diego County

Dear Mr. Pigniolo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Diego County
4/7/2022

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road — Diegueno
Lakeside, CA, 92040
Phone: (619) 443 - 6612
Fax: (619) 443-0681
cloyd@barona-nsn.gov

Campo Band of Diegueno Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 — Diegueno
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Band of Kumeyaay Indians
Michael Garcia, Vice Chairperson
4054 Willows Road — Diegueno
Alpine, CA, 91901
Phone: (619) 933 - 2200
Fax: (619) 445-9126
michaelg@leaningrock.net

Ewiiaapaayp Band of Kumeyaay Indians
Robert Pinto, Chairperson
4054 Willows Road — Diegueno
Alpine, CA, 91901
Phone: (619) 368 - 4382
Fax: (619) 445-9126
ceo@ebki-nsn.gov

Iipay Nation of Santa Ysabel
Clint Linton, Director of Cultural Resources
P.O. Box 507 — Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 803 - 5694
cjlinton73@aol.com

Iipay Nation of Santa Ysabel
Virgil Perez, Chairperson
P.O. Box 130 — Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 765 - 0845
Fax: (760) 765-0320

Inaja-Cosmit Band of Indians
Rebecca Osuna, Chairperson
2005 S. Escondido Blvd. — Diegueno
Escondido, CA, 92025
Phone: (760) 737 - 7628
Fax: (760) 747-8568

Jamul Indian Village
Lisa Cumper, Tribal Historic Preservation Officer
P.O. Box 612 — Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4855
lcumper@jiv-nsn.gov

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612 — Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
epinto@jiv-nsn.gov

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas,
P.O. Box 775 — Kwaaymii
Pine Valley, CA, 91962 — Diegueno
Phone: (619) 709 - 4207

La Jolla Band of Luiseno Indians
Norma Contreras, Chairperson
22000 Highway 76 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

La Posta Band of Diegueno Mission Indians
Javaughn Miller, Tribal Administrator
8 Crestwood Road — Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Wishbone Way Survey Project, San Diego County.

La Posta Band of Diegueno Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road — Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302 — Diegueno
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

Mesa Grande Band of Diegueno Mission Indians
Michael Linton, Chairperson
P.O Box 270 — Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 782 - 3818
Fax: (760) 782-9092
mesagrandeband@msn.com

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pauma Band of Luiseno Indians
Temet Aguilar, Chairperson
P.O. Box 369 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

Pechanga Band of Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Pechanga Band of Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Rincon Band of Luiseno Indians
Cheryl Madrigal, Tribal Historic Preservation Officer
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 297 - 2635
crd@rincon-nsn.gov

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

San Luis Rey Band of Mission Indians
1889 Sunset Drive — Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

San Luis Rey Band of Mission Indians
San Luis Rey, Tribal Council
1889 Sunset Drive — Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Wishbone Way Survey Project, San Diego County.

San Pasqual Band of Diegueno Mission Indians
John Flores, Environmental Coordinator
P. O. Box 365 — Diegueno
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
johnf@sanpasqualtribe.org

San Pasqual Band of Diegueno Mission Indians
Allen Lawson, Chairperson
P.O. Box 365 — Diegueno
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
allenl@sanpasqualtribe.org

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Sycuan Band of the Kumeyaay Nation
Cody Martinez, Chairperson
1 Kwaaypaay Court — Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
ssilva@sycuan-nsn.gov

Sycuan Band of the Kumeyaay Nation
Kristie Orosco, Kumeyaay Resource Specialist
1 Kwaaypaay Court — Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 6917

Viejas Band of Kumeyaay Indians
Ernest Pingleton, Tribal Historic Officer, Resource Management
1 Viejas Grade Road — Diegueno
Alpine, CA, 91901
Phone: (619) 659 - 2314
epingleton@viejas-nsn.gov

Viejas Band of Kumeyaay Indians
John Christman, Chairperson
1 Viejas Grade Road — Diegueno
Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Wishbone Way Survey Project, San Diego County.

Appendix D. Single-Family Green Building Checklist

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CITY OF ENCINITAS
Development Services Department
505 S. Vulcan Ave
Encinitas, CA 92024
www.encinitasca.gov
Phone: 760-943-2285
Email: climateaction@encinitasca.gov

SINGLE FAMILY GREEN BUILDING CHECKLIST

PURPOSE AND RELEVANCE TO CAP AND CEQA

The City's Climate Action Plan (CAP) outlines actions and measures to reduce greenhouse gas (GHG) emissions, including measures that must be implemented by development projects seeking building permits. The goal of this checklist is to provide a streamlined review process for all proposed development projects that are subject to local CAP-related building requirements. The City's CAP is a qualified greenhouse gas (GHG) emissions reduction plan in accordance with CA CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of a CAP. Projects that are consistent with the CAP, as determined through the use of this checklist, may rely on the CAP for the cumulative impact analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP or Ordinances 2022-13 and 2022-14.

CHECKLIST PROCEDURE

- The applicant must complete this checklist and include it with the project submittal package or as part of a building permit application when seeking a permit for a New Construction, Addition, or Alteration project.
- The applicant must provide plan references, an explanation, and/or relevant supporting materials to demonstrate how the project satisfies, is not applicable to, or qualifies for an exception to the Green Building Ordinance requirements.
- The applicable requirements in the checklist must be included in the project's conditions of approval (if discretionary permit needed) and on the permitted building plans.
- Applicant is responsible for recording/retaining all manufacturer name plate data or similar for equipment installed before it becomes inaccessible or illegible due to construction. Recording/retaining installed equipment information is mandatory.

REFERENCED CODE

Ordinances 2022-13 and 2022-14 were adopted on October 26, 2022 and incorporated into Chapter 23 of the Encinitas Municipal Code effective January, 2023. This checklist references sections of EMC Chapter 23, the California Energy code (Title 24, Part 11), and the California Green Building Code (Title 24, Part 11), where relevant. The links below may be used to review the code sections referenced.

Encinitas Municipal Code Chapter 23 - Denoted as "EMC" throughout the checklist.
Full Code: http://www.qcode.us/codes/encinitas/misc/title23.pdf
California Title 24 Part 6 - Denoted as "T24P6" throughout the checklist.
Full Code: https://codes.iccsafe.org/content/CAEC2022P1
California Title 24 Part 11 - Denoted as "T24P11" throughout the checklist.
Full Code: https://codes.iccsafe.org/content/CAGBC2022P1
Fact Sheets summarizing the requirements can be found here

CONTACT INFORMATION

Applicant Name/Company:	
Applicant Contact Phone:	Applicant Contact Email:

PROJECT INFORMATION	
Project Number:	Project Name: Tidwell ADU
Project Address: 2899 Wishbone Way, Encinitas, CA 92024	APN #: 264-222-3300
Proposed Building Gross Sq Ft.: 1,160	Permit Valuation: $98,100.00
Scope of Work/Project Description: Proposed Detached ADU.	

PROJECT TYPE AND APPLICABLE CHECKLIST SECTIONS

Project Type	Required Sections	Notes
☑ New Construction	1, 3, 4, 5	Includes new, detached ADUs
☐ Alteration/Addition:		
☐Permit Value <$50,000	N/A	
☐Permit Value ≥$50,000	2	
☐ >50% of roof framing and exterior bearing walls/columns removed	1, 3, 4, 5	Considered new construction, no longer addition/alteration
☐ Building conditioned area more than doubled	1, 3, 4, 5	Considered new construction, no longer addition/alteration

Note: All sections of the green building ordinance checklist MUST be completed. If a specific requirement does not apply to your project, check the corresponding "Not Applicable" box and explain any non-applicability in the justification section.

Definitions:

New Construction: All new buildings and any existing buildings where more than 50% of the roof framing and exterior bearing walls/columns are removed or conditioned area more than doubles.

Accessory Dwelling Unit (ADU): Dwelling unit accessory to a primary dwelling. Detached and newly constructed ADUs are considered new residential. Attached ADUs are considered existing residential in Ordinances 2022-13 and 2022-14.

OPTIONAL MEASURE[1]	APPLICABILITY
1. ALL-ELECTRIC - NEW BUILDINGS (Residential)	
All Electric Building Requirements (EMC 23.12.110 B). All residential new construction shall be all-electric unless an exemption is applicable and approved by the City (see EMC 23.12.110 B). All-Electric buildings must include: ☐ No natural gas or propane plumbing in the building or on the property;	***To be completed by Applicant:*** ☐ Voluntarily Comply Plan Sheet Reference(s): _____

[1] On June 14, 2023, in response to the Ninth Circuit's ruling in *California Restaurant Association v. City of Berkeley*, Encinitas City Council temporarily suspended EMC 23.12.110.B. If the Ninth Circuit's ruling is overturned or modified, the City Council will immediately consider reinstating the regulation. All other portions of the local Energy Code and Green Building Code and all portions of Title 24 building code are still in effect.

☐ No gas meter connection; ☐ Electricity as the source of energy for space heating, water heating, cooking appliances, and clothes drying appliances; and ☐ If a pool is associated, may use solar thermal pool heating, but no gas.	☑ Opt Out

N/A. The associated building permit application (BLDR-017239-2021) was submitted back in October 2021, before the code change that disallowed gas appliances in new constructions.

MANDATORY MEASURE	APPLICABILITY

2. EXISTING RESIDENTIAL ENERGY EFFICIENCY

<u>Single Family</u> additions or alterations (EMC 23.12.080.D) shall include any one of the measures identified as *Available* in Table 150.2-E, Single Family Requirements, where vintage shall refer to the year in which the building was originally permitted for construction.

Table 150.2-E: Single Family Requirements

	Building Vintage		
Measures	**Pre-1978**	**1978-1991**	**Post-1991**
LED Lamps, Vacancy Sensors and Exterior Photocells	Available	Available	Available
Water Heating Package	Available	Available	Available
Cool Roof	Available	Available	Available
R-38 Attic Insulation and Air Sealing	Available	Available	Available
Duct Sealing	Available	Available	Available
New Ducts + Duct Sealing	Available	Available	Available
Windows	Available	Available	Not applicable
R-13 Wall Insulation	Available	Not applicable	Not applicable
Heat Pump Water Heater (HPWH)	Available	Available	Available
Heat Pump HVAC	Available	Available	Available
Heat Pump Clothes Dryer	Available	Available	Available
Induction Cooktop	Available	Available	Available
PV + Electric Ready Pre-Wire	Available	Available	Available

The measures shall be installed to the specifications in Table 150.2-F, Single family measure specifications. Existing measures that meet the specifications in Table 150.2-F may be used to satisfy the requirements. Specifications can be found in Table 150.2-F in Ordinance 2022-13 (EMC 23.12.080.D).

To be completed by Applicant:

☐ Required

Measure Selected:

_____

Plan Sheet Reference(s):

_____

☐ Exception request*
☐ Not Applicable*

*Provide documentation, see below.

***For section 2, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

MANDATORY MEASURE	APPLICABILITY
3. SOLAR PHOTOVOLTAIC SYSTEMS	
Single Family Solar PV. (T24P6 150.10(a)) All newly constructed single family buildings are required to install solar photovoltaic equipment sized according to CA Title 24, Part 6, Energy Code Section 150.10(a) which otherwise applies to newly constructed buildings. ***To be completed by Applicant:*** Conditioned Floor Area: 1.000 sq. ft. Min. System Size: 2.31 kWdc Actual System Size: 2.31 kWdc Battery Size: _____kWh (optional)	***To be completed by Applicant:*** ☐ Required Plan Sheet Reference(s): T-24b ☐ Exception request* ☐ Not Applicable* *Provide documentation, see below.

***For section 3, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

4. ELECTRIC VEHICLE CHARGING	
EV Charging: New 1 and 2-family dwellings and townhouses with attached private garages (EMC 23.12.110 E). For each family dwelling, a **dedicated 208/240-volt branch circuit** shall be installed in the **raceway** required by section 4.106.4.1 ("EV-Ready[2]"). The branch circuit and overcurrent protective device shall be rated at 40 amperes minimum. ***To be completed by the applicant:*** Total number of ports by charger type: EV Ready: _____ Level 2 (optional): _____ DC Fast (optional): _____	***To be completed by Applicant:*** ☐ Required* Plan Sheet Reference(s): _____ ☐ Exception request* ☑ Not Applicable* *Provide documentation, see below.

[2] **EV-Ready**: energized electrical outlets installed at the time of construction that are capable of charging an EV when a charging station is installed the future.
EV-Capable: A parking space linked to a listed electrical panel with sufficient capacity to provide at least 110/120 volts and 20 amperes to the parking space.

***For section 4, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

N/A. No garage proposed with ADU.

MANDATORY MEASURE	APPLICABILITY
5. GRAYWATER	
Graywater Systems (EMC 23.12.110 D). Newly constructed single family dwellings shall be pre-plumbed for a graywater system in accordance with Chapter 15 of the California Plumbing Code and including a connection to in a convenient location for integration of the graywater system with landscape irrigation systems and accepting graywater from all sources permissible in conformance with the definition of graywater as per Section 14876 of the California Water Code.	***To be completed by Applicant:*** ☑ Required Plan Sheet Reference(s): A-4 ☐ Exception request* ☐ Not Applicable* *Provide documentation, see below.

***For section 4, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

DETERMINATION OF COMPLETION

By signing below, applicant confirms having read, understood, and filled out the checklist truthfully and accurately and hence affirming compliancy of the Encinitas Local Energy Ordinance 2022-13 and Green Building Ordinance 2022-14.

Applicant Name (print) Derek Berg Signature _____ Date: 03/25/24

CITY OF ENCINITAS
Development Services Department
505 S. Vulcan Ave
Encinitas, CA 92024
www.encinitasca.gov
Phone: 760-943-2285
Email: climateaction@encinitasca.gov

SINGLE FAMILY GREEN BUILDING CHECKLIST

PURPOSE AND RELEVANCE TO CAP AND CEQA

The City's Climate Action Plan (CAP) outlines actions and measures to reduce greenhouse gas (GHG) emissions, including measures that must be implemented by development projects seeking building permits. The goal of this checklist is to provide a streamlined review process for all proposed development projects that are subject to local CAP-related building requirements. The City's CAP is a qualified greenhouse gas (GHG) emissions reduction plan in accordance with CA CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of a CAP. Projects that are consistent with the CAP, as determined through the use of this checklist, may rely on the CAP for the cumulative impact analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP or Ordinances 2022-13 and 2022-14.

CHECKLIST PROCEDURE

- The applicant must complete this checklist and include it with the project submittal package or as part of a building permit application when seeking a permit for a New Construction, Addition, or Alteration project.
- The applicant must provide plan references, an explanation, and/or relevant supporting materials to demonstrate how the project satisfies, is not applicable to, or qualifies for an exception to the Green Building Ordinance requirements.
- The applicable requirements in the checklist must be included in the project's conditions of approval (if discretionary permit needed) and on the permitted building plans.
- Applicant is responsible for recording/retaining all manufacturer name plate data or similar for equipment installed before it becomes inaccessible or illegible due to construction. Recording/retaining installed equipment information is mandatory.

REFERENCED CODE

Ordinances 2022-13 and 2022-14 were adopted on October 26, 2022 and incorporated into Chapter 23 of the Encinitas Municipal Code effective January, 2023. This checklist references sections of EMC Chapter 23, the California Energy code (Title 24, Part 11), and the California Green Building Code (Title 24, Part 11), where relevant. The links below may be used to review the code sections referenced.

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California Title 24 Part 6 - Denoted as "T24P6" throughout the checklist.
Full Code: https://codes.iccsafe.org/content/CAEC2022P1
California Title 24 Part 11 - Denoted as "T24P11" throughout the checklist.
Full Code: https://codes.iccsafe.org/content/CAGBC2022P1
Fact Sheets summarizing the requirements can be found here

CONTACT INFORMATION

Applicant Name/Company:	
Applicant Contact Phone:	Applicant Contact Email:

PROJECT INFORMATION	
Project Number:	Project Name: TIDWELL RESIDENCE
Project Address: 2901 WISHBONE WAY, ENCINITAS, CA 92024	APN #: 264-222-3300
Proposed Building Gross Sq Ft.: 5,667	Permit Valuation: 401,333.80
Scope of Work/Project Description: PROPOSED 1-STORY SFD WITH GARAGE AND COVERED PATIO.	

PROJECT TYPE AND APPLICABLE CHECKLIST SECTIONS

Project Type	Required Sections	Notes
☑ New Construction	1, 3, 4, 5	Includes new, detached ADUs
☐ Alteration/Addition:		
☐Permit Value <$50,000	N/A	
☐Permit Value ≥$50,000	2	
☐ >50% of roof framing and exterior bearing walls/columns removed	1, 3, 4, 5	Considered new construction, no longer addition/alteration
☐ Building conditioned area more than doubled	1, 3, 4, 5	Considered new construction, no longer addition/alteration

Note: All sections of the green building ordinance checklist MUST be completed. If a specific requirement does not apply to your project, check the corresponding "Not Applicable" box and explain any non-applicability in the justification section.

Definitions:

New Construction: All new buildings and any existing buildings where more than 50% of the roof framing and exterior bearing walls/columns are removed or conditioned area more than doubles.

Accessory Dwelling Unit (ADU): Dwelling unit accessory to a primary dwelling. Detached and newly constructed ADUs are considered new residential. Attached ADUs are considered existing residential in Ordinances 2022-13 and 2022-14.

OPTIONAL MEASURE[1]	APPLICABILITY
1. ALL-ELECTRIC - NEW BUILDINGS (Residential)	
All Electric Building Requirements (EMC 23.12.110 B). All residential new construction shall be all-electric unless an exemption is applicable and approved by the City (see EMC 23.12.110 B). All-Electric buildings must include: ☐ No natural gas or propane plumbing in the building or on the property;	***To be completed by Applicant:*** ☐ Voluntarily Comply Plan Sheet Reference(s): _____

[1] On June 14, 2023, in response to the Ninth Circuit's ruling in *California Restaurant Association v. City of Berkeley*, Encinitas City Council temporarily suspended EMC 23.12.110.B. If the Ninth Circuit's ruling is overturned or modified, the City Council will immediately consider reinstating the regulation. All other portions of the local Energy Code and Green Building Code and all portions of Title 24 building code are still in effect.

☐ No gas meter connection; ☐ Electricity as the source of energy for space heating, water heating, cooking appliances, and clothes drying appliances; and ☐ If a pool is associated, may use solar thermal pool heating, but no gas.	☑ Opt Out

N/A. The associated building permit application (BLDR-017217-2021) was submitted back in October 2021, before the code change that disallowed gas appliances in new constructions.

MANDATORY MEASURE	APPLICABILITY
2. EXISTING RESIDENTIAL ENERGY EFFICIENCY	

<u>Single Family</u> additions or alterations (EMC 23.12.080.D) shall include any one of the measures identified as *Available* in Table 150.2-E, Single Family Requirements, where vintage shall refer to the year in which the building was originally permitted for construction.

Table 150.2-E: Single Family Requirements

	Building Vintage		
Measures	**Pre-1978**	**1978-1991**	**Post-1991**
LED Lamps, Vacancy Sensors and Exterior Photocells	Available	Available	Available
Water Heating Package	Available	Available	Available
Cool Roof	Available	Available	Available
R-38 Attic Insulation and Air Sealing	Available	Available	Available
Duct Sealing	Available	Available	Available
New Ducts + Duct Sealing	Available	Available	Available
Windows	Available	Available	Not applicable
R-13 Wall Insulation	Available	Not applicable	Not applicable
Heat Pump Water Heater (HPWH)	Available	Available	Available
Heat Pump HVAC	Available	Available	Available
Heat Pump Clothes Dryer	Available	Available	Available
Induction Cooktop	Available	Available	Available
PV + Electric Ready Pre-Wire	Available	Available	Available

The measures shall be installed to the specifications in Table 150.2-F, Single family measure specifications. Existing measures that meet the specifications in Table 150.2-F may be used to satisfy the requirements. Specifications can be found in Table 150.2-F in Ordinance 2022-13 (EMC 23.12.080.D).

To be completed by Applicant:

☐ Required

Measure Selected:

_____

Plan Sheet Reference(s):

_____

☐ Exception request*
☐ Not Applicable*

*Provide documentation, see below.

***For section 2, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

MANDATORY MEASURE	APPLICABILITY
3. SOLAR PHOTOVOLTAIC SYSTEMS	
Single Family Solar PV. (T24P6 150.10(a)) All newly constructed single family buildings are required to install solar photovoltaic equipment sized according to CA Title 24, Part 6, Energy Code Section 150.10(a) which otherwise applies to newly constructed buildings. ***To be completed by Applicant:*** Conditioned Floor Area: 3738 sq. ft. Min. System Size: 3.24 kWdc Actual System Size: 3.24 kWdc Battery Size: _____kWh (optional)	***To be completed by Applicant:*** ☑ Required Plan Sheet Reference(s): T-24a ☐ Exception request* ☐ Not Applicable* *Provide documentation, see below.

***For section 3, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

4. ELECTRIC VEHICLE CHARGING	
EV Charging: New 1 and 2-family dwellings and townhouses with attached private garages (EMC 23.12.110 E). For each family dwelling, a **dedicated 208/240-volt branch circuit** shall be installed in the **raceway** required by section 4.106.4.1 ("EV-Ready[2]"). The branch circuit and overcurrent protective device shall be rated at 40 amperes minimum. ***To be completed by the applicant:*** Total number of ports by charger type: EV Ready: 1 Level 2 (optional): _____ DC Fast (optional): _____	***To be completed by Applicant:*** ☑ Required* Plan Sheet Reference(s): E-1 ☐ Exception request* ☐ Not Applicable* *Provide documentation, see below.

[2] **EV-Ready**: energized electrical outlets installed at the time of construction that are capable of charging an EV when a charging station is installed the future.
EV-Capable: A parking space linked to a listed electrical panel with sufficient capacity to provide at least 110/120 volts and 20 amperes to the parking space.

***For section 4, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

MANDATORY MEASURE	APPLICABILITY
5. GRAYWATER	
Graywater Systems (EMC 23.12.110 D). Newly constructed single family dwellings shall be pre-plumbed for a graywater system in accordance with Chapter 15 of the California Plumbing Code and including a connection to in a convenient location for integration of the graywater system with landscape irrigation systems and accepting graywater from all sources permissible in conformance with the definition of graywater as per Section 14876 of the California Water Code.	***To be completed by Applicant:*** ☑ Required Plan Sheet Reference(s): A-2 ☐ Exception request* ☐ Not Applicable* *Provide documentation, see below.

***For section 4, substantiate any request for exception or non-applicability. Submit any necessary supplementary documentation.**

DETERMINATION OF COMPLETION

By signing below, applicant confirms having read, understood, and filled out the checklist truthfully and accurately and hence affirming compliancy of the Encinitas Local Energy Ordinance 2022-13 and Green Building Ordinance 2022-14.

Applicant Name (print) DEREK BERG Signature _____ Date: 03/25/24

Appendix E. Preliminary Geotechnical Investigation and Recommendations (Geotechnical Study)

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ENGINEERING DESIGN GROUP
www.designgroupca.com
2121 Montiel Road, San Marcos, CA 92069
760.839.7302

PRELIMINARY GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS
PROPOSED NEW SINGLE-FAMILY RESIDENCE
TO BE LOCATED AT WISHBONE WAY, APN 264-222-33-00,
ENCINITAS, CALIFORNIA

EDG Project No. 216654-1

December 22nd, 2021

PREPARED FOR:

DG Design and Build
Attn: Kevin Dalzell
160 S. Rancho Santa Fe Rd, #E70-535
Encinitas, CA 92024

ENGINEERING DESIGN GROUP
www.designgroupca.com
2121 Montiel Road, San Marcos, CA 92069
760.839.7302

Date: December 22nd, 2021

To: DG Design and Build
Attn: Kevin Dalzell
160 S. Rancho Santa Fe Rd, #E70-535
Encinitas, CA 92024

Re: Proposed new, single-family residence to be located at WIshbone Way, APN 264-222-33-00, Encinitas, California

Subject: Geotechnical Investigation and Recommendations Report

In accordance with your request and our signed proposal we have provided this preliminary geotechnical investigation and recommendations report of the subject site for the proposed new, single-family residence and accessory dwelling unit.

The findings of the investigation, earthwork recommendations and foundation design parameters are presented in this report. In general, it is our opinion that the proposed construction, as described herein, is feasible from a geotechnical standpoint, provided the recommendations of this report and generally accepted construction practices are followed.

If you have any questions regarding the following report, please do not hesitate to contact our office.

Sincerely,
ENGINEERING DESIGN GROUP

REGISTERED PROFESSIONAL ENGINEER
STEVEN BRYANT NORRIS
GE 2590
GEOTECHNICAL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ERIN E. RIST
C 65122
CIVIL
STATE OF CALIFORNIA

Steven Norris
California ***GE#2590***

Erin E. Rist
California ***RCE #65122***

Table of Contents

1.0 SCOPE 1

2.0 SITE AND PROJECT DESCRIPTION 1

3.0 FIELD INVESTIGATION 1

4.0 SUBSURFACE CONDITIONS 2

5.0 GEOLOGIC HAZARDS 3

6.0 GROUND WATER 3

7.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS 4

8.0 GRADING AND EARTHWORK 5

9.0 SEISMIC DESIGN PARAMETERS 7

10.0 SHALLOW FOUNDATIONS 8

11.0 CORROSION AND VAPOR EMISSION 9

12.0 CONCRETE SLAB-ON-GRADE 11

13.0 RETAINING WALLS 12

14.0 POOL 14

15.0 INFILTRATION 14

16.0 SURFACE DRAINAGE 15

17.0 LABORATORY TESTING 16

18.0 CONSTRUCTION OBSERVATION AND TESTING 16

19.0 MISCELLANEOUS 17

FIGURES

Site Vicinity Map ..... Figure No. 1

Site Location Map ..... Figure No. 2

Site Plan ..... Figure No. 3

Trench Logs ..... Test Pit Logs 1 –5

APPENDICES

References ..... Appendix A

General Earthwork and Grading Specifications ..... Appendix B

Laboratory Results ..... Appendix C

Retaining Wall Drainage and Slab Underdrain Detail ..... Appendix D

1.0 SCOPE

This report gives our geotechnical recommendations for the proposed, single-family residence, detached accessory dwelling unit (Hereon, ADU), and associated hardscape and landscape improvements, to be located at the property, APN 264-222-33-00, at the terminus of Wishbone Way, Encinitas, California. (See Figure No. 1, "Site Vicinity Map", and Figure No. 2, "Site Location Map"). The scope of our work conducted onsite to date has included a visual reconnaissance of the property and surrounding areas, review of geologic maps, review of past geotechnical reports, a limited subsurface investigation of the subject property, review of preliminary grading and architectural plans, laboratory tests and preparation of this report presenting our findings, conclusions, and recommendations.

2.0 SITE AND PROJECT DESCRIPTION

The subject property is located at the western terminus of Wishbone Way, APN 264-222-33-00 in the City of Encinitas, California. For the purposes of this report the lot is assumed to face east. The subject property is bordered to the north, south and east by single-family estate homes, to the west by undeveloped land and is accessed from the east by the paved road Wishbone Way.

The site area topography generally consists of foothill terrain. At the time of this report the lot is generally undeveloped, with the exception of a portion of Wishbone Way. The lot is generally covered with low-lying to large shrub vegetation, as well as trees along the street. Generally, the site's topography consists of a general ridge along the west and south property lines and a high point along the northwest corner, which descends towards a natural drainage that runs through the northern portion of the property from east to west. According to the site topography there is an overall elevation differential of approximately 50 feet across the site. Based upon our review of the preliminary project plans, we understand the proposed development will consist of the construction of a new, single-family residence, driveway, accessory dwelling unit, pool, and associated hardscape/landscape improvements.

3.0 FIELD INVESTIGATION

Our field investigation of the property consisted of a site reconnaissance, site field measurements, observation of existing conditions on-site and on adjacent sites and a limited subsurface investigation of soil conditions. Our subsurface investigation consisted of the visual observation of five exploratory test trenches, in the general areas of proposed construction, logging of soil types encountered, and sampling

of soils for laboratory testing. The approximate location of the test trenches is given in Figure No. 3, "*Site and Approximate Location of Trenches*".

4.0 SUBSURFACE CONDITIONS

Topsoil, fill, and weathered profiles were encountered to approximate depths between 2 to 7+ feet below adjacent grade in our exploratory test trenches. Soil types encountered within our exploratory trenches are described as follows:

4.1 Topsoil / Fill / Weathered

Topsoil, fill and weathered unsuitable materials were encountered to depths of up to 1 to 7+ feet below adjacent grade in our exploratory test trenches. These materials consist of grey to reddish brown, dry to slightly moist, loose to medium dense / medium stiff, sandy silts/clays and clayey silts/sands. Angular cobbles were encountered within our test trenches, as well as construction debris. Organic material was encountered in trench four. **In general, these materials are not considered suitable for the support of structures and structural improvements in their present state but may be utilized as re-compacted fill below two feet of pad subgrade where interior slab on grade floors are proposed, provided the recommendations of this report are followed.** Unsuitable soil materials classify as SW – CL per the Unified Soil Classification System, and based on laboratory testing, are considered to possess very high potential for expansion.

4.2 Kgb – Gabbro (undivided, mid-Cretaceous, as mapped per Kennedy, M.P., et.al. 2007)

Granitic material was found to underlie the topsoil/fill/weathered profiles material within the exploratory trench excavations. The encountered granitic material consists of yellowish brown to light grey brown with orange lenses, slightly moist, dense to very dense, silty sands and granitics at various stages of decomposition with angular cobbles. **These materials are considered suitable for the support of structures and structural improvements, provided the recommendations of this report are followed.** These materials classify as SW - SC per the Unified Soil Classification System, and based on visual observation, are considered to possess a high potential for expansion.

Detailed logs of our exploratory test trenches, as well as a depiction of their locations, please see the *Figures* section attached herein.

5.0 GEOLOGIC HAZARDS

5.1 FAULTS

Our review of geologic literature pertaining to the general site area indicates the subject site is not within a mapped Alquist-Priolo fault zone. It is our opinion that the site could be subjected to moderate to severe ground shaking in the event of a major earthquake along any of the faults in the Southern California region. The seismic risk at this site is similar to that of the surrounding developed area.

5.2 LIQUEFACTION, LATERAL SETTLEMENT, SUBSIDENCE

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose, granular soils underlain by a near-surface ground water table are most susceptible to liquefaction, while the stability of most silty sands and clays is not adversely affected by vibratory motion. Because of the dense nature of the soil materials underlying the site and the lack of near surface water, the potential for lateral spreading, liquefaction, subsidence or seismically induced dynamic settlement at the site is considered low. The effects of seismic shaking can be reduced by adhering to the most recent edition of the California Building Code and current design parameters of the Structural Engineers Association of California.

5.3 TSUNAMI

Tsunami are sea waves generated by submarine earthquakes, landslides, or volcanic activity. Submarine earthquakes are common along the edge of the Pacific Ocean and coastal areas are subject to potential inundation by tsunami. Most of the tsunamis recorded on the San Diego Bay tidal gauge have only been a few tenths of a meter in height. The possibility of a destructive tsunami along the San Diego coastline is considered low. Tsunami or storm waves (associated with winter storms), even in conjunction with high tides, do not have the potential for inundations of the site.

5.4 SLOPE STABILITY

As part of the preparation of this report we have reviewed geologic maps of the subject area. Our review of geologic maps does not indicate landslide deposits at the area in and around the subject site.

6.0 GROUND WATER

Static ground water was not encountered during our limited subsurface investigation. However, perched

groundwater conditions can develop and change over time, where no such condition previously existed and can have a significant impact. Waterproofing membrane shall be specifically detailed by waterproofing consultant. If groundwater conditions are encountered during site excavations, a slab underdrain system may be required. Trenches below slab should be detailed with perimeter and trench cut-off walls keyed into competent material.

7.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

Based upon our review of preliminary project plans, we understand the proposed improvements will include a new, single-family estate residence, detached ADU, pool, and associated hardscape & landscape improvements. In general, it is our opinion that the proposed new structures and improvements, as discussed and described herein, are feasible from a geotechnical standpoint, provided the recommendations of this report and all applicable codes are followed.

- Based upon our subsurface investigation, competent material is anticipated at approximate depths of 2 to 7+ feet below existing grades. Depth of unsuitable material encountered during our subsurface investigation was somewhat variable across the site, with deeper fills encountered in the area of the proposed ADU, adjacent to the improved roadway. Fills in the area of the ADU appeared to be related to dumping that may have occurred onsite over time.

- Based upon our review of the preliminary project plans, we understand the main residence and the ADU are proposed with raised structural floors.

- We understand, in consideration of the proposed raised foundations, site grading is limited. We recommend a removal and re-compaction of loose/unsuitable profiles in the area of proposed new improvements. Where existing unsuitable materials are removed and recompacted we anticipate new shallow foundations for the proposed improvements. New shallow foundations and slab-on-grade floors shall be founded in competent re-compacted material.

- In lieu of removal and re-compaction, deep foundations through fill profiles can be considered, however specialty detailing may be required in consideration of underlying rock material.

- Laboratory tests indicate that onsite material has a very high potential for expansion. We recommend in areas of proposed new slab-on-grade floors, a two-feet cap of import material with very low expansion potential (EI<20).

- In consideration of the sloped condition of the lot and highly expansive soils any bioretention area bottoms shall be lined with an impermeable liner.

- We recommend the pool be designed for soil conditions with very high expansion potential, with an import cap and subdrain detailing.

- In consideration of the dense nature of the underlying profiles, heavy/special grading equipment and/or blasting may be required.

- Any changes in the proposed design should be reviewed by this office for any revisions to the recommendations herein.

8.0 GRADING AND EARTHWORK

Based upon our review of the preliminary grading plan, in the area of the proposed residence, we anticipate raised foundations, with limited grading associated with the driveway, rear patio/pool area. We recommend a removal and re-compaction of the upper approximately 2-7+ feet of unsuitable material in the area of the proposed improvements. All grading shall be done in accordance with the recommendations below as well as Appendix B of this report and the standards of county and state agencies, as applicable.

8.1 Site Preparation

Prior to any grading, the areas of proposed improvements should be cleared of surface and subsurface debris (including organic topsoil, vegetative and construction debris). Removed debris should be properly disposed of off-site prior to the commencement of any fill operations. Construction debris should not generally be mixed with fill soils. Holes resulting from the removal of debris, existing structures, or other improvements, should be filled, and compacted.

8.2 Removals

In areas of new proposed structures, topsoil/fill/weathered profiles found to mantle the site, are not suitable for the structural support of buildings or structural improvements in their present state. We anticipate a removal of unsuitable profiles on the order of up to 4 feet in the area of the proposed

residence as part of grading operations for the creation of the building pad and 7+ feet in the area of the ADU. In general, grading for the building pad will consist in the removal of all unsuitable fill and weathered soil to competent material, creation of a keyway at the toe of all new fill slopes, canting and scarification of keyway bottom, benching, placement and re-compaction of fill material per *Appendix B*. New fills for the proposed building pads and driveway fill slopes should be re-compacted to a minimum of 90 percent relative compaction (ASTM D1557 – latest edition).

8.3 Transitions

All settlement sensitive improvements (including but not limited to building structures, retaining walls, driveways, etc.), should be constructed on a uniform building pad. We anticipate, undercutting may be necessary at the southeastern portions of the proposed building pad.

Undercuts should extend a minimum of 5 feet (or to a distance at least equal to depth of fill) beyond the footprint of the proposed structures (including exterior columns) and settlement sensitive improvements. Undercuts shall be made a minimum of 3 feet, or to a minimum depth of half the depth of deepest fill (anticipated to be approximately 8+ feet). Undercut bottoms may require sloping at a minimum 1% to daylight and construction of a subdrain (reference Appendix B). We anticipate building foundations will be founded on competent re-compacted material. This condition needs to be verified in the field by a representative of our firm prior to placement of fill or improvements during site grading operations.

8.4 Fills/Backfill

All fill/backfill material should be cleaned of loose debris and oversize material (material more than 6 inches in diameter), be brought to approximately +2% of optimum moisture content, and re-compacted to at least 90 percent relative compaction (based on ASTM D1557 – latest edition). Fills should generally be placed in lifts not exceeding 6 - 8 inches in thickness. Fill/backfill should be tested every 2 vertical feet at a minimum.

If import material is utilized (recommended at the pool and flatwork), imported soils should have a very low potential for expansion (E.I. < 20), free of debris and organic matter. Prior to importing soils, they should be visually observed, sampled, and tested at the borrow pit area to evaluate soil suitability as fill. Onsite materials are suitable for re-use as fill material, (below the import cap in areas of slab-on-grade floors) during grading operations provided, they are free of contamination (construction debris and organics) and oversize material in excess of 6 inches in diameter (oversize material is generally not

anticipated). Utility trenches should be properly backfilled in accordance with the latest edition of Green Book standards.

8.5 Slopes

Where new slopes are constructed, permanent slopes may be cut to a face ratio of 2:1 (horizontal to vertical). Permanent fill slopes shall be placed at a maximum 2:1 slope face ratio. All temporary cut slopes shall be excavated in accordance with *OSHA* requirements and *OSHA Alternative Sloping Plans* and shall not undermine adjacent properties, public improvements, or any structures without proper shoring of excavation and/or structures. Subsequent to grading, planting or other acceptable cover should be provided to increase the stability of slopes, especially during the rainy season (October thru April).

8.6 Driveways and Flatwork

In the areas of proposed driveways and exterior flatwork we recommend, the upper 12 inches of subgrade or finish grade shall be ripped a minimum of 12 inches, moisture conditioned to near optimum moisture content and compacted to 90% minimum relative compaction (ASTM D1557 – latest edition). Driveways and flatworks shall be underlain by Class II base compacted to 95% relative compaction. See our *CONCRETE SLAB-ON-GRADE* section for additional driveway and flatwork recommendations, and our *INFILTRATION* section for additional paver recommendations.

9.0 SEISMIC DESIGN PARAMETERS

9.1 2019 CBC Seismic Design Parameters

Site Class	D
Seismic Design Category	D
Spectral Response Coefficients	
S_S (g)	0.927
S_1 (g)	0.340
S_{MS} (g)	1.113
S_{DS} (g)	0.742

10.0 SHALLOW FOUNDATIONS

The following design parameters may be utilized for new foundations founded on competent re-compacted material.

10.1 Footings bearing uniformly in competent material may be designed utilizing maximum allowable soils pressure of 1,800 psf.

10.2 Bearing values may be increased by 33% when considering wind, seismic, or other short duration loadings.

10.3 The parameters in the table below should be used as a minimum for designing new footing width and depth below lowest adjacent grade into competent material. Footing depths are to be confirmed in the field by a representative of Engineering Design Group prior to the placement of form boards, steel, and removal of excavation equipment.

No. of Floors Supported	Minimum Footing Width	*Minimum Footing Depth Below Lowest Adjacent Grade
1	24 inches	24 inches
2	24 inches	24 inches
3	18 inches	24 inches

*Footings are anticipated to be founded in competent recompacted material. Deepened as necessary for distance to daylight purposes.

10.4 All footings founded into competent material should be reinforced with a minimum of two #4 bars at the top and two #4 bars at the bottom (3 inches above the ground). For footings over 30 inches in depth, additional reinforcement, and possibly a stemwall system will be necessary, and should be reviewed by project structural engineer prior to construction.

10.5 All isolated spread footings should be designed utilizing the above given bearing values and footing depths and be reinforced with a minimum of #4 bars at 12 inches o.c. in each direction (3 inches above the ground). Isolated spread footings should have a minimum width and depth of 24 inches.

10.6 For footings adjacent to slopes a minimum of 12 feet horizontal setback in competent material or properly compacted fill should be maintained. A setback measurement should be taken at the horizontal distance from the bottom of the footing to slope daylight. Where this condition cannot be met, it should be brought to the attention of the Engineering Design Group for review.

10.7 All excavations should be performed in general accordance with the contents of this report, applicable codes, OSHA requirements and applicable city and/or county standards.

10.8 All foundation subgrade soils and footings shall be pre-moistened to 2% over optimum to a minimum of 18 inches in depth prior to the pouring of concrete.

11.0 CORROSION AND VAPOR EMISSION

11.1 Resistivity and chloride testing of onsite samples from our samples from our subsurface investigation was conducted to evaluate corrosion potential to proposed improvements. Tests performed indicate that soils classify, according to ACI 318 standard, as category C1, and based upon laboratory results are considered mild to moderately corrosive to buried metals. Test results are included in Appendix C of this report. The project structural engineer to note increased concrete protection requirements for corrosive environments, as applicable.

11.2 Laboratory testing of onsite samples for water soluble sulfates, indicate soils classify, according to ACI 318 standard, as category S1, moderately to severely corrosive due to sulfate attack to concrete structures.

11.3 In consideration of ACI standards and the corrosion potential of onsite soils, as indicated above, we recommend for moisture sensitive slabs, retaining walls and foundations (i.e., below grade walls/spaces, built interior environments, floor finishes) Type V concrete with a maximum water to cement ratio of 0.45 resulting in a compressive strength of 4,500 psi minimum (no special inspection required for water to cement ratio purposes, unless otherwise specified by structural engineer).

11.4 In consideration of corrosion potential of onsite soils and ACI standards, as indicated above, for non-moisture sensitive areas, we recommend Type V concrete with a maximum water to cement ratio of 0.45 resulting in a compressive strength of 4,500 psi minimum (no special inspection required for water to cement ratio purposes, unless otherwise specified by structural engineer).

11.5 Buried metals shall be protected, and a corrosion engineer should be consulted for appropriate mitigation recommendations. EDG is not an expert in corrosion protection. Design recommendations for the protection of improvements from corrosive environment shall be provided by the corrosion consultant.

11.6 Where onsite improvements propose the use of reclaimed water, onsite soils are to be considered highly corrosive to buried metals. Precautions should be taken to protect all buried metals.

11.7 **Slab Underlayment**: We recommend the following beneath proposed slab-on-grade floors.

11.7.a. For moisture-sensitive areas, we recommend a **vapor barrier**.

11.7.b. The slab underlayment for moisture-sensitive areas consists of a **vapor barrier** layer (15 mil) placed below the upper one-inch of sand. The vapor barrier shall meet the following minimum requirements: Permeance of less than 0.01 perm [grains/(ft^{2}hr in/Hg)] as tested in accordance with ASTM E 1745 Section 7.1 and strength per ASTM 1745 Class A.

11.7.c. In areas of level slab on grade floors, we recommend a one-inch layer of coarse sand material, Sand Equivalent (S.E.) greater than 50 and washed clean of fine materials, should be placed beneath the slab in moisture-sensitive areas, above the **vapor barrier**. There shall be not greater than a 2-inch difference across the sand layer.

11.7.d. The **vapor barrier** should extend down the interior edge of the footing excavations a minimum of 6 inches. The vapor barrier should lap a minimum of 8 inches, sealed along all laps with the manufacturer's recommended adhesive. Beneath the vapor barrier a uniform layer of 3 inches of pea gravel is recommended under the slab in order to more uniformly support the slab, help distribute loads to the soils beneath the slab, and act as a capillary break.

11.8 The project waterproofing consultant should provide all slab underdrain, slab sealers and various other details, specifications and recommendations (i.e. Moiststop and Linkseal) at areas of potential moisture intrusion. Engineering Design Group accepts no responsibility for design or quality control of waterproofing elements of the building.

12.0 CONCRETE SLAB-ON-GRADE

12.9 We understand concrete slabs are limited to driveways and flatwork. Concrete flatwork shall be underlain by Class II base material compacted to 95% relative compaction. Where new slabs are proposed, we recommend the following as the minimum design parameters.

Driveways: Minimum thickness of 5 inches and reinforced with #4 bars at 18 inches o.c. placed at the midpoint of the slab, underlain by 8 inches Class II base.
Exterior Flatwork: Minimum thickness of 5 inches and reinforced with #3 bars at 16 inches o.c. at the midpoint of the slab, underlain by 6 inches Class II base.

12.9.a. **Slump**: Between 3 and 4 inches maximum.
12.9.b. **Aggregate Size**: ¾ - 1 inch.

12.10 Base subgrade shall be slopes at a minimum of 1% to daylight/outlet.

12.11 Adequate control joints should be installed to control the unavoidable cracking of concrete that takes place when undergoing its natural shrinkage during curing. The control joints should be well located to direct unavoidable slab cracking to areas that are desirable by the designer.

12.12 All required fills used to support slabs, should be placed in accordance with the *GRADING AND EARTHWORK* section of this report and the attached Appendix B, and compacted to 90 percent relative compaction (Modified Proctor Density, ASTM D-1557 – Latest Edition).

12.13 Concrete should be poured during cool (40 – 65 degrees) weather if possible. If concrete is poured in hotter weather, a set retarding additive should be included in the mix, and the slump kept to a minimum.

12.14 All subgrade soils to receive concrete slabs and flatwork are to be pre-soaked to 2 percent over optimum moisture content, to a minimum depth of 24inches.

12.15 Exterior concrete flatwork, due to the nature of concrete hydration and minor subgrade soil movement, are subject to normal minor concrete cracking. To minimize expected concrete cracking, the following additional recommendations should be implemented:

12.15.a. Exterior concrete flatwork should be poured with a 10-inch-deep thickened edge. Flatwork adjacent to top of a slope should be constructed with an outside footing to attain a minimum of 7 feet distance to daylight.

12.15.b. Exterior concrete flatwork should be constructed with tooled joints creating concrete sections no larger than 225 square feet. For sidewalks, the maximum run between joints should not exceed 5 feet. For rectangular shapes of concrete, the ratio of length to width should generally not exceed 0.6 (i.e., 5 ft. long by 3 ft. wide). Joints should be cut at expected points of concrete shrinkage (such as male corners), with diagonal reinforcement placed in accordance with industry standards.

12.15.c. Isolation joints should be installed at exterior concrete where exterior concrete is poured adjacent to existing foundations.

12.15.d. Drainage adjacent to exterior concrete flatwork should direct water away from the improvements. Concrete subgrade should be sloped and directed to the collective subdrain system, such that water is not trapped below the flatwork.

12.16 The recommendations set forth herein are intended to reduce cosmetic nuisance cracking. The project concrete contractor is ultimately responsible for concrete quality and performance and should pursue a cost-benefit analysis of these recommendations, and other options available in the industry, prior to the pouring of concrete.

13.0 RETAINING WALLS

Site retaining walls are anticipated as part of the proposed development. New retaining walls up to 8 feet may de designed and constructed in accordance with the following recommendations and minimum design parameters.

13.1 Retaining wall footings should be designed in accordance with the allowable bearing criteria given in the *Foundations* section of this report and should maintain minimum footing depths outlined in the *Foundations* section of this report. Any retaining wall footings are to be placed on competent material. Where cut-fill transitions may occur, alternative detailing may be provided by the Engineering Design Group on a case-by-case basis.

13.2 Unrestrained cantilever retaining walls should be designed using an active equivalent fluid pressure of 40 pcf. This assumes that granular, free draining material with low potential for expansion (E.I. <50) will be used for backfilling, and that the backfill surface will be level. **Import material should be anticipated for retaining wall backfill.** Where soil with potential for expansion is not low (E.I. > 50) a new active fluid pressure will be provided by the project soils engineer. Backfill materials should be considered prior to the design of the retaining walls to ensure accurate detailing.

13.3 Where the backfill behind the wall is sloped at a maximum slope of 2:1 (H:V) an active equivalent fluid pressure of 55 pcf, shall be utilized.

13.4 Any other surcharge loadings shall be analyzed in addition to the above values. These surcharge loads shall include foundations, construction equipment, vehicular traffic, etc.

13.5 If the tops of retaining walls are restrained from movement, they should be designed for a uniform at-rest soil pressure of 60 psf.

13.6 Retaining walls shall be designed for additional lateral forces due to earthquake, where required by code, utilizing the following design parameters.

13.6.a. For unrestrained, retaining walls with level backfill, we recommend an additional seismic load of 15H applied as a uniform load. The resultant load should be applied a distance of 0.5H from the bottom of the footing.

13.6.b. For unrestrained, retaining walls with sloped backfill up to 2:1 slope, we recommend an additional seismic load of 18H applied as a uniform load. The resultant load should be applied a distance of 0.5H from the bottom of the footing.

13.6.c. The unit weight of 125 pcf for the onsite soils may be utilized.

13.6.d. The above design parameters assume unsaturated conditions. Retaining wall designs for sites with a hydrostatic pressure influence (i.e groundwater within depth of retaining wall or waterfront conditions) will require special design considerations and should be brought to the attention of Engineering Design Group.

13.7 Passive soil resistance may be calculated using an equivalent fluid pressure of 250 pcf. This value assumes that the soil being utilized to resist passive pressures extends horizontally 2.5 times the height of the passive pressure wedge of the soil. Where the horizontal distance of the available passive pressure wedge is less than 2.5 times the height of the soil, the passive pressure value must be reduced by the percent reduction in available horizontal length.

13.8 A coefficient of friction of 0.30 between the soil and concrete footings may be utilized to resist lateral loads in addition to the passive earth pressures above.

13.9 All walls shall be provided with adequate back drainage to relieve hydrostatic pressure, and be designed in accordance with the minimum standards contained in the "Retaining Wall Drainage Detail", Appendix D. The waterproofing elements shown on our details are minimums and are intended to be supplemented by the waterproofing consultant and/or architect. The recommendations should be reviewed in consideration of proposed finishes and usage, especially at the proposed basement levels, performance expectations and budget.

13.10 If deemed necessary by the project owner, based on the above analysis, and waterproofing systems can be upgraded to include slab under drains and enhanced waterproofing elements.

13.11 In moisture sensitive areas (i.e. interior living space where vapor emission is a concern), in our experience poured-in-place concrete provides a surface with higher performance-repairability of below grade waterproofing systems. The developer should consider the cost-benefit of utilizing cast in place building retaining walls in lieu of masonry as part of the overall construction of the commercial structure. Waterproofing at any basement floors is recommended in areas of moisture sensitive floor finishes.

14.0 POOL

We understand a pool is proposed as part of the proposed development. Specific pool plans were not available at the time of this report, however in consideration of very high expansion potential of onsite soils, pool should be designed for expansive soil condition and detailed with an import cap and subdrain at the import/onsite soil interface.

15.0 INFILTRATION

Our review of preliminary grading plans indicates bioretention/infiltration facilities are proposed at the rear slope. Bioretention facilities shall be detailed with an impermeable liner.

In consideration of expansion potential of underlying soils permeable paver/concrete systems are not recommended or will require an impermeable liner and subdrain system. Permeable paver subgrade shall be sloped 2% minimum to a perforated subdrain, gravel filled (1cf/ft) and wrapped in a filter fabric. Permeable pavers shall be detailed with reinforced concrete edge restraints that extend minimum 4 inches below reservoir depth, and horizontal restraints. Where permeable paver driveways are utilized in sloped conditions, cut-off wall detailing should also be anticipated. In addition to the above details, specific paver detailing should be detailed and constructed per the minimum recommendations of the specific paver manufacturer as well as the Interlocking Concrete Paver Institute including minimum bedding specifications, base and subgrade requirements, installation tolerances, and drainage, etc.

Where runoff and storm water is directed over permeable pavements and water is anticipated to flow through pavers into an aggregate base near and adjacent to foundations, basements or other structures, additional detailing shall include systems to control and to prevent subsurface flow beneath the building. Generally, these systems, detailed as part of the specific building construction plans, may include the cut-off walls and underdrains.

Proper surface drainage and irrigation practices will play a significant role in the future performance of the project. Please note in the *Corrosion and Vapor Emission* section of this report for specific recommendations regarding water to cement ratio for moisture sensitive areas should be adhered. The project architect and/or waterproofing consultant shall specifically address waterproofing details.

16.0 SURFACE DRAINAGE

Adequate drainage precautions at this site are imperative and will play a critical role on the future performance of the proposed improvements. Under no circumstances should water be allowed to pond against or adjacent to tops of slopes and/or foundation walls.

The ground surface surrounding proposed improvements should be relatively impervious in nature, and slope to drain away from the structure in all directions, with a minimum slope of 2% for a horizontal distance of 10 feet (where possible). Area drains or surface swales should then be provided in low spots to accommodate runoff and avoid any ponding of water. Any french drains, backdrains and/or slab underdrains shall **not** be tied to surface area drain systems. Roof gutters and downspouts shall be installed on the new and existing structures and tightlined to the area drain system. All drains should be kept clean and unclogged, including gutters and downspouts. Area drains should be kept free of debris to allow for proper drainage.

Over watering can adversely affect site improvements and cause perched groundwater conditions. Irrigation should be limited to only the amount necessary to sustain plant life. Low flow irrigation devices as well as automatic rain shut-off devices should be installed to reduce over watering. Irrigation practices and maintenance of irrigation and drainage systems are an important component to the performance of onsite improvements.

During periods of heavy rain, the performance of all drainage systems should be inspected. Problems such as gullying or ponding should be corrected as soon as possible. Any leakage from sources such as water lines should also be repaired as soon as possible. In addition, irrigation of planter areas, lawns, or other vegetation, located adjacent to the foundation or exterior flat work improvements should be strictly controlled or avoided.

17.0 LABORATORY TESTING

Laboratory tests were performed on samples of onsite material collected during our subsurface investigation. Test results are attached as Appendix C.

18.0 CONSTRUCTION OBSERVATION AND TESTING

The recommendations provided in this report are based on subsurface conditions disclosed by the investigation and our general experience in the project area. Interpolated subsurface conditions should be verified in the field during construction. The following items shall be conducted prior/during construction by a representative of Engineering Design Group in order to verify compliance with the geotechnical and civil engineering recommendations provided herein, as applicable. The project structural and geotechnical engineers may upgrade any condition as deemed necessary during the development of the proposed improvement(s).

18.1 Review of final approved grading and structural plans prior to the start of work for compliance with geotechnical recommendations.
18.2 Attendance of a pre-grade/construction meeting prior to the start of work.
18.3 Observation of keyways, subgrade and excavation bottoms.
18.4 Testing of any fill placed, including retaining wall backfill and utility trenches.
18.5 Observation of footing excavations prior to steel placement and removal of excavation equipment.

18.6 Field observation of any "field change" condition involving soils.
18.7 Walk through of final drainage detailing prior to final approval.

The project soils engineer may at their discretion deepen footings or locally recommend additional steel reinforcement to upgrade any condition as deemed necessary during site observations. Engineering Design Group shall, prior to the issuance of the certificate of occupancy, issue in writing that the above inspections have been conducted by a representative of their firm, and the design considerations of the project soils report have been met. The field inspection protocol specified herein is considered the minimum necessary for Engineering Design Group to have exercised due diligence in the soils engineering design aspect of this building. Engineering Design Group assumes no liability for structures constructed utilizing this report not meeting this protocol.

Before commencement of grading the Engineering Design Group will require a separate contract for quality control observation and testing. Engineering Design Group requires a minimum of 48 hours' notice to mobilize onsite for field observation and testing.

19.0 MISCELLANEOUS

It must be noted that no structure or slab should be expected to remain totally free of cracks and minor signs of cosmetic distress. The flexible nature of wood and steel structures allows them to respond to movements resulting from minor unavoidable settlement of fill or natural soils, the swelling of clay soils, or the motions induced from seismic activity. All of the above can induce movement that frequently results in cosmetic cracking of brittle wall surfaces, such as stucco or interior plaster or interior brittle slab finishes.

Data for this report was derived from surface and subsurface observations at the site and knowledge of local conditions. The recommendations in this report are based on our experience in conjunction with the limited soils exposed at this site. We believe that this information gives an acceptable degree of reliability for anticipating the behavior of the proposed improvement; however, our recommendations are professional opinions and cannot control nature, nor can they assure the soils profiles beneath or adjacent to those observed. Therefore, no warranties of the accuracy of these recommendations, beyond the limits of the obtained data, is herein expressed or implied. This report is based on the investigation at the described site and on the specific anticipated construction as stated herein. If either of these conditions is changed, the results would also most likely change. Man-made or natural changes in the conditions of

a property can occur over a period. In addition, changes in requirements due to state-of-the-art knowledge and/or legislation are rapidly occurring. As a result, the findings of this report may become invalid due to these changes. Therefore, this report for the specific site, is subject to review and not considered valid after a period of one year, or if conditions as stated above are altered.

It is the responsibility of the owner or his/her representative to ensure that the information in this report be incorporated into the plans and/or specifications and construction of the project. It is advisable that a contractor familiar with construction details typically used to deal with the local subsoil and seismic conditions be retained to build the structure. If you have any questions regarding this report, or if we can be of further service, please do not hesitate to contact us. We hope the report provides you with necessary information to continue with the development of the project.

FIGURES

ENGINEERING DESIGN GROUP
www.designgroupca.com
2121 Montiel Road, San Marcos, CA 92069
760.839.7302

Project: DG Design & Build
Address: APN: 264-222-33, Wishbone Way, Encinitas, California
EDG Project No: 216654-1

FIGURE 1
Vicinity Map

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FIGURE 2
Site Map

ENGINEERING DESIGN GROUP
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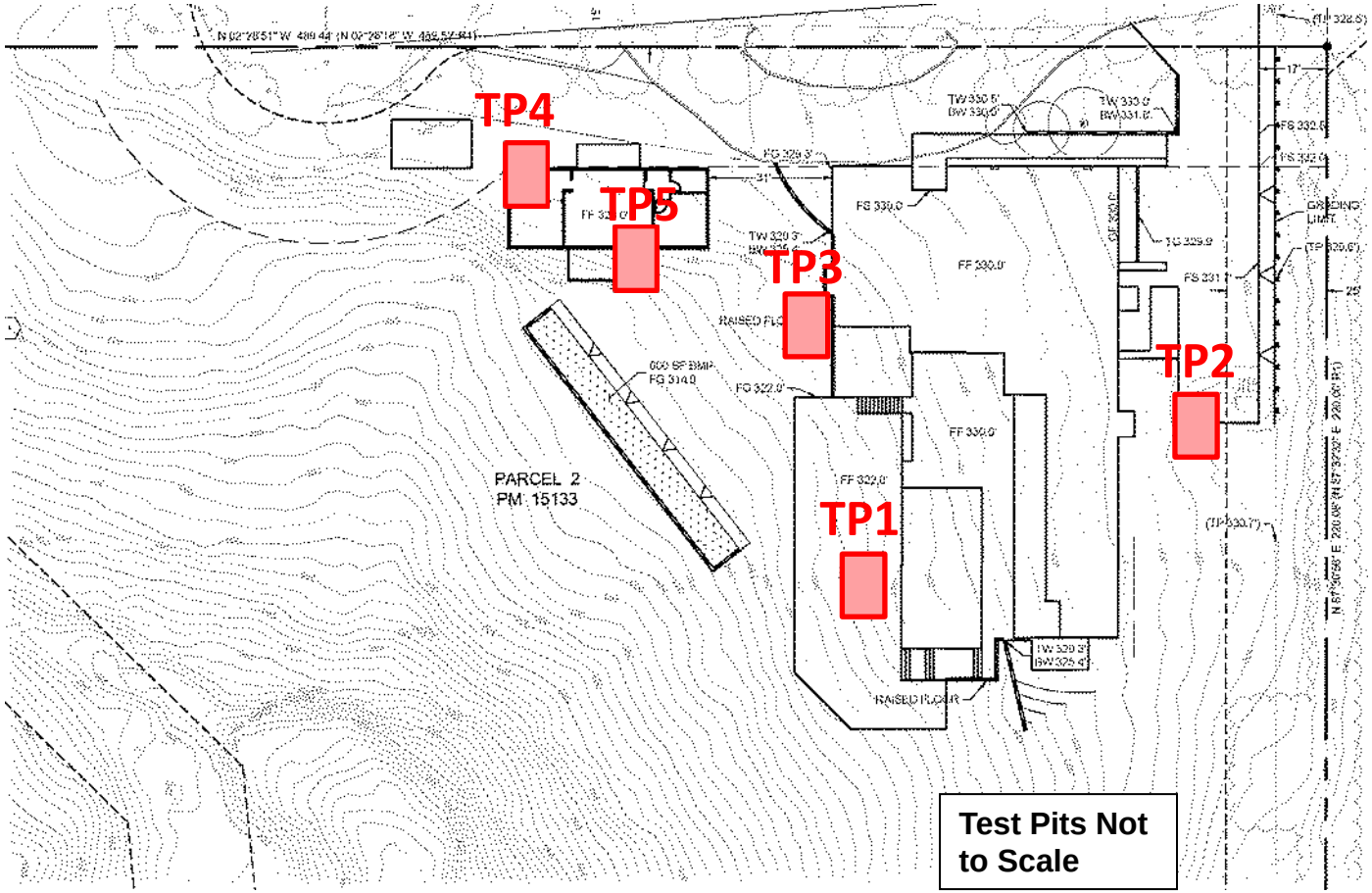
2121 Montiel Road, San Marcos, CA 92069
760.839.7302



Project: DG Design & Build
Address: APN: 264-222-33, Wishbone Way, Encinitas, California
EDG Project No: 216654-1

FIGURE 3
Site and Approximate Location of Exploratory Test Pits

Project Name:	DG Design & Build	**TEST PIT LOG NO. 1**
EDG Project Number:	216654-1	
Location:	See Figure 3 – Location of Test Pits	**Sheet 1 of 1**

Date(s) Excavated:	10 / 8 / 2021	***Total Depth:***	4.0 feet	***Groundwater Level:***	Not Encountered
Logged By:	ER / AB	***Approx. Surface Elev.***	Finished Grade	***Backfilled (date)***	Same Day
Excavation Method:	Mini - Excavator				

Soil Type	***Depth***	***Material Description and Notes***	***UCSC***	***Sample***
A	0 – 2.0'	**TOPSOIL, FILL, WEATHERED** Grey brown to reddish brown, dry to slightly moist, loose to medium dense, silty clay with roots/organics, cobbles	SC - CL	Bulk
B	2.0' – 4.0'	**DECOMPOSED METAVOLCANICS** Light brown to yellowish brown, slightly moist, dense, clayey/silty sand, with angular cobbles.	SM - SC	--

GRAPHIC REPRESENTATION

FT. B.A.G.	FG
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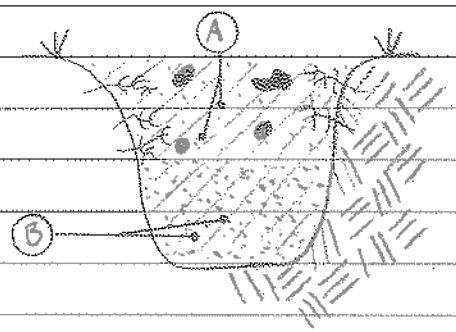

Project Name:	DG Design & Build	**TEST PIT LOG NO. 2**
EDG Project Number:	216654-1	
Location:	See Figure 3 – Location of Test Pits	**Sheet 1 of 1**

Date(s) Excavated:	10 / 8 / 2021	***Total Depth:***	5.5 feet	***Groundwater Level:***	Not Encountered
Logged By:	ER / AB	***Approx. Surface Elev.***	Finished Grade	***Backfilled (date)***	Same Day
Excavation Method:	Mini - Excavator				

Soil Type	***Depth***	***Material Description and Notes***	***UCSC***	***Sample***
A	0 – 4.5'	**TOPSOIL, FILL, WEATHERED** Greyish brown to reddish brown, moist, medium stiff to stiff, silty clay with roots/organics, cobbles	SC - CL	Bulk
B	4.5' – 5.5'	**DECOMPOSED METAVOLCANICS** Light brown to yellowish brown, to light grey with orange to dark red to brown lenses and inclusions, slightly moist, dense, clayey/silty sand, silty/sandy clay, with rounded to angular cobbles.	SM - SC	–

GRAPHIC REPRESENTATION

FT. B.A.G.	FG
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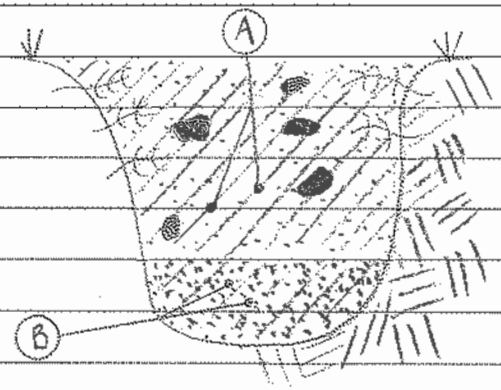

Project Name:	DG Design & Build	**TEST PIT LOG NO. 3**
EDG Project Number:	216654-1	
Location:	See Figure 3 – Location of Test Pits	**Sheet 1 of 1**

Date(s) Excavated:	10 / 8 / 2021	***Total Depth:***	6.0 feet	***Groundwater Level:***	Not Encountered
Logged By:	ER / AB	***Approx. Surface Elev.***	Finished Grade	***Backfilled (date)***	Same Day
Excavation Method:	Mini - Excavator				

Soil Type	***Depth***	***Material Description and Notes***	***UCSC***	***Sample***
A	0 – 5.0'	**TOPSOIL, FILL, WEATHERED** Greyish brown to reddish brown, moist, medium stiff, silty clay with roots/organics, small rounded to angular cobbles.	SC - CL	Bulk
B	5.0' – 6.0'	**DECOMPOSED METAVOLCANICS** Light brown to yellowish brown, to light grey with orange to dark reddish staining, moist, stiff, silty/sandy clay.	SC - CL	–

GRAPHIC REPRESENTATION

FT. B.A.G.	FG
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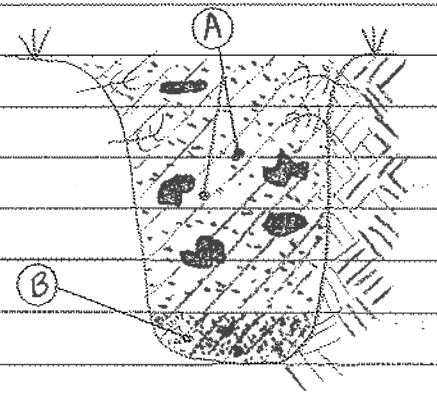
7	
8	



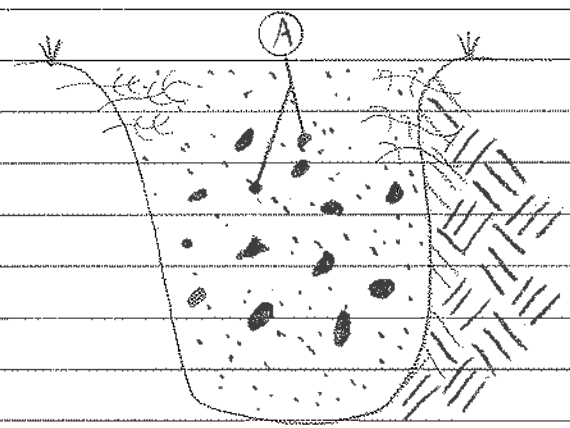
Project Name:	DG Design & Build	**TEST PIT LOG NO. 4**
EDG Project Number:	216654-1	
Location:	See Figure 3 – Location of Test Pits	**Sheet 1 of 1**

Date(s) Excavated:	10 / 8 / 2021	***Total Depth:***	7.0 feet	***Groundwater Level:***	Not Encountered
Logged By:	ER / AB	***Approx. Surface Elev.***	Finished Grade	***Backfilled (date)***	Same Day
Excavation Method:	Mini - Excavator				

Soil Type	***Depth***	***Material Description and Notes***	***UCSC***	***Sample***
A	0 – 7.0'	**TOPSOIL, FILL, WEATHERED** Light brown to greyish brown, dry to slightly moist, loose to medium stiff, silty clay to clayey silt. Numerous small to medium sized (≥ 6 inches) angular cobbles.	SC - CL	Bulk

GRAPHIC REPRESENTATION

FT. B.A.G.	FG
1	
2	
3	
4	
5	
6	
7	
8	



Project Name:	DG Design & Build	**TEST PIT LOG NO. 5**
EDG Project Number:	216654-1	
Location:	See Figure 3 – Location of Test Pits	**Sheet 1 of 1**

Date(s) Excavated:	10 / 8 / 2021	***Total Depth:***	6.0 feet	***Groundwater Level:***	Not Encountered
Logged By:	ER / AB	***Approx. Surface Elev.***	Finished Grade	***Backfilled (date)***	Same Day
Excavation Method:	Mini - Excavator				

Soil Type	***Depth***	***Material Description and Notes***	***UCSC***	***Sample***
A	0 – 6.0'	**TOPSOIL, FILL, WEATHERED** Light brown to greyish brown to reddish brown, dry to slightly moist, loose to medium stiff, silty clay to clayey silt. Numerous cobbles and small boulders, construction debris. Refusal due to large boulder at 6.0 feet.	SC - CL	Bulk

GRAPHIC REPRESENTATION

FT. B.A.G.	FG
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2	
3	
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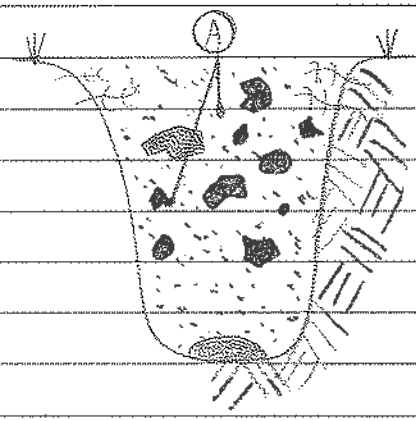


APPENDIX A

REFERENCES

1. California Geological Survey, Probabilistic Seismic Hazards Mapping Ground Motion Page.

2. California Department of Conservation, Division of Mines and Geology, Fault Rupture Zones in California, Special Publication 42, Revised 1990.

3. California Department of Conservation, Division of Mines and Geology, DMG Open-File Report 95-04, Landslide Hazards in the Northern Part of the San Diego County Metropolitan Area, San Diego County, California – Landslide Hazard Identification Map No. 35 – Rancho Santa Fe Quadrangle (Plate E), dated 1995.

4. Day, Robert W. 1999. Geotechnical and Foundation Engineering Design and Construction. McGraw Hill.

5. Greensfelder, R.W., 1974 Maximum Credible Rock Acceleration from Earthquakes in California Division of Mines and Geology, Map Sheet 23.

6. Kennedy, Michael M.P., Tan, S.S., et. al., Geologic Map of the Oceanside 30'x60' Quadrangle, California, dated 2007.

7. City of Encinitas, Department of Public Works, As Built Improvement Plan for T.P.M. 18760 Wishbone Way, File No. 234-86. Approval Date 3/26/1990.

8. Brian Ardolino, Preliminary Grading Plan/CDP Wishbone Way, dated 3/16/2020.

9. Pasco Engineering, Grading Plan for Ross Residence, 2906 Wishbone Way, Grading Permit No. 8243 G, dated 7/11/1989

10. Sowards & Brown Engineering, Inc., Grading Plan for Lewis Residence, Parcel 1 of PM 14480, Drawing No. 0272-G, dated 6/20/1990.

11. Leppert Engineering Corporation, Drainage Basin Study for the Brown Residence, Parcel 4 of Parcel Map 15133, dated 9/17/1996.

12. Conway & Associates, Hydrology and Hydraulic Calculations for the Smith Residence, 2903 Wishbone Way, Parcel 3 Parcel Map 15133, Grading Plan 6518-G, dated October 19, 2000.

13. Topographic Survey Map, Gary D. Mellom, PLS 8537, Parcel 2, PM 15133, dated 5/21/21.

14. Lee, L.J., 1977, Potential foundation problems associated with earthquakes in San Diego, in Abbott, P.L. and Victoria, J.K., eds. Geologic Hazards in San Diego, Earthquakes, Landslides, and Floods: San Diego Society of Natural History John Porter Dexter Memorial Publication.

15. Ploessel, M.R. and Slossan, J.E., 1974 Repeatable High Ground Acceleration from Earthquakes: California Geology, Vol. 27, No. 9, P. 195-199.

16. State of California, Fault Map of California, Map No. 1, Dated 1975.

17. State of California, Geologic Map of California, Map No. 1, Dated 1977.

18. Structural Engineers Association of Southern California (SEAOSC) Seismology Committee, Macroseminar Presentation on Seismically Induced Earth Pressure, June 8, 2006.

19. U.S. Army Corps of Engineers, Coast of California Storm and Tidal Waves Study, Shoreline Movement Data Report, Portuguese Point to Mexican Border, dated December 1985.

20. U.S. Army Corps of Engineers, Coast of California Storm and Tidal Waves Study, Coastal Cliff Sediments, San Diego Region (CCSTWS 87-2), dated June 1985.

21. Van Dorn, W.G., 1979 Theoretical aspects of tsunamis along the San Diego coastline, in Abbott, P.L. and Elliott, W.J., Earthquakes and Other Perils: Geological Society of America field trip guidebook.

22. Various Aerial Photographs.

APPENDIX B

General Earthwork and Grading Specifications

1.0 General Intent

These specifications are presented as general procedures and recommendations for grading and earthwork to be utilized in conjunction with the approved grading plans. These general earthwork and grading specifications are a part of the recommendations contained in the geotechnical report and shall be superseded by the recommendations in the geotechnical report in the case of conflict. Evaluations performed by the consultant during the course of grading may result in new recommendations which could supersede these specifications or the recommendations of the geotechnical report. It shall be the responsibility of the contractor to read and understand these specifications, as well as the geotechnical report and approved grading plans.

2.0 Earthwork Observation and Testing

Prior to commencement of grading, a qualified geotechnical consultant should be employed for the purpose of observing earthwork procedures and testing the fills for conformance with the recommendations of the geotechnical report and these specifications. It shall be the responsibility of the contractor to assist the consultant and keep him apprised of work schedules and changes, at least 24 hours in advance, so that he may schedule his personnel accordingly. No grading operations should be performed without the knowledge of the geotechnical consultant. The contractor shall not assume that the geotechnical consultant is aware of all grading operations.

It shall be the sole responsibility of the contractor to provide adequate equipment and methods to accomplish the work in accordance with the applicable grading codes and agency ordinances, recommendations in the geotechnical report and the approved grading plans not withstanding the testing and observation of the geotechnical consultant If, in the opinion of the consultant, unsatisfactory conditions, such as unsuitable soil, poor moisture condition, inadequate compaction, adverse weather, etc., are resulting in a quality of work less than recommended in the geotechnical report and the specifications, the consultant will be empowered to reject the work and recommend that construction be stopped until the conditions are rectified.

Maximum dry density tests used to evaluate the degree of compaction shouls be performed in general accordance with the latest version of the American Society for Testing and Materials test method ASTM D1557.

3.0 Preparations of Areas to be Filled

3.1 Clearing and Grubbing: Sufficient brush, vegetation, roots and all other deleterious material should be removed or properly disposed of in a method acceptable to the owner, design engineer, governing agencies and the geotechnical consultant.

The geotechnical consultant should evaluate the extent of these removals depending on specific site conditions. In general, no more than 1 percent (by volume) of the fill material should consist of these materials and nesting of these materials should not be allowed.

3.2 Processing: The existing ground which has been evaluated by the geotechnical consultant to be satisfactory for support of fill, should be scarified to a minimum depth of 6 inches. Existing ground which is not satisfactory should be overexcavated as specified in the following section. Scarification should continue until the soils are broken down and free of large clay lumps or clods and until the working surface is reasonably uniform, flat, and free of uneven features which would inhibit uniform compaction.

3.3 Overexcavation: Soft, dry, organic-rich, spongy, highly fractured, or otherwise unsuitable ground, extending to such a depth that surface processing cannot adequately improve the condition, should be overexcavated down to competent ground, as evaluated by the geotechnical consultant. For purposes of determining quantities of materials overexcavated, a licensed land surveyor / civil engineer should be utilized.

3.4 Moisture Conditioning: Overexcavated and processed soils should be watered, dried back, blended and / or mixed, as necessary to attain a uniform moisture content near optimum.

3.5 Recompaction: Overexcavated and processed soils which have been properly mixed, screened of deleterious material and moisture-conditioned should be recompacted to a minimum relative compaction of 90 percent or as otherwise recommended by the geotechnical consultant.

3.6 Benching: Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical), the ground should be stepped or benched. The lowest bench should be a minimum of 15 feet wide, at least 2 feet into competent material as evaluated by the geotechnical consultant. Other benches should be excavated into competent material as evaluated by the geotechnical consultant. Ground sloping flatter than 5:1 should be benched or otherwise overexcavated when recommended by the geotechnical consultant.

3.7 Evaluation of Fill Areas: All areas to receive fill, including processed areas, removal areas and toe-of-fill benches, should be evaluated by the geotechnical consultant prior to fill placement.

4.0 Fill Material

4.1 General: Material to be placed as fill should be sufficiently free of organic matter and other deleterious substances, and should be evaluated by the geotechnical consultant prior to placement. Soils of poor gradation, expansion, or strength characteristics should be placed as recommended by the geotechnical consultant or mixed with other soils to achieve satisfactory fill material.

4.2 Oversize: Oversize material, defined as rock or other irreducible material with a maximum dimension of greater than 6 inches, should not be buried or placed in fills, unless the location, materials and disposal methods are specifically recommended by the geotechnical consultant. Oversize disposal operations should be such that nesting of oversize material does not occur, and such that the oversize material is completely surrounded by compacted or densified fill. Oversize material should not be placed within 10 feet vertically of finish grade, within 2 feet of future utilities or underground construction, or within 15 feet horizontally of slope faces, in accordance with the attached detail.

4.3 Import: If importing of fill material is required for grading, the import material should meet the requirements of Section 4.1. Sufficient time should be given to allow the geotechnical consultant to observe (and test, if necessary) the proposed import materials.

5.0 Fill Placement and Compaction

5.1 Fill Lifts: Fill material should be placed in areas prepared and previously evaluated to receive fill, in near-horizontal layers approximately 6 inches in compacted thickness. Each layer should be spread evenly and thoroughly mixed to attain uniformity of material and moisture throughout.

5.2 Moisture Conditioning: Fill soils should be watered, dried-back, blended and/or mixed, as necessary to attain a uniform moisture content near optimum.

5.3 Compaction of Fill: After each layer has been evenly spread, moisture-conditioned and mixed, it should be uniformly compacted to no less than 90 percent of maximum dry density (unless otherwise specified). Compaction equipment should be adequately sized and be either specifically designed for soil compaction or of proven reliability, to efficiently achieve the specified degree and uniformity of compaction.

5.4 Fill Slopes: Compacting of slopes should be accomplished in addition to normal compacting procedures, by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation gain, or by other methods producing satisfactory results. At the completion of grading, the relative compaction of fill out to the slope face would be at least 90 percent.

5.5 Compaction Testing: Field tests of the moisture content and degree of compaction of the fill soils should be performed at the consultant's discretion based on file dconditions encountered. In general, the tests should be taken at approximate intervals of 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils. In addition to, on slope faces, as a guideline approximately one test should be taken for every 5,000 square feet of slope face and /or each 10 feet of vertical height of slope.

6.0 Subdrain Installation

Subdrain systems, if recommended, should be installed in areas previously evaluated for suitability by the geotechnical consultant, to conform to the approximate alignment and details shown on the plans or herein. The subdrain location or materials should not be changed or modified unless recommended by the geotechnical consultant. The consultant however, may recommend changes in subdrain line or grade depending on conditions encountered. All subdrains should be surveyed by a licensed land surveyor / civil engineer for line and grade after installation. Sufficient time shall be allowed for the survey, prior to commencement of filling over the subdrains.

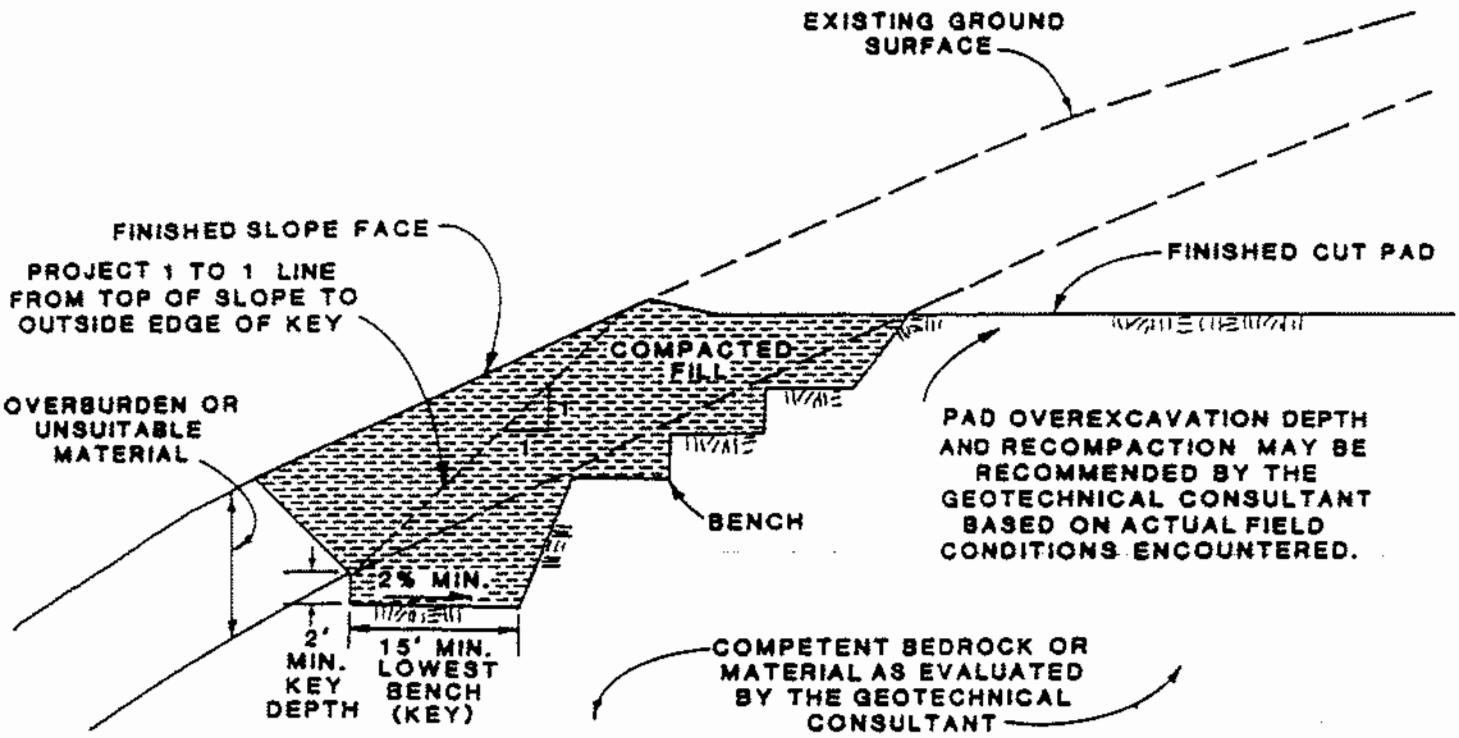
7.0 Excavation

Excavations and cut slopes should be evaluated by a representative of the geotechnical consultant (as necessary) during grading. If directed by the geotechnical consultant, further excavation, overexcavation and refilling of cut areas and/or remedial grading of cut slopes (i.e. stability fills or slope buttresses) may be recommended.

8.0 Quantity Determination

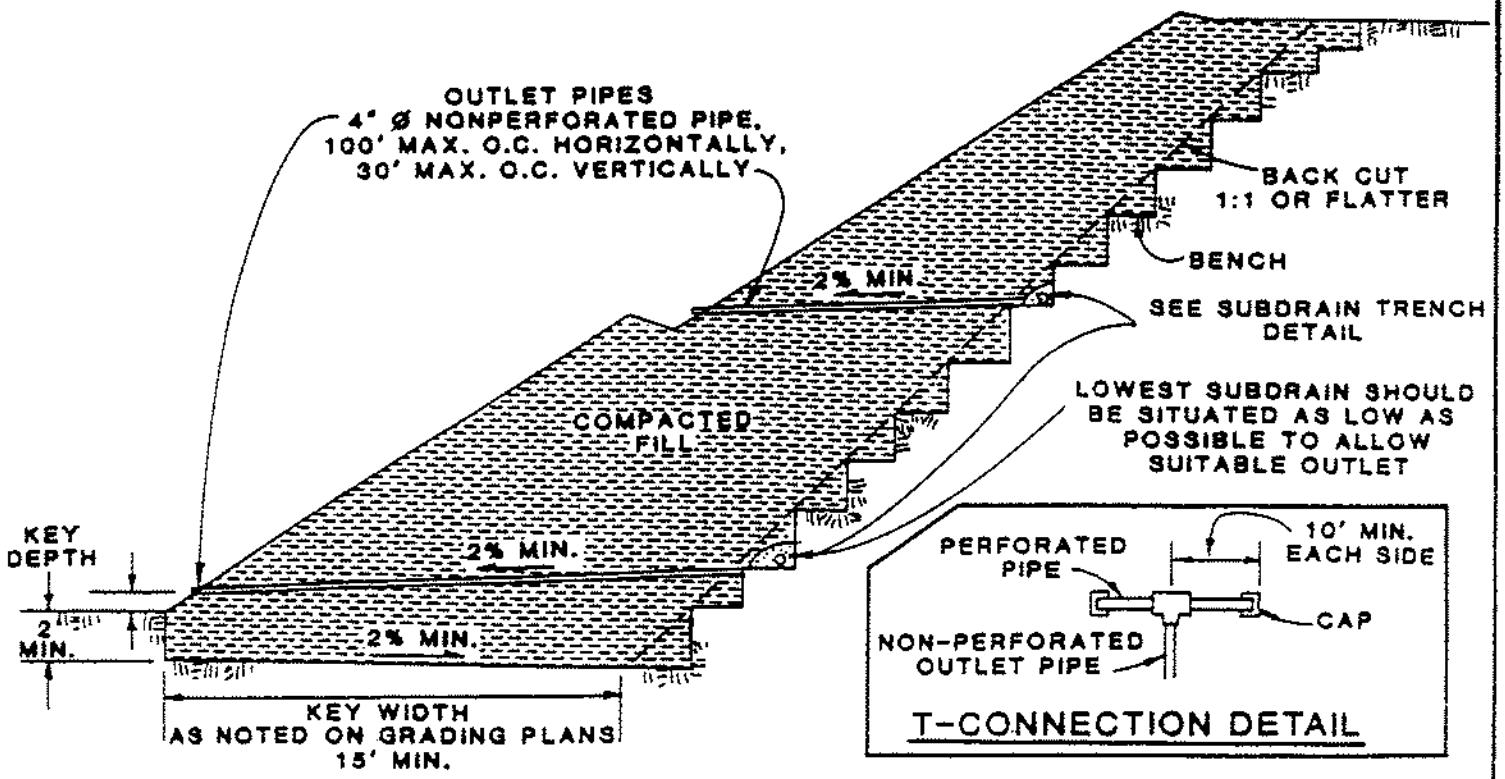
For purposes of determining quantities of materials excavated during grading and/or determining the limits of overexcavation, a licensed land surveyor / civil engineer should be utilized.

SIDE HILL STABILITY FILL DETAIL



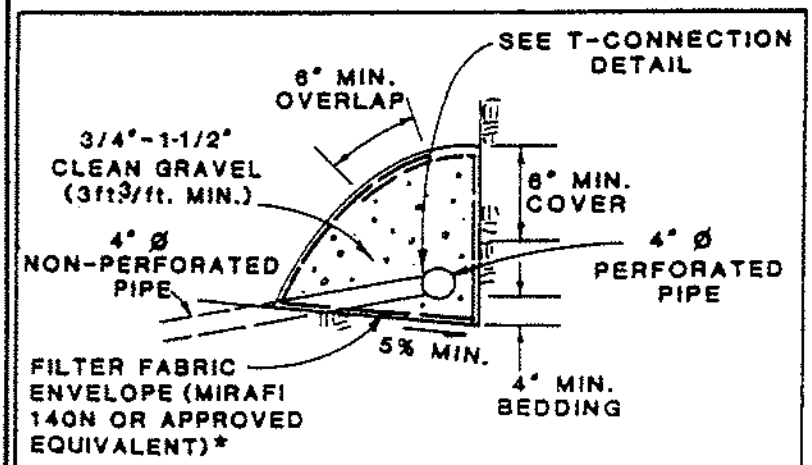
NOTE: Subdrain details and key width recommendations to be provided based on exposed subsurface conditions

STABILITY FILL / BUTTRESS DETAIL



T-CONNECTION DETAIL

* IF CALTRANS CLASS 2 PERMEABLE MATERIAL IS USED IN PLACE OF 3/4"-1-1/2" GRAVEL, FILTER FABRIC MAY BE DELETED



SUBDRAIN TRENCH DETAIL

SPECIFICATIONS FOR CALTRANS CLASS 2 PERMEABLE MATERIAL

U.S. Standard Sieve Size	% Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

Sand Equivalent >75

NOTES:

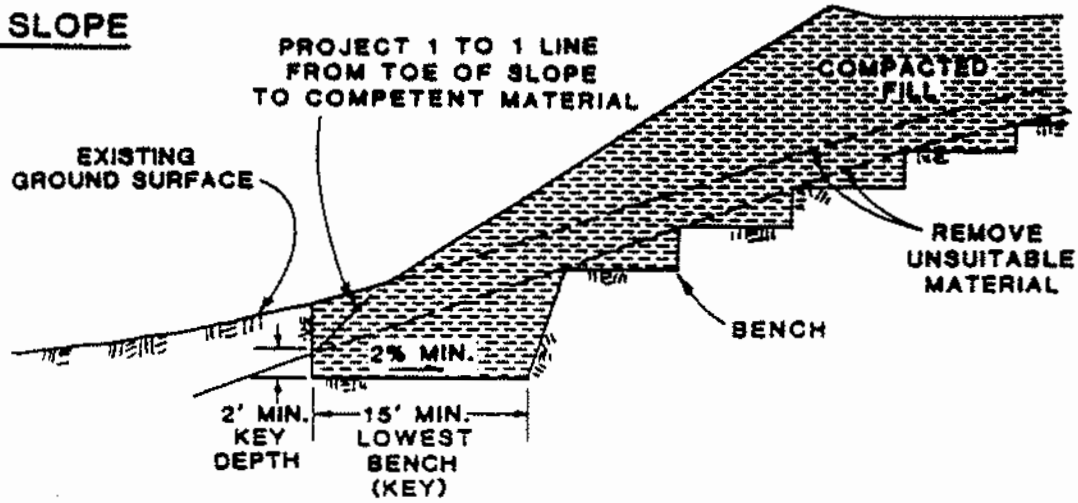
For buttress dimensions, see geotechnical report/plans. Actual dimensions of buttress and subdrain may be changed by the geotechnical consultant based on field conditions.

SUBDRAIN INSTALLATION-Subdrain pipe should be installed with perforations down as depicted. At locations recommended by the geotechnical consultant, nonperforated pipe should be installed

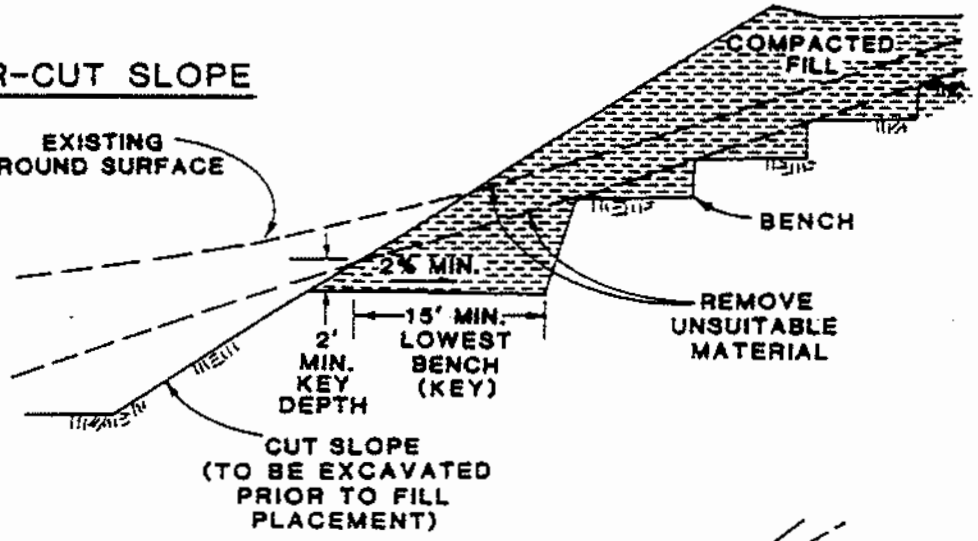
SUBDRAIN TYPE-Subdrain type should be Acrylon trile Butadiene Styrene (A.B.S.), Polyvinyl Chloride (PVC) or approved equivalent. Class 125, SDR 32.5 should be used for maximum fill depths of 35 feet. Class 200, SDR 21 should be used for maximum fill depths of 100 feet.

KEY AND BENCHING DETAILS

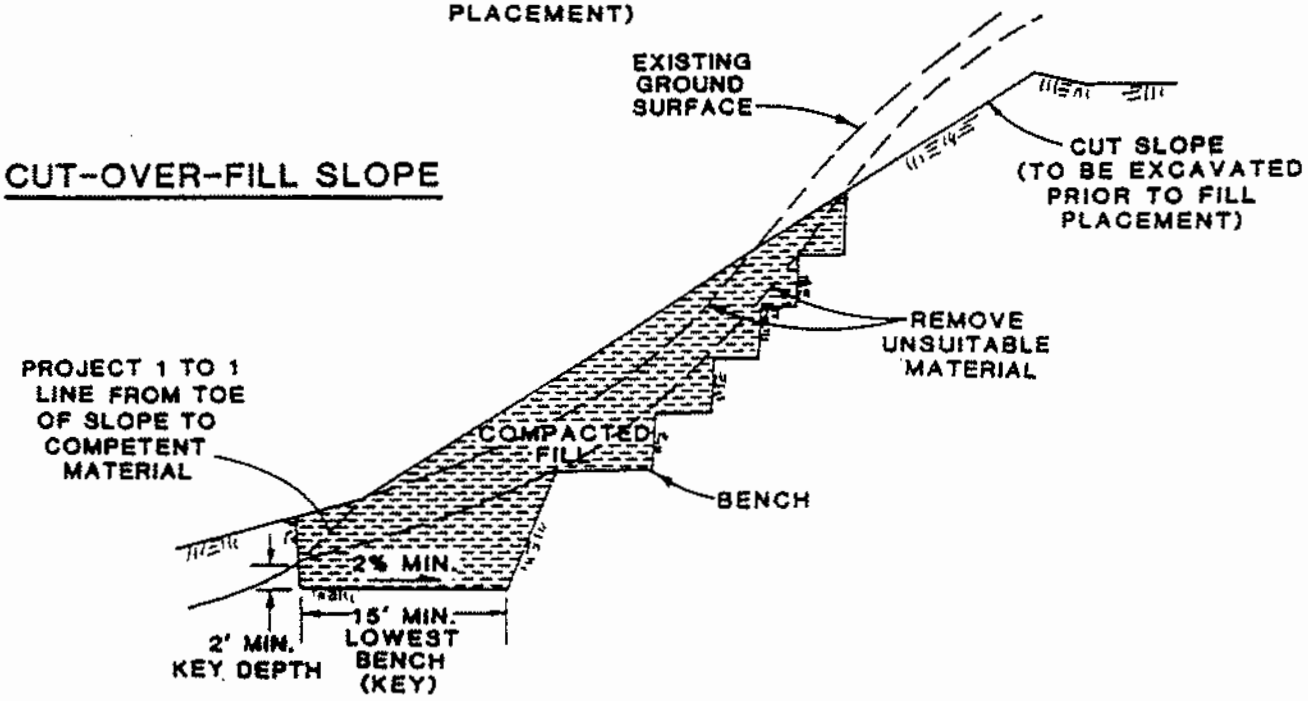
FILL SLOPE



FILL-OVER-CUT SLOPE

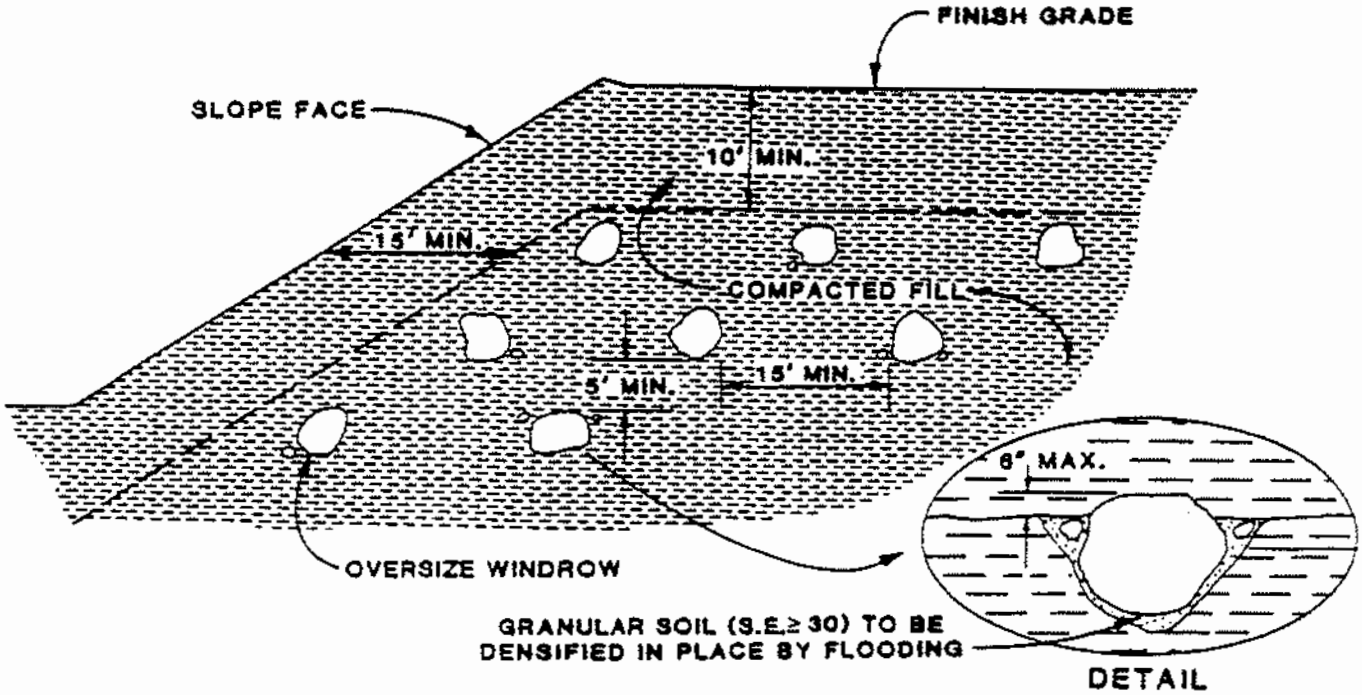


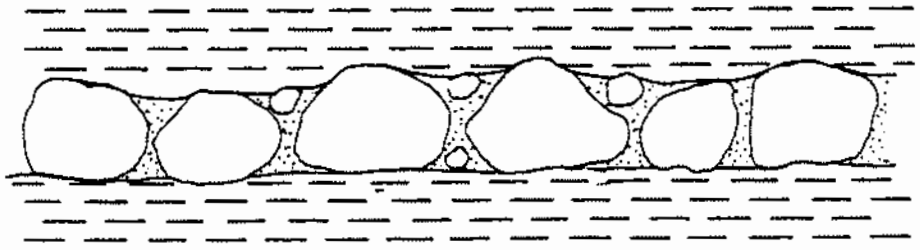
CUT-OVER-FILL SLOPE



NOTE: Back drain may be recommended by the geotechnical consultant based on actual field conditions encountered. Bench dimension recommendations may also be altered based on field conditions encountered.

ROCK DISPOSAL DETAIL





TYPICAL PROFILE ALONG WINDROW

1) Rock with maximum dimensions greater than 6 inches should not be used within 10 feet vertically of finish grade (or 2 feet below depth of lowest utility whichever is greater), and 15 feet horizontally of slope faces.

2) Rocks with maximum dimensions greater than 4 feet should not be utilized in fills.

3) Rock placement, flooding of granular soil, and fill placement should be observed by the geotechnical consultant.

4) Maximum size and spacing of windrows should be in accordance with the above details Width of windrow should not exceed 4 feet. Windrows should be staggered vertically (as depicted).

5) Rock should be placed in excavated trenches. Granular soil (S.E. greater than or equal to 30) should be flooded in the windrow to completely fill voids around and beneath rocks.

APPENDIX C

ENGINEERING DESIGN GROUP
www.designgroupca.com
2121 Montiel Road, San Marcos, CA 92069
760.839.7302

LABORATORY RESULTS

Method Cal-Trans

Analyte	Result	Reporting Limit	Units	Dilution	Method
SULFATE	199.3	n/a	ppm	1	CT 417
CHLORIDE	290.1	n/a	ppm	1	CT 422
p.H.	4.49	n/a	pH units	1	CT 643
RESISTIVITY	728	n/a	ohms.com	1	CT 643

ND=None detected – us/cm = micro-Siemens per centimeter - ppm-parts per million

(10,000ppm=1% by weight)

A Universal Engineering Sciences Company

Job Name:	Engineering Design Group - Wishbone		
Job Number:	10-3988	**Lab Number:**	32684
Sampled By:	Client	**Date Sampled:**	10/7/2021
Tested By:	JH	**Date Tested:**	10/12/2021
Soil Location:	N/A		
Soil Description:	Moderate Brown (CL)		

LAB WORK SHEET

EXPANSION INDEX TEST

ASTM D 4829

TEST RESULTS

		Initial	Final
WET WEIGHT	(g)	195.0	408.2
DRY WEIGHT	(g)	169.1	303.4
% MOISTURE	(%)	15.3	34.5
WEIGHT OF RING & SOIL	(g)	**717.2**	
WEIGHT OF RING	(g)	367.3	
WEIGHT OF SOIL	(lbs.)	0.7714	
VOLUME OF RING	($ft.^3$)	0.0073	
WET DENSITY	(pcf)	106.1	
DRY DENSITY	(pcf)	92.0	
% SATURATION	(%)	**49.9**	

EXPANSION READING

DATE TIME: INITIAL READING INCH

0.0311

FINAL READING

0.1641

EXPANSION INDEX

133

VERY LOW	**0-20**
LOW	**21-50**
MEDIUM	**51 -90**
HIGH	**91-130**
VERY HIGH	**130>**

NOTES: Equipment ID: 2D

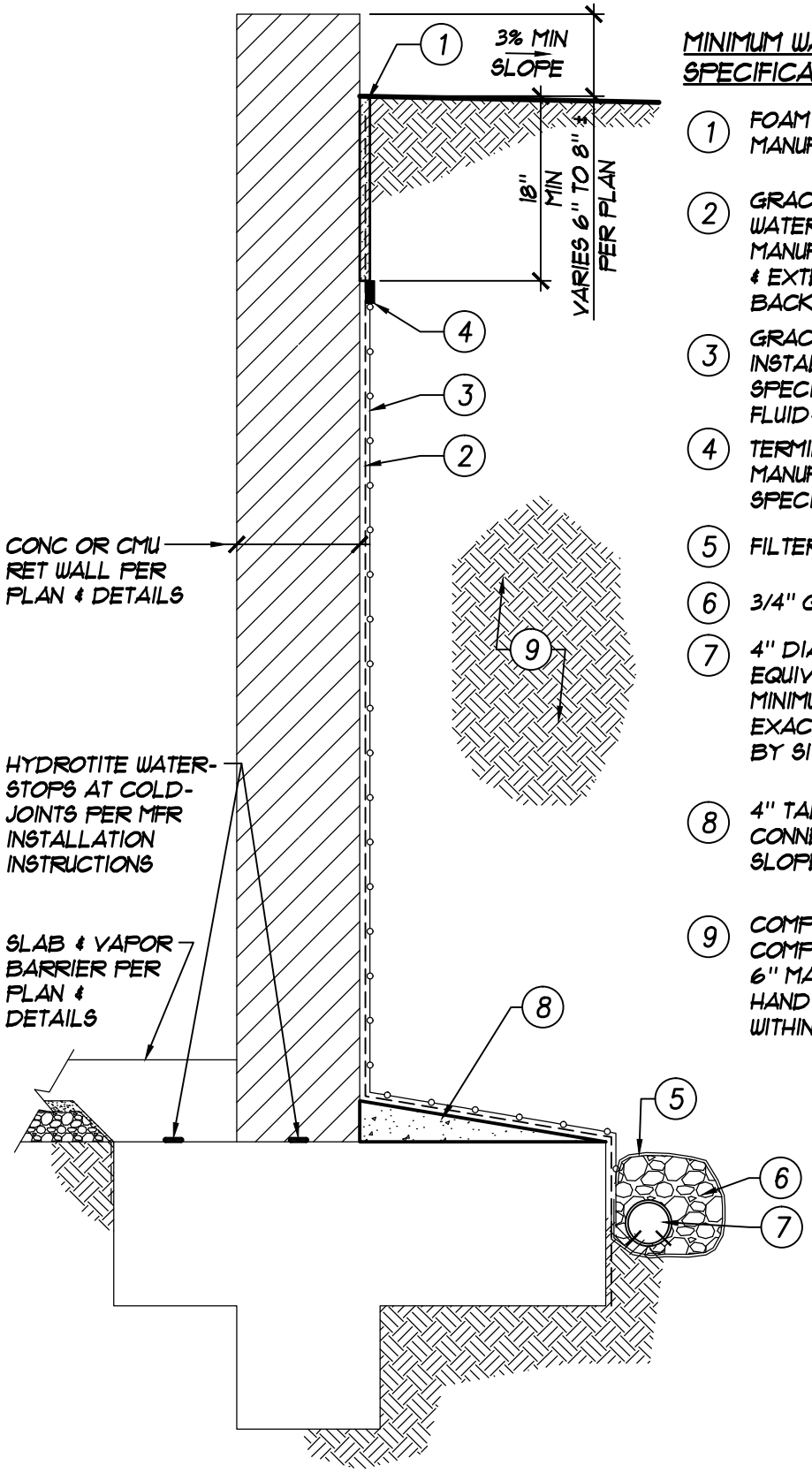
EI at saturation between 48-52%

Measured EI:	133
Measured Saturation:	49.9

EI at 48-52% Saturation: 133

APPENDIX D

ENGINEERING DESIGN GROUP
2121 MONTIEL ROAD
SAN MARCOS, CALIFORNIA 92069
PHONE: (760) 839-7302
FAX: (760) 480-7477



MINIMUM WATERPROOFING SPECIFICATIONS (NOT TO SCALE)

1. FOAM UV PROTECTION BOARD PER MANUFACTURER'S SPECIFICATION
2. GRACE PROCOR FLUID-APPLIED WATERPROOFING INSTALLED PER MANUFACTURER'S SPECIFICATIONS & EXTEND BEHIND CEMENTITOUS BACKER BOARD.
3. GRACE HYDRODUCT 220 INSTALLED PER MANUFACTURER'S SPECIFICATIONS OVER FLUID-APPLIED WATERPROOFING
4. TERMINATION BAR PER MANUFACTURER'S SPECIFICATIONS
5. FILTER FABRIC W/ 6" MIN LAP
6. 3/4" GRAVEL (1 SF / FT)
7. 4" DIA PERFORATED DRAIN LINE (SCH 40 OR EQUIV.) PERFORATIONS ORIENTED DOWN 1% MINIMUM GRADIENT TO SUITABLE OUTLET - EXACT PIPE LOCATION TO BE DETERMINED BY SITE CONSTRAINTS
8. 4" TALL CONCRETE CANT @ FTG / WALL CONNECTION (UNDER WATERPROOFING). SLOPE TO BACK EDGE OF FOOTING.
9. COMPACTED BACKFILL 90% MIN RELATIVE COMPACTION IN ALL OTHER AREAS U.O.N. 6" MAX LIFTS. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE USED WITHIN 3 FEET OF THE BACK FACE OF WALL.

GRACE PROCOR COMPOSITE WATERPROOFING INSTALLED PER MANUFACTURER'S SPECIFICATIONS

Appendix F. Hydrology and Hydraulics Study

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HYDROLOGY & HYDRAULICS STUDY

FOR

TIDWELL RESIDENCE
LDEV-017128-2021

2901 WISHBONE WAY
CITY OF ENCINITAS, CA
APN: 264-222-33

PREPARED FOR:

GANNON TIDWELL
MILL VALLEY, CA, 94941

DATE:
MARCH 2024

PREPARED BY:

Ardolino Coastal Engineering
P.O. Box 1226
Cardiff by the Sea, CA 92007
(760) 334-1373

REGISTERED PROFESSIONAL ENGINEER
BRIAN M. ARDOLINO
No. 71651
EXP. 12/31/25
CIVIL
STATE OF CALIFORNIA

_____

BRIAN M. ARDOLINO, RCE 71651 DATE

TABLE OF CONTENTS

	SECTION
Executive Summary	**1.0**
Introduction	1.1
Existing Conditions	1.2
Proposed Project	1.3
Summary of Results	1.4
Conclusions	1.5
References	1.6
Methodology	**2.0**
Introduction	2.1
County of San Diego Criteria	2.2
City of Encinitas Standards	2.3
Runoff coefficient determination	2.4
Hydrology Calculations	**3.0**
Pre-Developed Hydrologic Model Output (100 Year Event)	3.1
Post-Developed Hydrologic Model Output (100 Year Event)	3.2
LID Basin Sizing	3.3
Hydraulic Calculations	**4.0**
Attachments	**5.0**
Pre-Development Exhibit	
Post-Development Exhibit	
Isopluvial Maps	
Runoff Coefficients	
Basin Maps	

1.0 EXECUTIVE SUMMARY

1.1 Introduction

This Hydrology Study for the proposed project has been prepared to analyze the hydrologic and hydraulic characteristics of the existing and proposed project site. This report intends to present both the methodology and the calculations used for determining the runoff from the project site in both the pre-developed (existing) conditions and the post-developed (proposed) conditions produced by the 100-year 6 hour storm. In addition, this report will propose the sizing of all necessary storm drain facilities and storm drain piping necessary for the storm drain system to safely convey the runoff from the 100-year rainfall event.

1.2 Existing Conditions

The project site is located on the West side of Wishbone way at the end of the cul-de-sac. There are residential homes located to the South and East and undeveloped land to the North and West. The lot is located on the City boundary with the City of Carlsbad to the West.

The project site is undeveloped. The drainage characteristics of the site consist generally of sheet flow from the South-East to the North-West across moderate existing slopes, into a natural drainage channel which flows Westerly across the site. Drainage from the cul-de-sac discharges onto the site into the natural channel.

1.3 Proposed Project

The proposed development consists of a 3,740 sf single family residence with outdoor patio and pool areas, concrete driveway, decomposed granite turn around and a 1,000 sf accessory dwelling unit (ADU).

The proposed drainage design includes the construction of a single biofiltration BMP located on the downhill side of the residence and ADU structure. The biofiltration BMP will be used for detention and for standard storm water treatment.

We believe the proposed storm drain system will not affect the downstream system.

To address the storm water quality goals established for this development, proposed permanent Best Management Practice (BMP) and treatment methods will be incorporated into the storm water runoff design. The proposed BMP's include one Biofiltration Basin.

Drainage from the site flows in a westerly direction in a natural channel before being routed into an underground storm drain system and ultimately discharges to the Pacific Ocean. All stormwater from the site will flow in the same direction and exit the site in the same existing natural channel.

1.4 Summary of Results

Based on the hydrologic analysis performed on the project site in both the existing and proposed conditions, the following results were produced. Output data from the hydrologic analysis model of the existing condition indicates that the 100-year peak runoff flow to the is 2.26 cubic feet per second (cfs). The Tc for the project site is 5.00 minutes.

The output data, from the hydrologic analysis model of the developed condition indicates a 100-year peak runoff flow of 3.01 cfs. The Tc for the project site equals 5.00 minutes. See Section 3.0 for Hydrologic Calculations.

1.5 Conclusions

As a result of the development, the peak runoff from the project site will increase 0.69 cfs. Adequate detention will be required to mitigate for peak flows. The minimum volume of detention required to mitigate peak flows is 1,029 cubic feet. The detention proposed is 1,296 cubic feet located within a biofiltration basin.

The proposed development and proposed storm drain design will be capable of not only safely conveying the 100-year storm runoff flow but has included biofiltration to ensure that the discharge from the project site has been treated and will not pose any significant impact or threats to the water quality of the Pacific Ocean, or the public storm drain system. In addition, the proposed development and storm drain improvements will not significantly alter the existing drainage patterns.

It is with these above reasons that it can be concluded that there will be no negative impact to the downstream storm drain facilities or an increased potential of flooding. Since a major goal of this project is to ensure that all storm water quality issues are addressed to the maximum extent practical, the peak discharge for the proposed site will be utilized to adequately size the components of the storm drain system for this project.

1.6 References

"San Diego County Hydrology Manual", revised June 2003, County of San Diego, Department of Public Works, Flood Control Section.

"Drainage Design Manual", City of San Diego, April 1984, addendum March 1989.

"California Regional Water Quality Control Board Order No. R9-2013-0001," California Regional Water Quality Control Board, San Diego Region (SDRWQCB).

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov

"City of Encinitas BMP Design Manual", revised January 2016, per Resolution 2016-17.

2.0 METHODOLOGY

2.1 Introduction

The hydrologic model used to perform the hydrologic analysis presented in this report utilizes the Ration Method (RM) equation, Q=CIA. The RM formula estimates the peak rate of runoff based on the variables of area, runoff coefficient, and rainfall intensity. The rainfall intensity (I) is equal to:

$$I = 7.44 \times P_6 \times D^{-0.645}$$

Where:

I = Intensity (in/hr)
P_6 = 6-hour precipitation (inches)
D = duration (minutes – use Tc)

Using the Time of Concentration (Tc), which is the time required for a given element of water that originates at the most remote point of the basin being analyzed to reach the point at which the runoff from the basin is being analyzed. The RM equation determines the storm water runoff rate (Q) for a given basin in terms of flow (typically in cubic feet per second (cfs) but sometimes as gallons per minute (gpm)). The RM equation is as follows:

$$Q = CIA$$

Where:

Q= flow (in cfs)
C = runoff coefficient, ratio of rainfall that produces storm water runoff (runoff vs. infiltration/evaporation/absorption/etc)
I = average rainfall intensity for a duration equal to the Tc for the area, in inches per hour.
A = drainage area contributing to the basin in acres.

The RM equation assumes that the storm event being analyzed delivers precipitation to the entire basin uniformly, and therefore the peak discharge rate will occur when a raindrop that falls at the most remote portion of the basin arrives at the point of analysis. The RM also assumes that the fraction of rainfall that becomes runoff or the runoff coefficient C is not affected by the storm intensity, I, or the precipitation zone number.

2.2 County of San Diego Criteria

As defined by the County Hydrology Manual dated June 2003, the rational method is the preferred equation for determining the hydrologic characteristics of basins up to approximately one square mile in size. The County of San Diego has developed its own tables, nomographs, and methodologies for analyzing storm water runoff for areas within the county. The County has also developed precipitation isopluvial contour maps that show even lines of rainfall anticipated from a given storm event (i.e. 100-year, 6-hour storm).

One of the variables of the RM equation is the runoff coefficient, C. The runoff coefficient is dependent only upon land use and soil type and the County of San Diego has developed a table of Runoff Coefficients for Urban Areas to be applied to basin located within the County of San Diego. The table categorizes the land use, the associated development density (dwelling units per acre) and the percentage of impervious area. Each of the categories listed has an associated runoff coefficient, C, for each soil type class.

The County has also illustrated in detail the methodology for determining the time of concentration, in particular the initial time of concentration. The County has adopted the Federal Aviation Agency's (FAA) overland time of flow equation. This equation essentially limits the flow path length for the initial time of concentration to lengths under 100 feet, and is dependent on land use and slope.

2.3 City of Encinitas Standards

The City of Encinitas has additional requirements for hydrology reports which are outlined in the Grading, Erosion and Sediment Control Ordinance. Please refer to this manual for further details.

2.4 Runoff Coefficient Determination

As stated in section 2.2, the runoff coefficient is dependent only upon land use and soil type and the County of San Diego has developed a table of Runoff Coefficients for Urban Areas to be applied to basin located within the County of San Diego. The table, included in Section 4.0, categorizes the land use, the associated development density (dwelling units per acre) and the percentage of impervious area.

3.0 HYDROLOGY CALCULATIONS

Rational Method Parameters
Runoff Coefficient C=0.90* for all Impervious Areas
Runoff Coefficient C=0.35* for all Pervious Areas (Use 0.45 per City of Encinitas)
6 Hour Storm Precipitation (P6)=2.8 in (see rainfall isopluvial*)
$T=[11.9(L/Mi)^3/\Delta H]^{0.385}$
I= Intensity in/hr, $I=7.44xP_6xD^{-0.645}$*
Duration (D)= Time of Concentration, Tc
Q=Peak Runoff, Q=CIA (cfs)
C= (%IMP x 0.90) + [(1-%IMP) x 0.35]

*From San Diego County Hydrology Manual, June 2003 Revision

Total Basin Area= 29,817 sf (0.68 acres)

3.1 Existing Conditions

Existing Basin Area = 29,817 sf
Impervious Area = 0 sf
C_{PRE}= + (1.0 x 0.45)]
C_{PRE}=0.45
L= 185 lf ΔH=23'
T $=(11.9(185/5280)^3/23.0)^{0.385}$
=0.03
=2 minute < 5 mins
→ use 5 mins
I $=7.44(2.8)(5)^{-0.645}$
I = 7.38 in/hr

Q_{100}= 0.45 x 7.38 in/hr x 0.68 acres
Q_{100}= 2.26 cfs

3.2 Proposed Conditions

Proposed Basin Area = 29,817 sf
Impervious Area = 9,962 sf (0.33)
C_{POST}= [(0.33 x 0.90) + (0.67 x 0.45)]
C_{POST}=0.60
L= 185 lf ΔH= 23'
T $=(11.9(185/5280)^3/23)^{0.385}$
=0.03
=2 minute < 5 mins
→ use 5 mins
I $=7.44(2.8)(5.0)^{-0.645}$
I =7.38 in/hr

Q_{100}= 0.60 x 7.38 in/hr x 0.68 acres
Q_{100-A}= 3.01 cfs

TOTAL ΔQ =TOTAL Q_{post}-TOTAL Q_{pre}

TOTAL ΔQ_A = 3.01 cfs – 2.26 cfs
TOTAL ΔQ_A = 0.75 cfs

3.3 Hydraulic Calculations

Minimum Storage Volume = 1,029 CF (see existing and proposed hydrographs in the appendix)

3.4 BMP Sizing Calculations & DMA Exhibit

Proposed Storage

Basin A	
Total Area	= 795 sf
Ponding	= 10 inches (0.83 ft)
Engineered soil	= 18 inches (1.50 ft)
Soil void ratio	= 0.2
Gravel layer	= 15 inches (1.25 ft)
Gravel void ratio	= 0.4

Proposed storage =(795 sf * 0.83 ft)+(795 sf * 1.5 ft*0.2)+(795 sf * 1.25 ft* 0.4)
=660 cf + 239 cf + 397 cf
=1,296 cf

Proposed Storage Volume (1,296 cf) > Storage Volume Required (1,029 cf)
Basin is adequately sized

Rational Method Hydrograph Calculations
for
2901 Wishbone Way, CA (Pre-Developed)

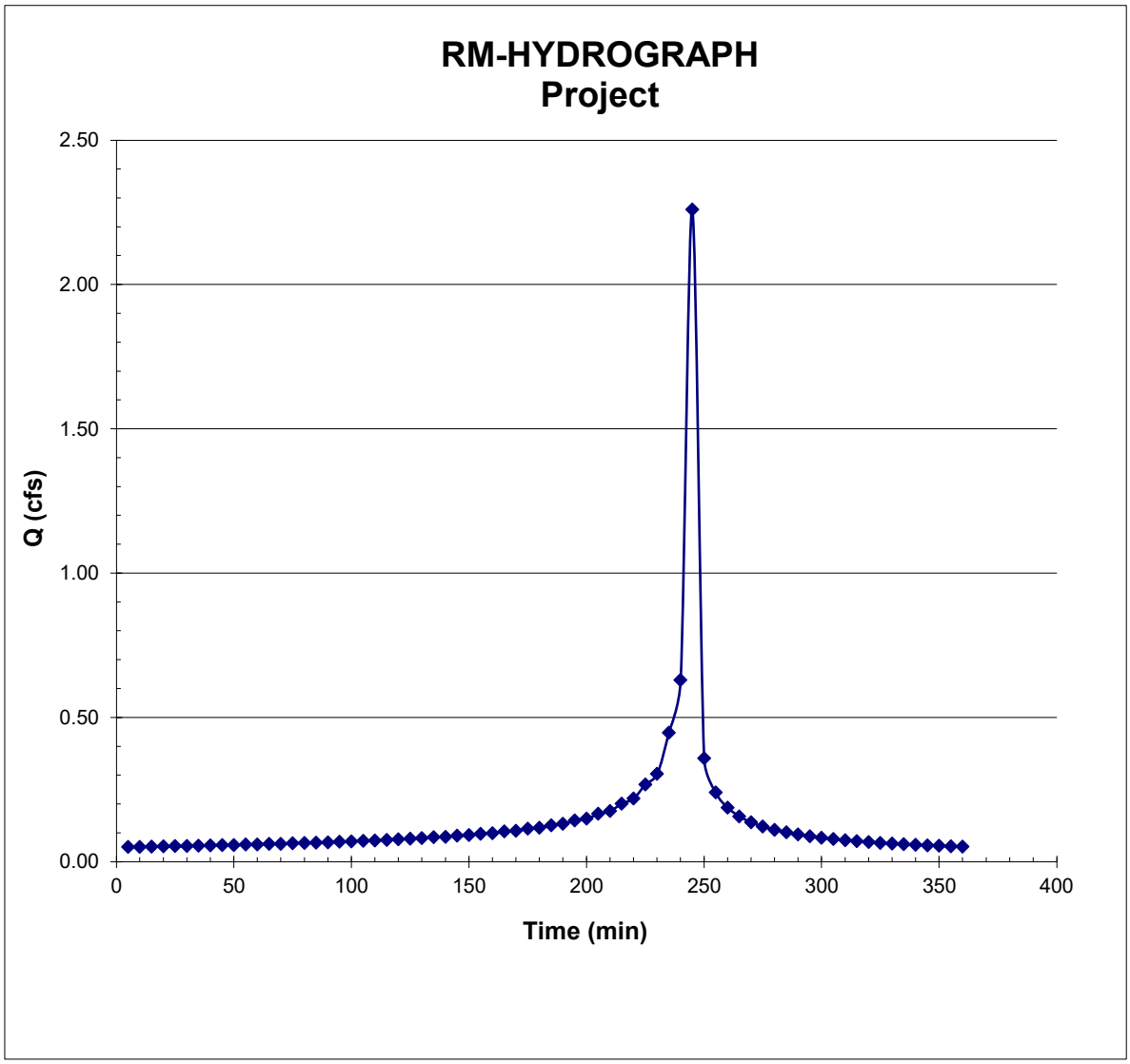
		Q_{100}=	2.26	cfs				
		Tc=	5	min	C=	0.45		
#=	72	$P_{10,6}$=	2.8	in	A=	0.68	acres	
		*(7.44*P6*D^-.645)*	*(I*D/60)*	*(V1-V0)*	*(Δ V/ Δ T)*	*(Q=ciA)*		*(Re-ordered)*
#	**D (MIN)**	**I (IN/HR)**	**VOL (IN)**	**ΔVOL (IN)**	**I (INCR) (IN/HR)**	**Q (CFS)**	**VOL (CF)**	**ORDINATE (CFS)**
0	0	0.00	0.00	0.61	7.38	2.26	678	
1	5	7.38	0.61	0.17	2.06	0.63	189	0.05
2	10	4.72	0.79	0.12	1.46	0.45	134	0.05
3	15	3.63	0.91	0.10	1.17	0.36	108	0.05
4	20	3.02	1.01	0.08	0.99	0.30	91	0.05
5	25	2.61	1.09	0.07	0.87	0.27	80	0.05
6	30	2.32	1.16	0.07	0.78	0.24	72	0.05
7	35	2.10	1.23	0.06	0.71	0.22	66	0.06
8	40	1.93	1.29	0.05	0.66	0.20	61	0.06
9	45	1.79	1.34	0.05	0.61	0.19	56	0.06
10	50	1.67	1.39	0.05	0.57	0.18	53	0.06
11	55	1.57	1.44	0.05	0.54	0.17	50	0.06
12	60	1.49	1.49	0.04	0.51	0.16	47	0.06
13	65	1.41	1.53	0.04	0.49	0.15	45	0.06
14	70	1.34	1.57	0.04	0.47	0.14	43	0.06
15	75	1.29	1.61	0.04	0.45	0.14	41	0.06
16	80	1.23	1.65	0.04	0.43	0.13	39	0.06
17	85	1.19	1.68	0.03	0.41	0.13	38	0.07
18	90	1.14	1.72	0.03	0.40	0.12	37	0.07
19	95	1.10	1.75	0.03	0.39	0.12	35	0.07
20	100	1.07	1.78	0.03	0.37	0.11	34	0.07
21	105	1.04	1.81	0.03	0.36	0.11	33	0.07
22	110	1.00	1.84	0.03	0.35	0.11	32	0.07
23	115	0.98	1.87	0.03	0.34	0.10	31	0.08
24	120	0.95	1.90	0.03	0.33	0.10	31	0.08
25	125	0.93	1.93	0.03	0.32	0.10	30	0.08
26	130	0.90	1.95	0.03	0.32	0.10	29	0.08
27	135	0.88	1.98	0.03	0.31	0.09	28	0.08
28	140	0.86	2.01	0.03	0.30	0.09	28	0.09
29	145	0.84	2.03	0.02	0.30	0.09	27	0.09
30	150	0.82	2.06	0.02	0.29	0.09	27	0.09
31	155	0.81	2.08	0.02	0.28	0.09	26	0.10
32	160	0.79	2.10	0.02	0.28	0.08	25	0.10
33	165	0.77	2.13	0.02	0.27	0.08	25	0.10
34	170	0.76	2.15	0.02	0.27	0.08	24	0.11
35	175	0.74	2.17	0.02	0.26	0.08	24	0.11
36	180	0.73	2.19	0.02	0.26	0.08	24	0.12
37	185	0.72	2.22	0.02	0.25	0.08	23	0.13
38	190	0.71	2.24	0.02	0.25	0.08	23	0.13
39	195	0.69	2.26	0.02	0.24	0.07	22	0.14
40	200	0.68	2.28	0.02	0.24	0.07	22	0.15
41	205	0.67	2.30	0.02	0.24	0.07	22	0.17

Rational Method Hydrograph Calculations
for
2901 Wishbone Way, CA (Pre-Developed)

42	210	0.66	2.32	0.02	0.23	0.07	21	0.18
43	215	0.65	2.34	0.02	0.23	0.07	21	0.20
44	220	0.64	2.36	0.02	0.23	0.07	21	0.22
45	225	0.63	2.37	0.02	0.22	0.07	20	0.27
46	230	0.62	2.39	0.02	0.22	0.07	20	0.30
47	235	0.62	2.41	0.02	0.22	0.07	20	0.45
48	240	0.61	2.43	0.02	0.21	0.07	20	0.63
49	245	0.60	2.45	0.02	0.21	0.06	19	***2.26***
50	250	0.59	2.47	0.02	0.21	0.06	19	0.36
51	255	0.58	2.48	0.02	0.21	0.06	19	0.24
52	260	0.58	2.50	0.02	0.20	0.06	19	0.19
53	265	0.57	2.52	0.02	0.20	0.06	18	0.16
54	270	0.56	2.53	0.02	0.20	0.06	18	0.14
55	275	0.56	2.55	0.02	0.20	0.06	18	0.12
56	280	0.55	2.57	0.02	0.19	0.06	18	0.11
57	285	0.54	2.58	0.02	0.19	0.06	18	0.10
58	290	0.54	2.60	0.02	0.19	0.06	17	0.09
59	295	0.53	2.61	0.02	0.19	0.06	17	0.09
60	300	0.53	2.63	0.02	0.19	0.06	17	0.08
61	305	0.52	2.65	0.02	0.18	0.06	17	0.08
62	310	0.51	2.66	0.02	0.18	0.06	17	0.07
63	315	0.51	2.68	0.02	0.18	0.06	17	0.07
64	320	0.50	2.69	0.01	0.18	0.05	16	0.07
65	325	0.50	2.71	0.01	0.18	0.05	16	0.07
66	330	0.49	2.72	0.01	0.17	0.05	16	0.06
67	335	0.49	2.74	0.01	0.17	0.05	16	0.06
68	340	0.49	2.75	0.01	0.17	0.05	16	0.06
69	345	0.48	2.76	0.01	0.17	0.05	16	0.06
70	350	0.48	2.78	0.01	0.17	0.05	15	0.06
71	355	0.47	2.79	0.01	0.17	0.05	15	0.05
72	360	0.47	2.81	0.00	0.00	0.00	0	0.05
						SUM=	**3092**	**cubic feet**
							0.07	**acre-feet**

PREDEVELOPED VOLUME= 3092

Rational Method Hydrograph Calculations
for
2901 Wishbone Way, CA (Pre-Developed)



Rational Method Hydrograph Calculations
for
2901 Wishbone Way, CA (Post-Developed)

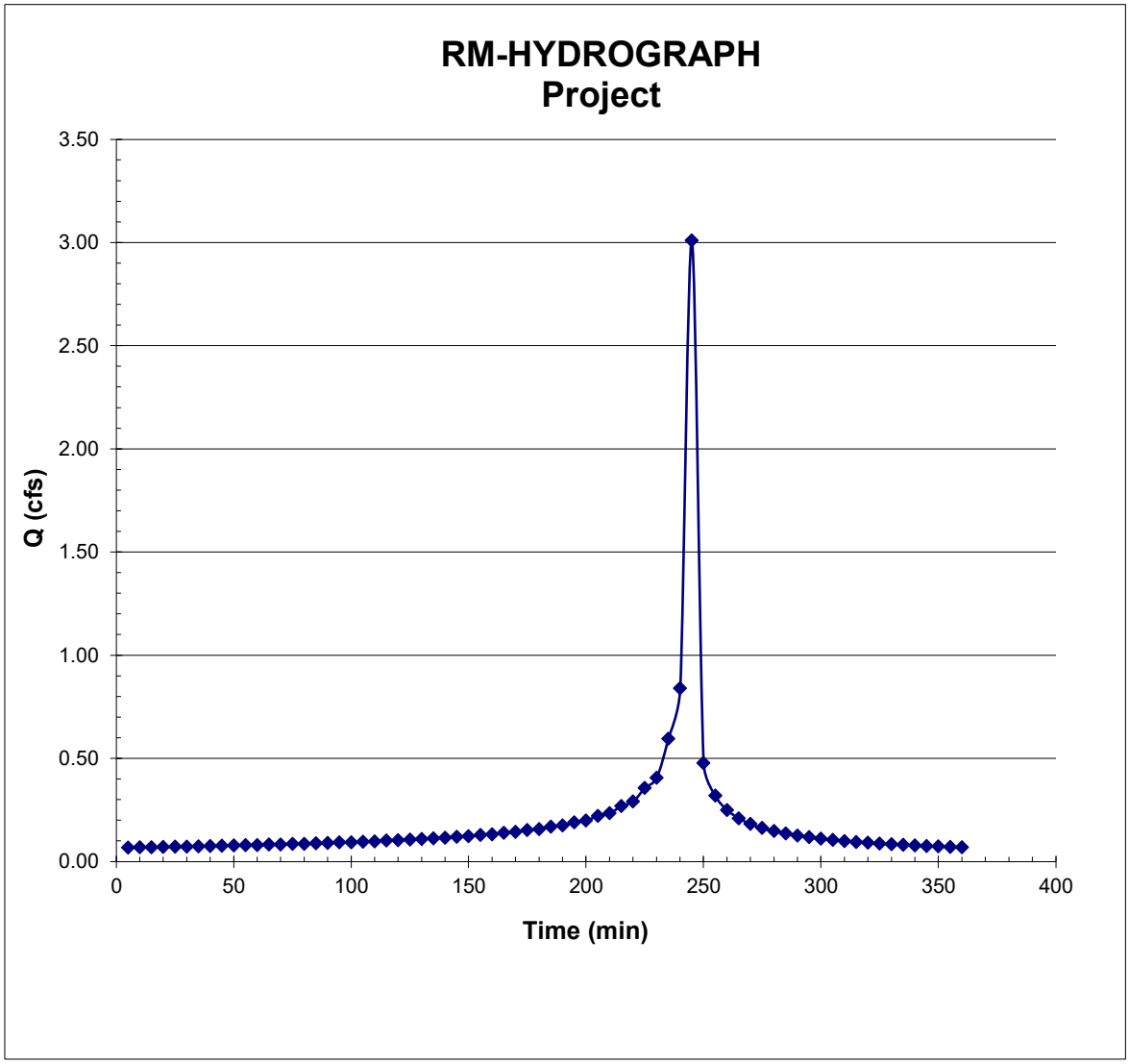
		Q_{100}=	3.01	cfs				
		Tc=	5	min	C=	0.6		
#=	72	$P_{10,6}$=	2.8	in	A=	0.68	acres	
		*(7.44*P6*D^-.645)*	*(I*D/60)*	*(V1-V0)*	*(Δ V/ Δ T)*	*(Q=ciA)*		*(Re-ordered)*
#	**D (MIN)**	**I (IN/HR)**	**VOL (IN)**	**ΔVOL (IN)**	**I (INCR) (IN/HR)**	**Q (CFS)**	**VOL (CF)**	**ORDINATE (CFS)**
0	0	0.00	0.00	0.61	7.38	3.01	903	
1	5	7.38	0.61	0.17	2.06	0.84	252	0.07
2	10	4.72	0.79	0.12	1.46	0.60	179	0.07
3	15	3.63	0.91	0.10	1.17	0.48	143	0.07
4	20	3.02	1.01	0.08	0.99	0.41	122	0.07
5	25	2.61	1.09	0.07	0.87	0.36	107	0.07
6	30	2.32	1.16	0.07	0.78	0.32	96	0.07
7	35	2.10	1.23	0.06	0.71	0.29	87	0.07
8	40	1.93	1.29	0.05	0.66	0.27	81	0.07
9	45	1.79	1.34	0.05	0.61	0.25	75	0.08
10	50	1.67	1.39	0.05	0.57	0.23	70	0.08
11	55	1.57	1.44	0.05	0.54	0.22	66	0.08
12	60	1.49	1.49	0.04	0.51	0.21	63	0.08
13	65	1.41	1.53	0.04	0.49	0.20	60	0.08
14	70	1.34	1.57	0.04	0.47	0.19	57	0.08
15	75	1.29	1.61	0.04	0.45	0.18	55	0.09
16	80	1.23	1.65	0.04	0.43	0.18	53	0.09
17	85	1.19	1.68	0.03	0.41	0.17	51	0.09
18	90	1.14	1.72	0.03	0.40	0.16	49	0.09
19	95	1.10	1.75	0.03	0.39	0.16	47	0.09
20	100	1.07	1.78	0.03	0.37	0.15	46	0.09
21	105	1.04	1.81	0.03	0.36	0.15	44	0.10
22	110	1.00	1.84	0.03	0.35	0.14	43	0.10
23	115	0.98	1.87	0.03	0.34	0.14	42	0.10
24	120	0.95	1.90	0.03	0.33	0.14	41	0.10
25	125	0.93	1.93	0.03	0.32	0.13	40	0.11
26	130	0.90	1.95	0.03	0.32	0.13	39	0.11
27	135	0.88	1.98	0.03	0.31	0.13	38	0.11
28	140	0.86	2.01	0.03	0.30	0.12	37	0.12
29	145	0.84	2.03	0.02	0.30	0.12	36	0.12
30	150	0.82	2.06	0.02	0.29	0.12	35	0.12
31	155	0.81	2.08	0.02	0.28	0.12	35	0.13
32	160	0.79	2.10	0.02	0.28	0.11	34	0.13
33	165	0.77	2.13	0.02	0.27	0.11	33	0.14
34	170	0.76	2.15	0.02	0.27	0.11	33	0.14
35	175	0.74	2.17	0.02	0.26	0.11	32	0.15
36	180	0.73	2.19	0.02	0.26	0.10	31	0.16
37	185	0.72	2.22	0.02	0.25	0.10	31	0.17
38	190	0.71	2.24	0.02	0.25	0.10	30	0.18
39	195	0.69	2.26	0.02	0.24	0.10	30	0.19
40	200	0.68	2.28	0.02	0.24	0.10	29	0.20
41	205	0.67	2.30	0.02	0.24	0.10	29	0.22

Rational Method Hydrograph Calculations
for
2901 Wishbone Way, CA (Post-Developed)

42	210	0.66	2.32	0.02	0.23	0.10	29	0.23
43	215	0.65	2.34	0.02	0.23	0.09	28	0.27
44	220	0.64	2.36	0.02	0.23	0.09	28	0.29
45	225	0.63	2.37	0.02	0.22	0.09	27	0.36
46	230	0.62	2.39	0.02	0.22	0.09	27	0.41
47	235	0.62	2.41	0.02	0.22	0.09	27	0.60
48	240	0.61	2.43	0.02	0.21	0.09	26	0.84
49	245	0.60	2.45	0.02	0.21	0.09	26	***3.01***
50	250	0.59	2.47	0.02	0.21	0.09	26	0.48
51	255	0.58	2.48	0.02	0.21	0.08	25	0.32
52	260	0.58	2.50	0.02	0.20	0.08	25	0.25
53	265	0.57	2.52	0.02	0.20	0.08	25	0.21
54	270	0.56	2.53	0.02	0.20	0.08	24	0.18
55	275	0.56	2.55	0.02	0.20	0.08	24	0.16
56	280	0.55	2.57	0.02	0.19	0.08	24	0.15
57	285	0.54	2.58	0.02	0.19	0.08	23	0.14
58	290	0.54	2.60	0.02	0.19	0.08	23	0.13
59	295	0.53	2.61	0.02	0.19	0.08	23	0.12
60	300	0.53	2.63	0.02	0.19	0.08	23	0.11
61	305	0.52	2.65	0.02	0.18	0.07	22	0.10
62	310	0.51	2.66	0.02	0.18	0.07	22	0.10
63	315	0.51	2.68	0.02	0.18	0.07	22	0.10
64	320	0.50	2.69	0.01	0.18	0.07	22	0.09
65	325	0.50	2.71	0.01	0.18	0.07	22	0.09
66	330	0.49	2.72	0.01	0.17	0.07	21	0.08
67	335	0.49	2.74	0.01	0.17	0.07	21	0.08
68	340	0.49	2.75	0.01	0.17	0.07	21	0.08
69	345	0.48	2.76	0.01	0.17	0.07	21	0.08
70	350	0.48	2.78	0.01	0.17	0.07	21	0.07
71	355	0.47	2.79	0.01	0.17	0.07	20	0.07
72	360	0.47	2.81	0.00	0.00	0.00	0	0.07
						SUM=	**4121**	**cubic feet**
							0.09	**acre-feet**

PREDEVELOPED VOLUME=	3092
POSTDEVELOPED VOLUME =	4121
CHANGE IN VOLUME=	**1029**

Rational Method Hydrograph Calculations
for
2901 Wishbone Way, CA (Post-Developed)



4.0 HYDRAULIC CALCULATIONS

5.0 ATTACHMENTS

Hydrologic Soil Group—San Diego County Area, California
(WISHBONE WAY)

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 16, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 23, 2020—Feb 13, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HrD	Huerhuero loam, 9 to 15 percent slopes	D	0.1	3.4%
SmE	San Miguel rocky silt loam, 9 to 30 percent slopes	D	2.2	96.6%
Totals for Area of Interest			**2.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

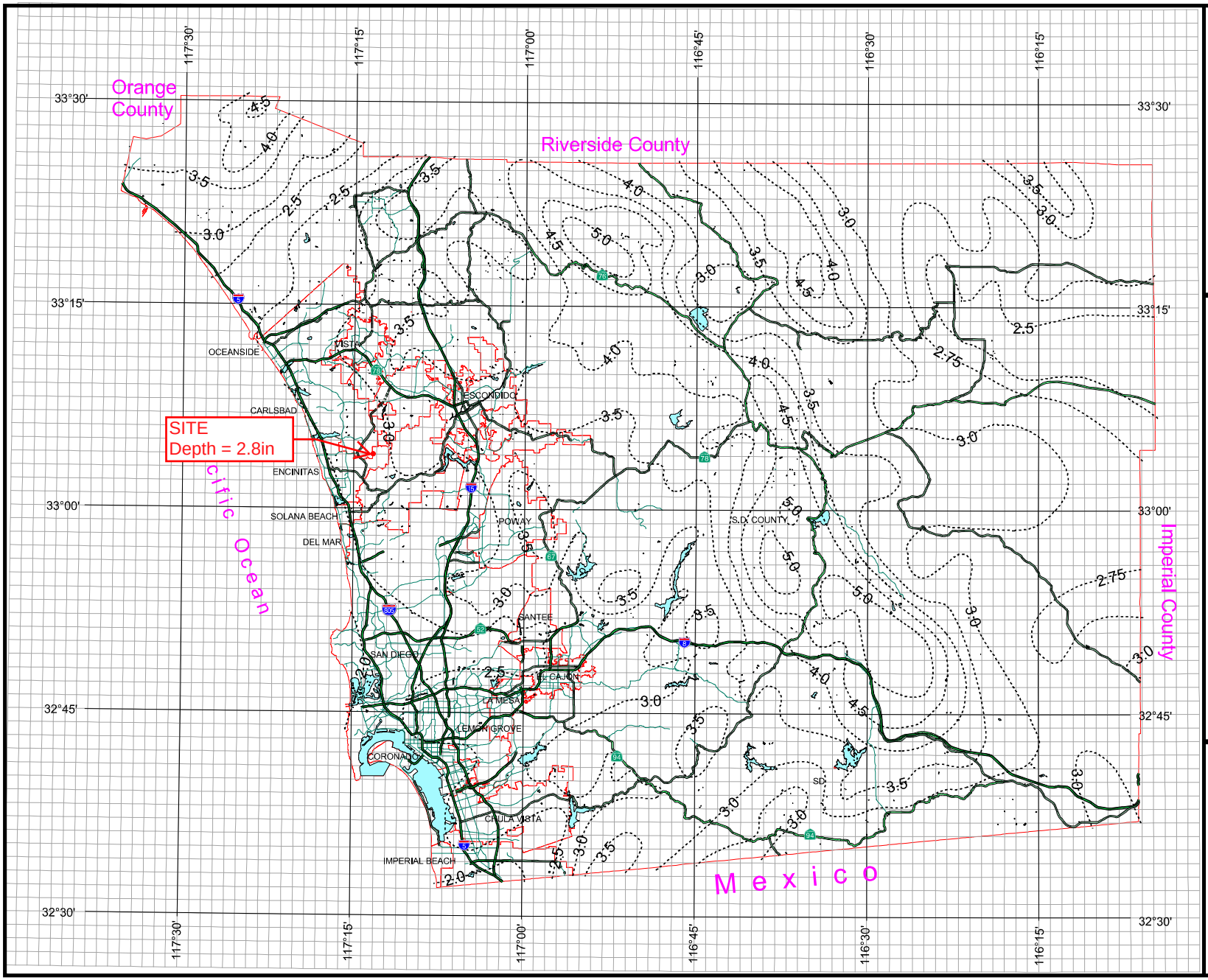
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS

Land Use		Runoff Coefficient "C"				
			Soil Type			
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).
DU/A = dwelling units per acre
NRCS = National Resources Conservation Service



County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

Isopluvial (inches)

DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N
W E
S

3 0 3 Miles

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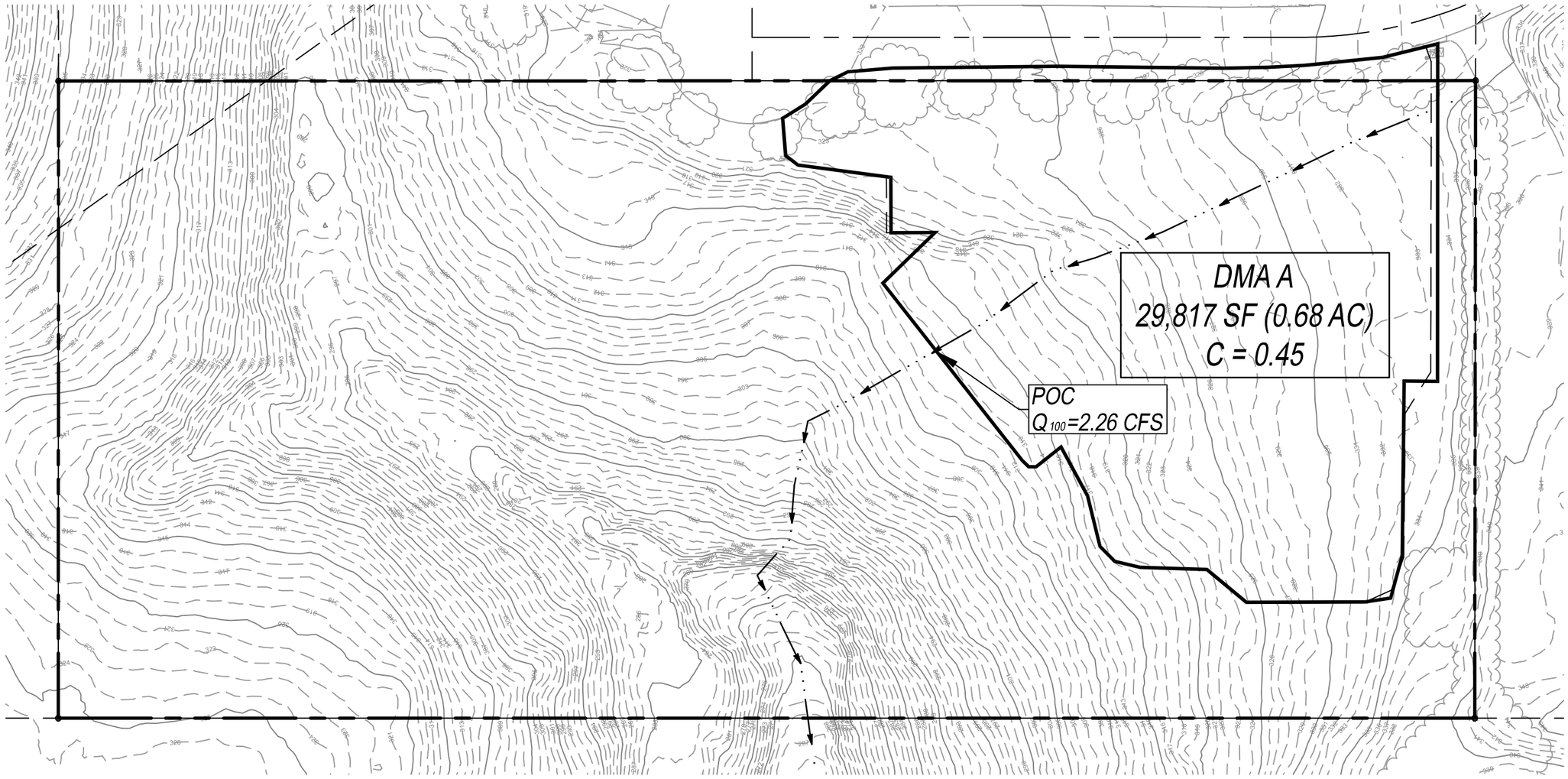
EXISTING HYDROLOGY

2901 WISHBONE WAY



EXISTING CONDITION	
SURFACE TYPE	DMA A AREA (SF)
IMPERVIOUS	0
PERVIOUS	29,817
TOTAL SITE AREA	29,817

1" = 40 FT

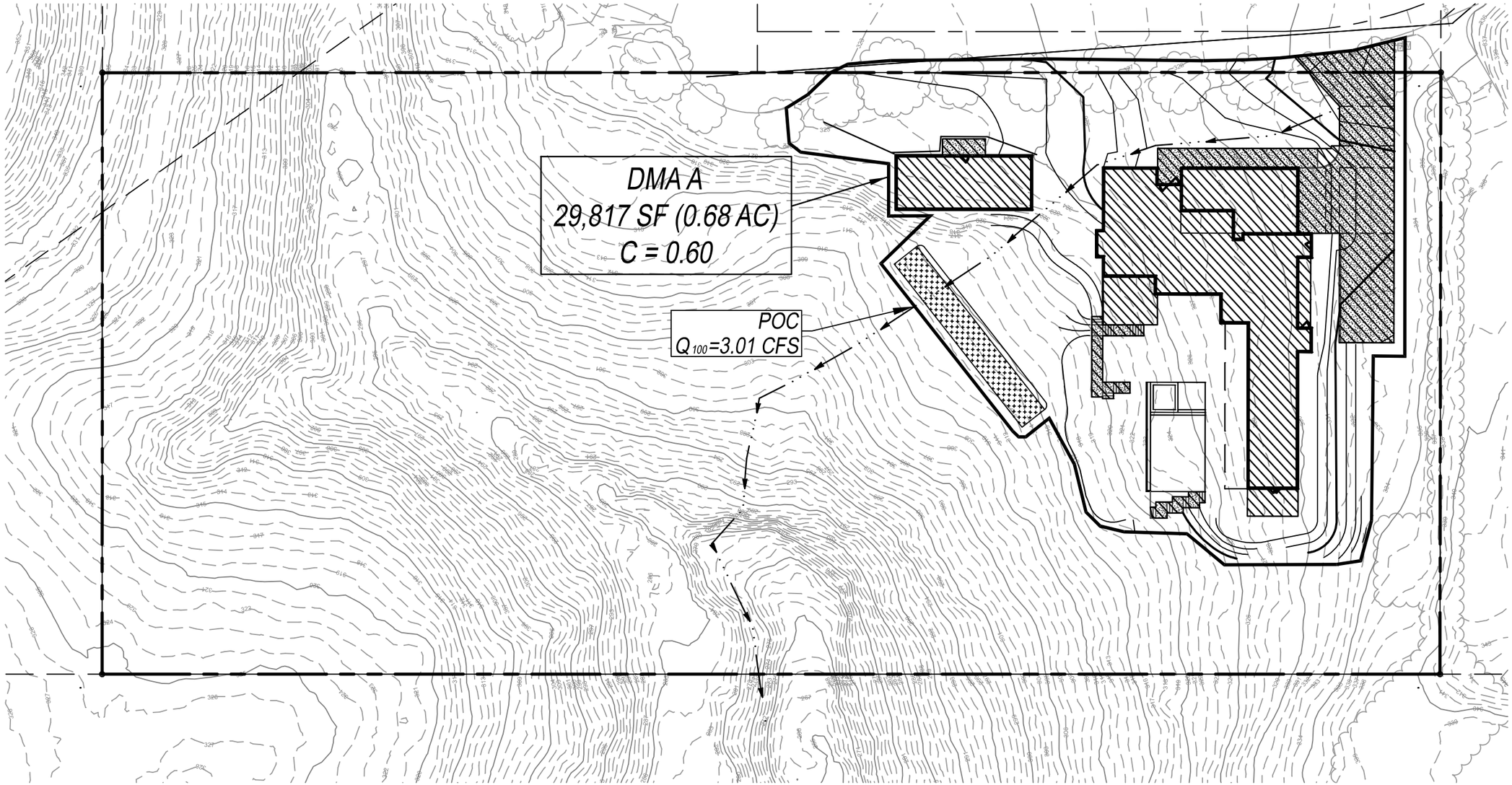
LEGEND

- BASIN BOUNDARY
- FLOW PATH
- IMPERVIOUS AREA

ARDOLINO COASTAL ENGINEERING
P.O. BOX 1226, CARDIFF BY THE SEA, CA 92007
brian@coast-eng.com 760-334-1373

PROPOSED HYDROLOGY

2901 WISHBONE WAY



PROPOSED CONDITION	
SURFACE TYPE	DMA A AREA (SF)
IMPERVIOUS	9,962
PERVIOUS	19,855
BASIN	795
TOTAL SITE AREA	29,817

1" = 40 FT

LEGEND

BASIN BOUNDARY

FLOW PATH

IMPERVIOUS AREA

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Appendix G. Wildland Fire Protection Plan

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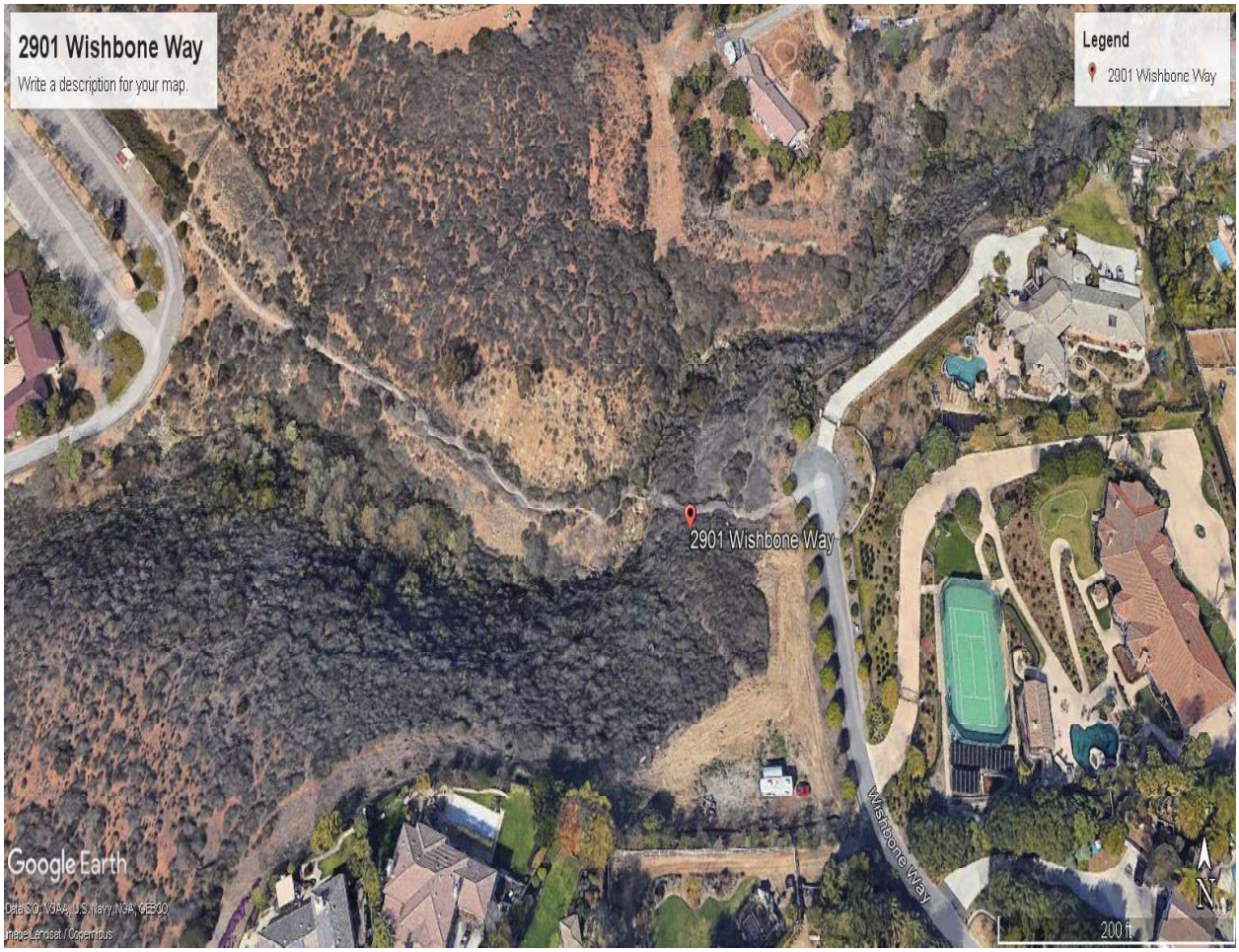
WILDLAND FIRE PROTECTION PLAN
2901 Wishbone Way, Encinitas, CA
APN 264-222-33



Revised January 24, 2024,

Prepared for the City of Encinitas on behalf of the Owner,
Gannon Tidwell, Postcard Capitol, LLC
San Diego, CA

Prepared by: _____

Sid Morel, President
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308 Industrial Way
Fallbrook, CA 92028

Approved 2/15/2024

Hans Schmidt

Table of Contents

EXECUTIVE SUMMARY 3

1. INTRODUCTION.....3
1.1 Project Location, Description and Environmental Setting.....3
1.1.1 Project Location 3
1.1.2 Project Description 5
1.1.3 Environmental Setting 5
1.1.4 Weather Review……6

2. ANTICIPATED FIRE BEHAVIOR IN THE VICINITY.....6

3. FIRE HISTORY 6

4. ANALYSIS OF PROJECT EFFECTS 7
4.1 Fire Access 7
4.2 Water Supply.....7
4.3 Ignition Resistant Construction and Fire Protection Systems.....8
4.4 Predicting Wildland Fire Behavior.....9
4.4.1 Wildland Fire Behavior Calculations for the On-Site Hazardous Vegetative Fuels 9
4.4.2 Wildland Fire Behavior Calculations for the Off-Site Hazardous Vegetative Fuels 10
4.5 Additional Features to Harden the Structures 14
4.5.1 Immediate Zone and Increased Ember-Resistant Requirements.....17
4.5.2 Mitigation in the Immediate Zone 18

5. FISH AND WILDLIFE MEMORANDUM OF UNDERSTANDING 19

6. CUMULATIVE IMPACT ANALYSIS 19

7. JUSTIFICATIONS FOR REDUCED FUEL MODIFICATION ZONES 21
7.1 Fuel Separation 21
7.2 Exterior Windows 22
7.3 Masonry Walls.....23
7.3.1 Stackwall Precast Concrete Fence.....24
7.4 L-metal 24
7.5 Under Appendages Fire Sprinklers.....25
7.6 Decks 25
7.7 Non-Combustible Fences, Patio Covers, Trellises.....26
7.8 Exterior Emergency Wildland Fire Sprinklers.....26

8. CONCLUSION 26

9. REFERENCES 29

10. TECHNICAL APPENDICES
Appendix A 32
Appendix B.....38
Appendix C 39
Appendix D 44

EXECUTIVE SUMMARY

This Wildland Fire Protection Plan is being prepared for the proposed Single-Family Dwelling and Accessory Dwelling Unit in the City of Encinitas (See Site location, Figure 1). The address is 2901 Wishbone Way, APN 264-222-33. The site is an approximately 2.47-acre vacant property located west of and adjoining the terminus of Wishbone Way. Development of this vacant property would result in impacts to biological resources, hence the need to assess the project with respect to compliance with the California Environmental Quality Act (CEQA) and related local, state, and federal statutes and regulations. The project is served by the City of Encinitas Fire Department (EFD).

Development of the Wishbone Way property will result in certain unavoidable impacts due to grading, construction, landscaping, and other associated changes in land-use. Native vegetation and native species are present in these areas, and these resources will be directly and indirectly affected by future site development. This loss is considered "significant", as defined by CEQA. Mitigation will be required to offset impacts to a level of "less than significant."

The applicant is requesting a reduction in the 100-foot fuel modification to 50 feet. Native vegetation and native species are present in these areas, and these resources will be directly and indirectly affected by future site development. To meet the “less than significant” impact the applicant proposes installing masonry walls, hardening the structure and appendages, an exterior wildfire sprinkler system, exterior fire sprinklers on the structures and a strict drought tolerant fire resistive landscape plan. The project is in a Very High Fire Hazard Severity Zone (Cal Fire, 2021) Figure 2. The project is infill in nature as there are large Residential Estate homes to the, north, east, and south.

CHAPTER 1. INTRODUCTION

The purpose of a Fire Protection Plan (FPP) is to assess potential impacts resulting from wildland fire hazards and identify measures necessary to adequately mitigate those impacts. This FPP has been prepared for the proposed single-family dwelling at 2901 Wishbone Way and, as part of the assessment, has considered the project location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history of the project area. The plan addresses water supply, access, structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The plan proposes mitigation for not meeting the required 100 feet of defensible space and increased fire resistance to the structures and a strict landscaping plan is proposed that will protect the proposed structures from ignition.

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

The subject property is in the City of Encinitas, approximately 1 mile east of Rancho Santa Fe Road and approximately 5 miles from the ocean. (Figure 1). La Costa Canyon High School is west of the site.

Large estate homes border Wishbone Way to the South, Northeast and East of the site. These homes include pools, tennis courts and equestrian facilities. To the southwest of the site are large tract homes.

The eastern and southern limits of the property are cleared, and the western portion of the site consists of mostly Coastal Sage Scrub.

Separating the project site and development that includes La Costa Canyon High School to the west is a drainage described below by Biologist Vincent Scheidt.

Figure 1: Site Location

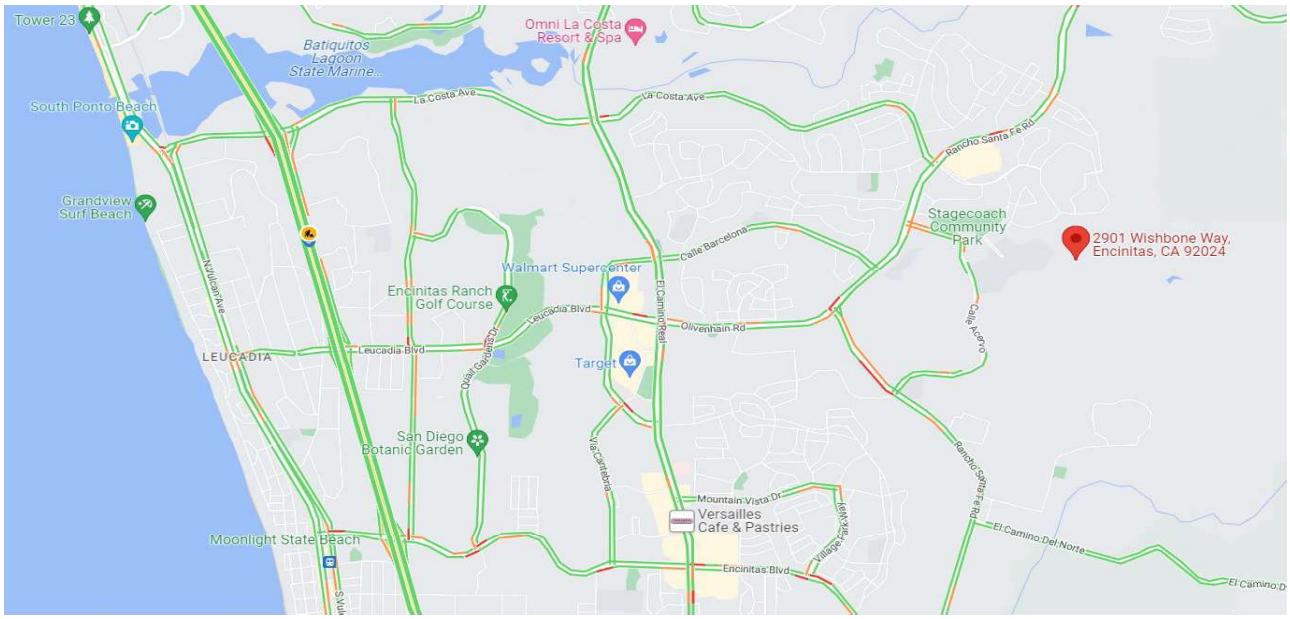
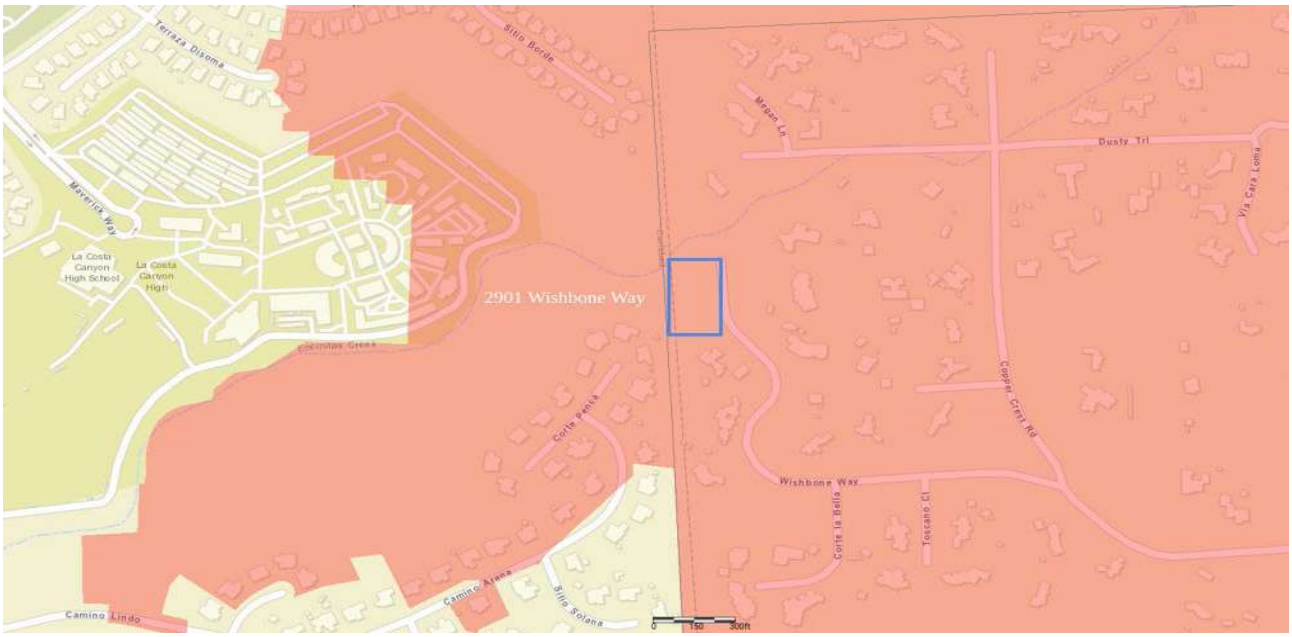


Figure 2: Fire Hazard Severity Map



1.1.2 Project Description

The Project is proposing grading and site improvements on a vacant lot to facilitate building a single-family dwelling with an accessory dwelling unit. This would take place on one existing Assessor's Parcel Number, APN 264-222-33. The approximately 2.47- acre property is in the incorporated City of Encinitas (City).

1.1.3 Environmental Setting

The Bio Report designates 1.82 acres of Coastal Sage Scrub and .65 acres of existing disturbed land. There is a well vegetated water course that runs along the northern portion of the property.

The Scheidt Bio report identifies 2 sensitive plant species and one sensitive animal species on the site. (Scheidt V. N., Biology Report , 2023)

The subject property supports a well-defined watercourse that runs along the northern portion of the property, entering the property from east and exiting to the west. The vegetation along the watercourse consists of exposed rock and cobbles, with some riparian indicator species, including large numbers of San Diego Marsh-Elder (Iva hayesiana) covering the bead of the flowline on the eastern portion of the drainage. The drainage was dry during this and the prior field surveys of the property, although it certainly carries significant flows during and briefly after major rainfall events. The watercourse qualifies as a federal/state "waters" based on hydrology and hydrophytes.

The proposed grading plan will avoid and buffer the watercourse, placing the entirety of the drainage and a suitable biological buffer of approximately 50 feet into a biological open space easement. Currently, it is recommended that no clearing take place in this drainage or in the biological buffer area. This will protect the watercourse and the adjoining areas of sensitive upland Coastal Sage Scrub vegetation within the buffer. (Scheidt V. N., Wetland Buffer Survey, 2022)

1.1.4 Weather Review

The typical prevailing summer-time wind pattern is out of the west/southwest and normally is of a much lower velocity (5-10 MPH with occasional gusts to 20 MPH) and is associated with relative humidity readings ranging between 20% and occasionally more than 70% due to the site's proximity to the ocean. All other (northwest, southeast and south) wind directions may be occasionally strong and gusty; however, they are generally associated with cooler moist air and have higher relative humidity (>40%). They are considered a serious wildland fire weather condition when wind speeds reach >20-MPH.

The most critical weather pattern to the project area is a hot, dry northeast wind, typically called Santa Ana. Such wind conditions are usually associated with strong (>50 MPH), hot dry winds with very low (<15%) relative humidity. Santa Ana winds originate off the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content.

The recorded weather the day of the Poinsettia Fire of 2014 was the hottest day of the year (95 degrees), relative humidity was 5% and wind gusts reached 20 mph when the fire started. Wind gusts reached up to 55 mph later in the day. (Peturske, 2019)

CHAPTER 2. ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

The site is typically graded to bare dirt except for the Open Space area to the north and west. The site is bordered by Wishbone Way to the east. The east side of Wishbone Way is developed by large estate homes. To the southwest of the site are large tract homes. The Open Space and the area west of the site are a threat to burn and under the worst case, Santa Ana wind, fire behavior analysis predicts flame lengths of 41 feet. (See Appendix B, Fire Behavior). The site has considerable protection from the estate homes to the north and east and the drainage would allow the Santa Ana Wind driven fire to blow past the site.

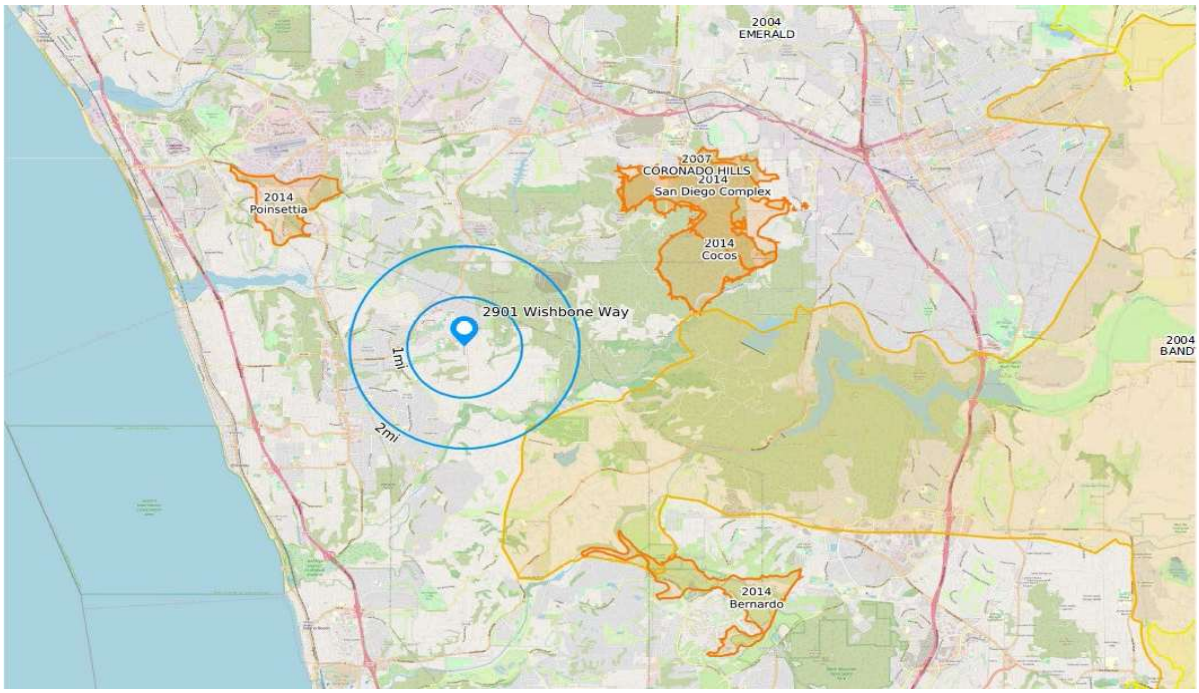
There is a wildfire threat to the site from a normal prevailing wind coming from the west. The BEHAVE calculations predict that flame length to be 7 feet with a 25 mile an hour wind. (See Behave Calculations Appendix A)

CHAPTER 3. FIRE HISTORY

May of 2014, San Diego County experienced severe Santa Ana wind conditions and numerous wildland fires broke out. The closest fire to Encinitas was the Poinsettia Fire located in Carlsbad. In total the fire burned 400 acres, more than 240 structures and caused 12 million dollars in damage. Throughout the four days it took to extinguish the fire, at least 75 agencies including ones from Utah and Mexico, assisted with the Poinsettia Fire. Adding to the complexity to Carlsbad Fire's response was the rest of San Diego County was dealing with 17 other fires in the same timeframe, said Chief Mike Calderwood. (Peturske, 2019).

The October 2007, Witch Fire burned approximately 2,000,000 acres of land and destroyed 1,125 homes. The Fire occurred under Santa Ana wind conditions and burned a large portion of Rancho Santa Fe, nearly reaching Encinitas.

Figure 3: Fire History



CHAPTER 4. ANALYSIS OF PROJECT EFFECTS

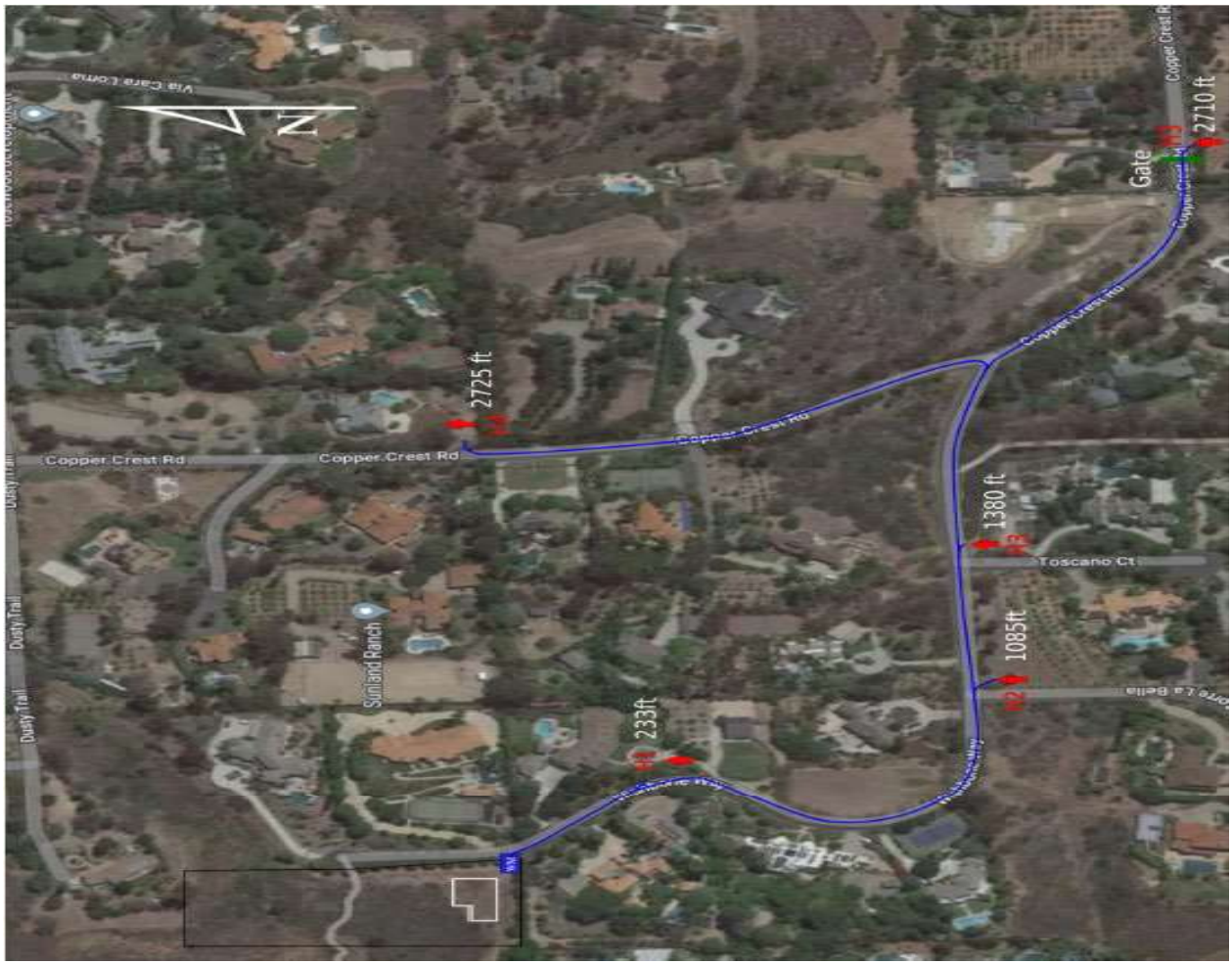
4.1 Fire Access

The access road is Wishbone Way, and the road may have to be widened to meet the 24-foot required width. The widening will be determined during grading plan review. The Wishbone Way surface to provide all-weather driving capabilities meeting the 75,000-psi requirement. The driveway shall be 16 feet wide and meet the 75,000-psi requirement. The driveway shall have an unobstructed vertical clearance of 13 feet 6 inches.

4.2 Water Supply

Water shall be provided by the Olivenhain Municipal Water District. All measurements were taken with a measuring wheel up to a thousand feet. Longer distances were calculated with GPS mapping. All measurements follow the natural contours of the roadway. The hydrant measurements were to the existing water meter (WM) at the southwest corner adjacent to the road.
There are 5 hydrants around the project.
H1 is a 2½"-4" hydrant located at Wishbone Way. This hydrant is 233 ft. from WM.
H2 is a 2½"-2½"-4" hydrant on Wishbone Way and Corte La Bella. It is 1085 ft. from WM.
H3 is a 2½"-4" hydrant at Wishbone Way and Toscano. It is 1380 ft. from WM.
H4 is a 2½"-2½"-4" hydrant at 3637 Copper Crest Rd. This part of Copper Crest is past the turn onto Wishbone and is not in the path of travel for responding fire apparatus. It is 2725 ft. from WM.
HS is a 2½"-2½"-4" hydrant at the community gate entrance of Copper Crest Rd. It is 2710 ft. from WM. See figure 4: Fire Hydrant Spacing

Figure 4: Fire Hydrant Spacing



4.3 Ignition Resistant Construction and Fire Protection Systems

"All structures shall comply with the ignition-resistive construction requirements: Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the 2022 California Building Code and the 2021 International Fire Code, adopted as the Fire Code of the City of Encinitas. Additional fire-resistant improvements will be installed to mitigate the reduction in the fire buffer zone.

The proposed single-family dwelling and accessory dwelling unit shall comply with the City of Encinitas Residential Fire Sprinkler requirements. The City of Encinitas requires all bathrooms and closets to have residential sprinklers installed, regardless of size. Additional mitigation for the reduction in the fire buffer zone: All projections, eaves, decks, patio covers shall have the Frontline Wildfire Defense exterior fire sprinklers installed.

4.4 Predicting Wildland Fire Behavior

"Can wildland fire behavior really be predicted? The minute-by-minute movement of a wildland fire will probably never be totally predictable–certainly not from weather conditions forecast many hours before the fire. Nevertheless, practice and experienced judgement in assessing the fire environment, coupled with a systematic method of calculating fire behavior, yields suprisingly good results" (Rothermel, 1983).

The BEHAVEPLUS: Fire Behavior Prediction and Fuel Modeling System by Patricia L. Andrews is one of the best systematic methods for predicting wildland fire behavior. The BEHAVEPLUS fire behavior computer modeling system was developed by USDA–Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts nationwide. "Because the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations is the dead fuel less than one-fourth inch in diameter; these are the fine fuels that carry the fire. Fuels larger than three inches (3") in diameter are not included in the calculations at all" (Andrews, 2011).

The BEHAVEPLUS fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six feet (6') of the ground and contiguous to the ground.

Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVEPLUS modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in Fire Protection Planning purposes. Santa Margarita Fire Consulting, LLC's evaluation team used the computer based BEHAVEPLUS Fire Behavior Prediction Model to make the following fire behavior assessments for the Project.

Wildland fire behavior calculations have been projected for the vegetative fuels on the undeveloped areas north and west of the Project site. The projections are based on scenarios that are "worst-case" San Diego County fire weather assumptions. The scenarios are depicted in Appendix A. The tables display the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second), and Flame Length (expressed in feet) for four separate BEHAVEPLUS–Fire Behavior Prediction and Fuel Modeling System Computer Calculations. The tables also include the calculation inputs used in the BEHAVEPLUS program which were obtained from Project site observations and fuel levels typically observed during the local fire season. The projected flame lengths of typical Southern California Chapparal under Santa Ana Wind conditions would be 41 feet. (See Appendix A). (Andrews, Patricia L. et al., 2013)

4.4.1 Wildland Fire Behavior Calvulations for the On-Site Hazardous Vegetative Fuels

The project will retain over an acre of protected coastal sage and chapparal which will always be a threat to burn. The proposed fuel modification treatments, irrigated landscaping, the use of ignition resistant building materials, and additional required construction features will mitigate to less than significant levels the potential loss of any structures due to direct fire impingement or radiant heat around the perimeter of the houses.

4.4.2 Wildland Fire Behavior Calculations for the Off-Site Hazardous Vegetative Fuels

The project area is located in a Very High Fire Hazard Severity Zone which contains areas of undeveloped land intermixed with development. The greatest threat to this project is the open space area to the north, west and southwest containing highly flammable native and non-native vegetation. The fire behavior calculations are determined using worst case Santa Ana Wind scenarios and the most extreme fire weather conditions. The calculations for a northeast Santa Ana wind driven fire, predict flame lengths of 41 feet. A wildland fire starting in the adjacent open space area under extreme Santa Ana wind conditions would be pushed down the drainage away from the proposed structures making the fire less intense. See figure 5,Flame direction under a Santa Ana Wind Driven Fire.

The proposed, to be built structures, will be located with large estate homes to the north, east and south. After the Witch Creek Fire of 2007, The Institute for Business and Home Safety studied the fire to determine why homes burned. They found that the larger estate parcels where homes are farther apart provided greater protection.

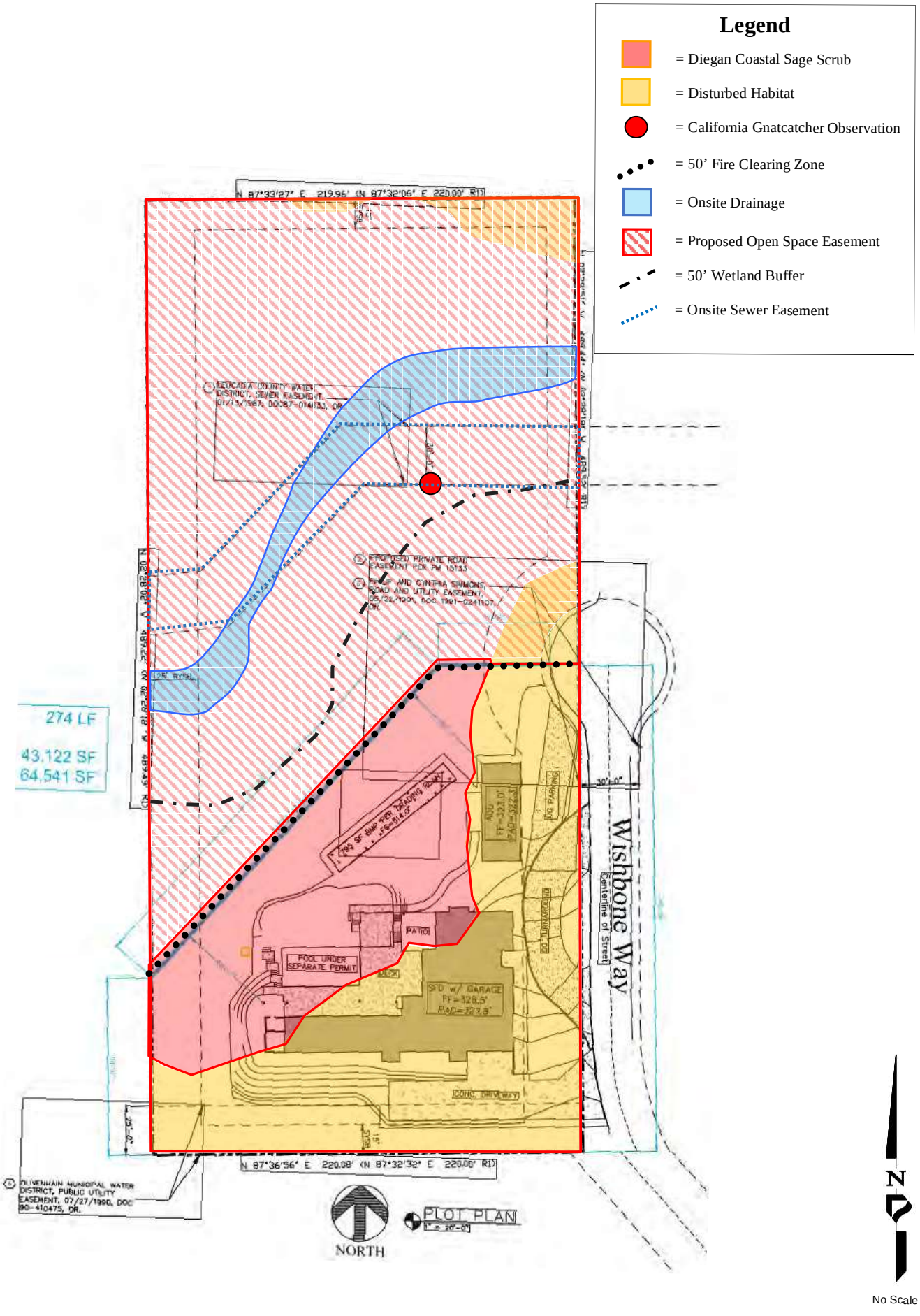
This finding elevates the importance of a community-wide approach to protecting properties against wildfire where the density of homes is high, and it also emphasizes the potential threat posed by neighboring properties. Cluster burning was not witnessed in homes located more than 45 feet apart from each other (Institute for Business and Home Safety , 2008)

To the southwest are large homes on smaller parcels. All the surrounding homes appear to have well maintained defensible space and will provide additional wildfire protection to the project.

Figure 5: Flame direction during a Santa Ana wind driven fire

Figure 6: Biological Resources on Aerial Photo - Wishbone Way Project, Encinitas

Figure 5. Biological Resources, Fire Clearing, on Site Plan - Wishbone Way Project, Encinitas



4.5 Additional features to Harden the Structures

All new structures will be constructed to the 2022 City of Encinitas Fire Code and the State of California Fire and Building Code Standards. Each of the proposed buildings will comply with the enhanced ignition-resistant construction standards of the 2022 California Building Code (Chapter 7A). These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires.

There are two primary concerns for structure ignition: 1) radiant and/or convective heat and 2) burning embers. Wind blown embers have been a focus of building code updates for more than a decade, and new structures in the WUI built to these codes have proven to be very ignition resistant. In 2011, I was invited, along with Rancho Santa Fe Fire Marshal, Cliff Hunter to analyze the Wildfire Ember Testing performed at the Insurance Institute for Building and Home Safety (IBHS), in Chester County, South Carolina. IBHS's Wildfire Ember Testing proved what firefighers and fire marshals have known for years, the structures ability to withstand an ember attack during a wildland fire is key to the survivability of the home. Likewise, radiant and convective heat impacts on structures have been minimized through the Chapter 7A exterior fire ratings for walls, windows and doors. Additionally, provisions for modified fuel areas separating wildland fuels from structures have reduced the number of fuel-related structure losses. Even though these measures are now required by the latest Building and Fire Codes, at one time, they were used as mitigation measures for buildings in WUI areas, because they were known to reduce structure vulnerability to wildfire. These measures performed so well, they were adopted into the code. There have been ember resistant vents on the market for at least a decade, but we Fire Marshals were unsuccessful getting these vents written in as code. The ember resistant vents are now code, when previously they were used as mitigation.

A reduction in the 100-foot Fuel Modification Zone (FMZ) is requested. The applicant is requesting a 50-foot FMZ from the structure to the open space easement. The applicant is offering to increase (harden) the wildland fire resistance to the structure, install drought tolerant, fire resistive landscaping from the structure to the open space easement. A masonry wall will also be utitlized to increase the fire resistance along with a Frontline Exterior Fire Sprinkler System.

Harden the structure

- **L-metal:** All the exterior walls shall have L-metal installed. The L-metal gets installed under the bottom plate and behind the weep screed and stucco. The metal will allow the stucco weep screed to work while keeping any embers and fire from penetrating the bottom plate, sheer panel, and studs. The applicant agrees to pay for an additional inspection of the L-metal installation if needed. . The applicant shall request the L-metal inspection at the same time as hydro inspection. See L – metal detail in Appendix B.

- **Windows:** All windows of the structures shall be dual paned, dual tempered.

- **Decks:** The entire deck walking material shall meet the 709A.3 standards for ignition resistance. (The code only requires the first ten feet from the structure to be ignition resistant). The underside of the proposed decks shall have Frontline Wildfire Defense system fire sprinklers installed and be protected to grade by either masonry walls or fire-resistant exterior wall material meeting the requirements of CA Building Code Chapter 7, Section 707A.8

- **Emergency Irrigation System:** Due to the constraints imposed by the Biological Open Space easement an emergency irrigation system shall be installed. See Figures 6 and 7. The emergency exterior automatic irrigation sprinklers shall be installed along the top of the masonry walls for the purpose of reducing fire intensity and flame lengths should a fire occur. A combination of 50 percent spray and 50 percent rotary heads with overlapping patterns shall be directed toward the undeveloped land to the north, west and southwest of the property.The system shall be designed and installed so that all potentially hazardous flammable vegetation will be simultaneously irrigated (sprayed) from the Masonry wall out for a minimum distance of 20 feet. Spraying heads along with longer ranging rotary spray heads (approximately 20 gpm) shall be installed to increase the coverage to 50 feet from the masonry wall. . Fronntline has a new system that can be Automatically activated. Defense System 2 is the only exterior wildfire sprinkler system powered by Frontline's 24/7 wildfire tracking software. The all-new Auto Activation feature automatically turns on your Frontline system when fire is within seven miles – more than 100x faster than traditional sensor-based systems that can only detect fire within a few hundred feet of your home.

If a fire comes within seven miles of your home, you will receive a notification via the Frontline App. At that point, a ten-minute timer will begin to countdown on the app. You have the option to activate your system immediately or choose to override the activation. If you don't take any action, the system will automatically activate at the end of the 10-minute timer. (Frontline Wildfire Defense , 2023)

- The auto activation system will turn on when a fire is within seven miles of the sprinkler system. The system allows for periodic testing. Tests shall be short in duration (2-3 minutes) twice per year (May/October) to prevent unwanted growth of annual grasses and to insure proper operation in case of a fire emergency.

- The purpose of the system is to extinguish the fire prior to its approach to the houses, reduce flame length and fire intensity by wetting the wildland fuels during light winds and to create a vegetation wetting effect during high winds between the wildland fuels and the structures. Irrigation during an emergency is exempt from the California Environmental Quality Act. Similar systems have been developed and installed in Califronia, as well as across the United States. See Figure 8 Frontline Exterior Fire Sprinkler installations and activations. This system is being offered as partial mitigation for the lack of 100 feet of defensible space.

- The emergency irrigation system shall be capable of being automatically or manually activated prior to the arrival of a wildfire for the purpose of reducing fire intensity and flame lengths should a fire occur. The sprinkler system shall be able to be remotely operated. (see APPENDIX 'C' for details). The system can be designed to work off the

domestic water supply. The Wildfire Sprinkler system shall be designed by a Fire Protection Engineer, and the plan submitted to Encinitas Fire Department prior to getting building permits. Wildfiresprinkler.com
Exterior Wildfire Sprinkler Systems Grand Marais, MN | Wildfire Protection Systems

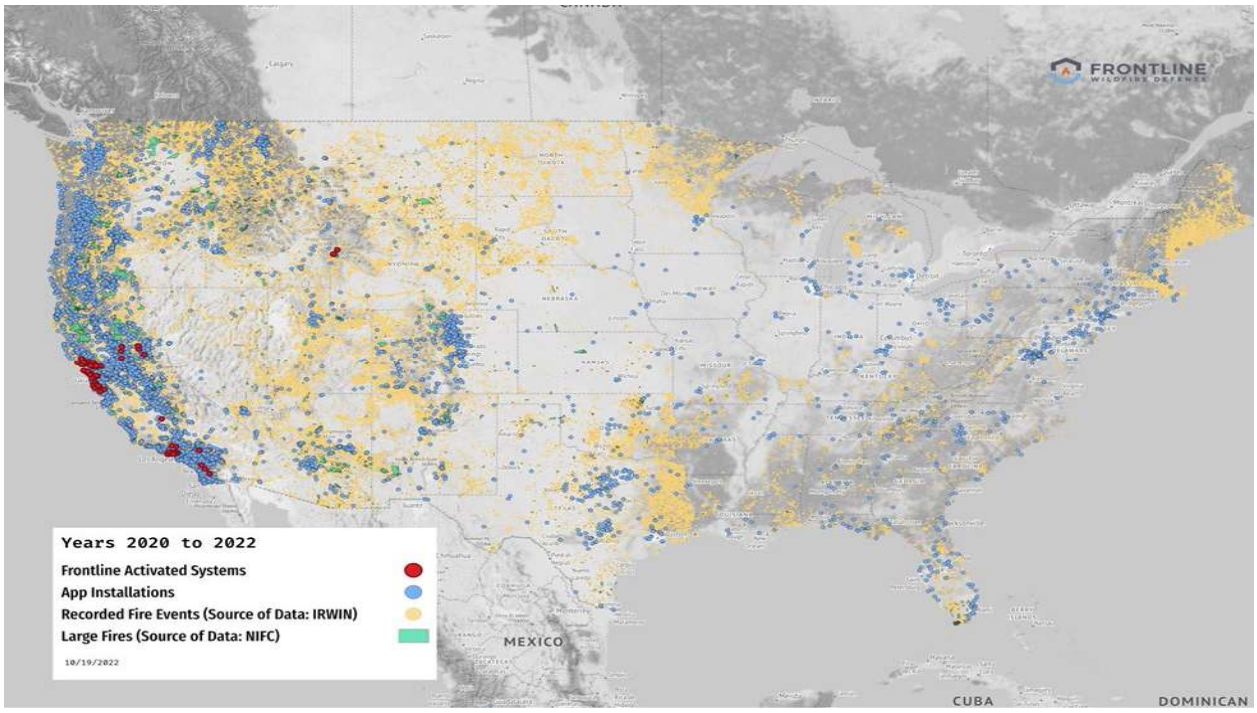
- A combination of 50 percent spray and 50 percent rotary heads shall be directed towards the wildland fuels. The emergency irrigation system shall be designed and installed so that all the wildland fuels will be simultaneously watered (sprayed) for a minimum distance of 20 feet followed by a rotary spray head capable of reaching 50 feet. A minimum of 20 GPM shall be applied to the vegetation in the wetland setback area.

- The system shall be tested twice yearly, preferably in May or June and on September 1 (prior to the onset of Santa Ana winds) for a period not to exceed 2 minutes to ensure that all spray heads are functional and that adequate water pressure is available. A report/letter shall be kept on file by the homeowner indicating the date of the test and that the system was in proper working order.

- The system shall be inspected and tested by the Encinitas Fire department prior to receiving final inspection on the home.

- The Frontline Wildfire Defense System shall be installed under the eaves and any other appendages such as: Decks, Patio Covers and Trellises.

Figure 8: Frontline Installed and Activated Emergency Irrigation Systems.



Defensible Space (Fuel Modification Zones): The applicant is proposing two features to increase the effectiveness of the defensible space. Masonry walls and Immediate zone landscaping.

- A 6 foot tall masonry or precast concrete wall shall be installed at the 50 foot fire buffer line. The Frontline Wildfire Defense system shall be installed on top of the masonry wall. See Appendix C, Stackwall Concrete Fence

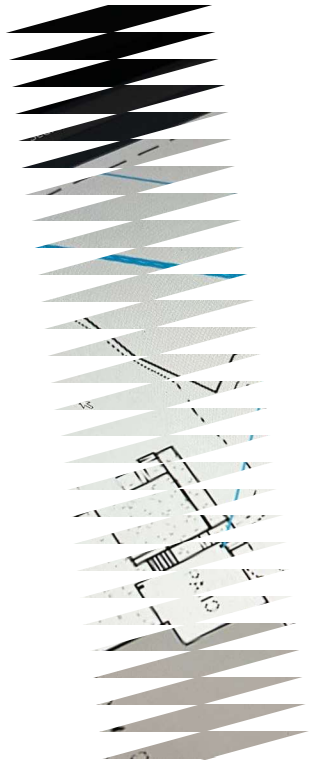
- The property shall follow the guidelines of the Immediate Zone for the 50 feet from the structures to the open space, (masonry wall), instead of just 5 feet. There will also be more restrictions to the Immediate Zone offered as mitigation.

4.5.1 Immediate Zone and Increased Ember-Resistant Requirements

Plants used in the fuel modification areas or landscapes will include drought-tolerant, fire resistive trees, shrubs, and groundcovers. The Landscape plan, planting list and spacing will be reviewed and approved by the City of Encinitas Fire Prevention Bureau. The landscaping plan shall meet the City of Encinitas and San Diego County Water Efficient landscaping requirements and shall choose plants from the ignition resistant landscaping list. The intent of the lists is to provide examples of plants that are less prone to ignite or spread flames to other vegetation and combustible structures during a wildfire. Additional Plants can be added to the landscape plant material palette with the approval from the City of Encinitas Fire Prevention Bureau.

Landscape plans shall be in accordance with the following criteria:

1. Landscape Plan prepared and submitted for approval before the “hydro-framing” inspection.
2. All fire resistive tree species shall be planted and maintained at a minimum of 10 feet from the tree’s drip line to any combustible structure. Non-fire resistive trees (including conifers, pepper trees, eucalyptus, cypress, and palms (*Washingtonia* and *Phoenix* species)), shall not be planted
3. Limit planting of large unbroken masses especially trees and large shrubs. Groups should be 2–3 trees, shrubs maximum, with mature foliage of any group separated horizontally by at least 10 feet, if planted on less than 20% slope, and 20 feet, if planted on greater than 20% slope. If shrubs are located underneath a tree’s drip line, the lowest branch should be at least three times as high as the understory shrubs or 10 feet, whichever is greater.
4. Non-combustible surface (pavement, concrete, decomposed granite, etc.) for pathways to side yards and backyards.
5. Irrigated wet zone (water conserving irrigation systems with efficient drip emitters and “smart” controllers and use of California Friendly landscape concepts)
6. No tree limb encroachment within 10 feet of a structure or chimney, including outdoor fireplaces.
7. Tree maintenance includes limbing-up (canopy raising) 6 feet or one-third the height of the tree, whichever is greater, and removal of dead foliage and branches.



gure 9: Fire Buffer Zone

4.5.2 Mitigation in the Immediate Zone

The project shall make the entire 50 feet from the structures to the masonry wall follow the guidelines above, instead of the first 5 feet normally required. The applicant shall submit the landscape plan for approval to the City of Encinitas Fire Prevention Bureau and shall have the landscaping installed prior to getting final inspection on the structures. The recommended practice is to have the landscape plan aprroved on or around the hydro inspection.

This zone includes the area under and around all attached decks and requires the most stringent wildfire fuel reduction. The zone is designed to be ember-resistant and keep fire or embers from igniting materials that can spread the fire to your home. The following provides guidance for this zone that are above and beyond the normal immediate zone requirements:

Use hardscape like gravel, pavers, concrete and other noncombustible mulch materials for all pathways throught the property. No combustible bark or mulch
All accessory items, (outdoor furniture, planters, etc.) shall be non-combustible.
All fencing, gates, arbors, and Patio covers, shall be built with either Heavy Timber or noncombustible alternatives.
Garbage and recycling containers shall be kept outside this zone or contained within the structure.

CHAPTER 5. FISH AND WILDLIFE MEMORANDUM OF UNDERSTANDING

There is a Memorandum of Understanding (MOU) between Fire agencies and Fish and Wildlife that allows for clearing or thinning in Open Space. An email was sent to Fish and Wildlife on January 19,2024 requesting Fish and Wildlife look at the property and determine if the clearing in open space can be completed. A portion of the MOU is shown below. See Appendix F for a copy of the Email sent to Fish and Wildlife.

If approval to clear or thin in the open space is approved the Project owner agrees to clear or thin and maintain the open space to the approval of Fish and Wildlife and the City of Encinitas Fire Department.

Introduction:

Many species of plants and wildlife in the County of San Diego have been listed and continue to be listed as threatened or endangered by the Secretary of the Interior pursuant to the federal Endangered Species Act and by the California Fish and Game Commission pursuant to the California Endangered Species Act. Additionally, many listed and species that may be listed in the future are protected in certain areas by agreements among jurisdictions and the wildlife agencies, pursuant to the state of California's Natural Communities Conservation Planning (NCCP) program. In light of these listings, officials of the California Department of Forestry, and the members of the San Diego County Fire Chiefs Association and the Fire Districts Association of San Diego County have expressed concerns regarding their ability to continue to require the abatement of flammable vegetation within their respective jurisdictions in order to protect life, property and the environment from the threat of fire.

Section I. General Terms and Conditions:

This MOU authorizes the take of species listed as threatened or endangered, or candidate species (under Chapter 1.5 of Division 3 of the Fish and Game Code) for management purposes necessitated by or incidental to those certain fire protection measures described herein. Sid Morel of Santa Margarita Fire Consulting sent an email to Fish and Wildlife on Friday January 19, 2024 requesting that thinning or clearing of vegetation in the open space be allowed for this project.

The management purposes for which this MOU is issued are:

1. *Mandatory fire protection measures in accordance with Section 4290 of the Public Resources Code, specifically:*

   (a) *Measures necessary to implement minimum fire safety standards related to defensible space which are applicable to state responsibility are lands under the authority of CDF.*

(b) *Measures necessary to implement minimum safety standards related to fuel breaks and greenbelts.*

(c) *Other measures required by Section 4290 as determined by the Director of CDF*

2. *Mandatory fire protection measures in accordance with Section 4291 of the Public Resource Code, specifically:*

(a) *The maintenance around and adjacent to any building or structure in, upon, or adjoining any mountainous area or forest-covered lands, brush-covered lands, or grass- covered lands, or any land which is covered with flammable material, of a fire brea...1< made by removing and clearing away, for a distance of not less than 30 feet on each side of such building or structure or to the property line, whichever is nearer, all flammable vegetation or combustible growth.*

(b) *The maintenance around and adjacent to any building or structure such as is described in (a) above, additional fire protection or fire break made by removing all brush, flammable vegetation, or combustible growth which is located from 30 feet to 100 feet from such a building or structure or to the property line, whichever is nearer, as may be required by the Director of Forestry and Fire Prevention upon a finding that, because of extra hazardous conditions, a firebreak of only 30 feet around such building or structure is not sufficient to provide reasonable fire safety, and including the maintenance of grass and other vegetation more than 30 feet from such building or structure and less than 18 inches in height where necessary to stabilize the soil and prevent erosion.*

3. *Mandatory fire protection measures in accordance with Section 4296.5 of Public Resource Code, specifically, upon order of the Director of Forestry and Fire Protection or the agency having primary responsibility for the fire protection of the area, the destruction, removal, or modification so as not to be flammable, of any vegetation or other flammable material on any railroad right-of-way on forest-covered, brush-covered, or grass-covered land.*

4. *Any measures as deemed necessary by the Fire Chief and in accordance with the Guideline section of this MOU.*

(Fish and Wildlife and San Diego County Fire Chiefs , 1997)

CHAPTER 6. CUMULATIVE IMPACT ANALYSIS

Cumulative impacts from new development can cause fire response service decline and must be analyzed for each project. The Tidwell project proposes a new home with an additional Accessory Dwelling Unit. These two proposed structures represent minimal anticipated increases in fire and emergency medical response needs.

CHAPTER 7. JUSTIFICATIONS FOR REDUCED FUEL MODIFICATION ZONES

Past reports and recommendations as well as experimental research and modeling suggest that Wildland Urban Interface (WUI) fire loss mitigation should concentrate on the residence and its immediate surroundings. Dr. Jack Cohen's research and testing proves that any strategy for effectively reducing the WUI fire problem must focus on residential fire resistance. The mitigation offered is validated by Dr. Jack Cohen's Wildland Fire Research proving that properly built and maintained homes can survive next to the forest and the wildland vegetation. The testing did not utilize a hardened home and included large tree timber fires thirty feet away. (NFPA Your Home Can Survive a Wildfire), (Cohen, 2016).

As presented in this report, the FMZ provided for this project is 50 feet. Despite the lack of full 100 feet FMZ width for these two lots, it is anticipated that the proposed structures will be able to withstand the short duration, low to moderate intensity fire and ember shower that is projected from off-site adjacent fuels based on several factors, as discussed below.

The following additional measures will be implemented to "mitigate" the non-conforming FMZs on this project. These measures are customized for this site, its unique topographical and vegetative conditions, and focus on providing functional equivalency as a full fuel modification zone.

7.1 Fuel Separation

As experienced in numerous wildfires, including the most recent fire storms in San Diego County, homes in the WUI are potential fuel. The distance between the wildland fire that is consuming wildland fuel, and the home ("urban fuel") is the primary factor for structure ignition (not including embers). The closer a fire is to a structure, the higher the level of heat exposure (Cohen 2000). However, studies indicate that given certain assumptions (e.g., 30 feet of low fuel landscape, no open windows), wildfire does not spread to homes unless the fuel and heat requirements (of the home) are sufficient for ignition and continued combustion (Cohen 1995, Alexander et al. 1998). Construction materials and methods can prevent or minimize ignitions. Similar case studies indicate that with nonflammable roofs and vegetation modification from roughly 32–60 feet in southern California fires, 85–95% of the homes survived (Howard et al. 1973, Foote and Gilless 1996). Similarly, San Diego County after fire assessments indicate strongly that the building codes are working in preventing home loss: of 15,000 structures within the 2003 fire perimeter, 17% (1,050) were damaged or destroyed. However, of the 400 structures built to the 2001 codes (the most recent at the time), only 4% (16) were damaged or destroyed. Further, of the 8,300 homes that were within the 2007 fire perimeter, 17% were damaged or destroyed. A much smaller percentage (3%) of the 789 homes that were built

to 2001 codes were impacted and an even smaller percentage (2%) of the 1,218 structures built to the 2004 Codes were impacted (IBHS 2008). Damage to the structures built to the latest codes is likely from flammable landscape plantings or objects next to structures or open windows or doors. One missing element in the code is the vulnerability of the bottom plate igniting from flammable materials next to the structure. We are addressing this with the L-metal under the bottom plate behind the stucco and weep screed.

These results support Cohen's (2000) findings that if a community's homes have sufficiently low home ignitability, the community can survive exposure to wildfire without major fire destruction. This provides the option of mitigating the wildland fire threat to homes/structures at the residential location without extensive wildland fuel reduction. Cohen's (1995) studies suggest, as a rule-of-thumb, larger flame lengths and widths require wider fuel modification zones to reduce structure ignition. For example, valid SIAM results indicate that a 20-foot-high flame has minimal radiant heat to ignite a structure (bare wood) beyond 33 feet (horizontal distance). Whereas a 70-foot-high flame requires about 130 feet of clearance to prevent structure ignitions from radiant heat (Cohen and Butler 1996). This study utilized bare wood, which is more combustible than the ignition resistant exterior walls for structures built today. Obstacles, including steep terrain and non-combustible walls can block or deflect all or part of the radiation and heat, thus making narrower fuel modification distances possible.

As indicated in this report, the FMZ and additional fire protection measures proposed for this project provide equivalent wildfire buffer but are not standard City of Encinitas or San Diego County zones. Rather, they are based on a variety of analysis criteria including predicted flame length, fire intensity (Btu), site topography and vegetation, extreme and typical weather, position of structures on pads, adjacent fuels, landscape fire walls (free standing), neighboring communities relative to the proposed project, and type of construction. The fire intensity research conducted by Cohen (1995), Cohen and Butler (1996), Cohen and Saveland (1997), and Tran et al. (1992) supports the fuel modification alternatives proposed for this project.

The following additional measures will be implemented to "mitigate" the non-conforming FMZs on this project. These measures are customized for this site, its unique topographical and vegetative conditions, and focus on providing functional equivalency as a full fuel modification zone.

7.2 Exterior Windows

A potentially vulnerable structure component regarding radiant or convective heat exposure is a structure's windows. A concern for windows on the northern and western sides of the proposed buildings are the exterior glazing that could be subject to radiant or convective heat from a wildland fire and whether provision for a fuel modification zone slightly narrower (50 feet) is adequate. To address this issue, it is worthwhile to examine the structure ignitability modeling, independent ignition experiments, and case studies that support fuel treatments as low as roughly 34 feet from structures and compare them with the Tidwell project. Cohen's (1995) structure ignitability model (SIAM) assesses ignitability of bare wood when exposed to a continuous heat source. The model assumes a worst-

case condition of a constant 1700 degrees (F). A constant, maximum heat source is typically not the case during a wildfire due to the movement of a fire, non-uniform vegetation distribution, and the lack of a uniform, constant flame front. Further, a flame temperature of 1700 degrees (F) is likely higher than would be experienced by the fuels adjacent this site, but is a valid temperature for testing, as Pyne et al. (1996) confirms that flaming combustion typically occurs in wildland fuels between flame temperatures of 1,466 to 2,186 degrees (F). For comparison, Dennison (2006) studied the heat signatures from a Southern California wildfire that was burning oak woodlands, dense chaparral, sparse chaparral, and grasslands. Results from this study indicate that the maximum temperature commonly observed was 2,200 degrees (F) and associated with the dense, higher fuel load oak and chaparral vegetation, while cooler (980–1340 degrees (F)) and smaller fires were associated with the mixed chaparral and grasslands. The analysis conducted for this report indicates that the structure setbacks, 50 feet instead of 100, is adequate for separating the structures from the short-duration heat and flame associated with a fire burning toward the project in the fuels that occur adjacent to the project. The typical duration of large flames from burning vegetation is on the order of 1 minute and up to several minutes for larger fuels at a specific location (Cohen 1995; Butler et al. 2003, Ramsay and Rudolph 2003, Cohen and Quarles 2011). Tests of various glazing products indicate that single pane, tempered glass failure may occur between 120–185 seconds from exposure (University of California 2011; Manzello et al. 2007) but those tests include direct and constant heating that would not be experienced during a wildfire near this project. Depending on the heat applied and the type of glass used in the various studies, the cracking/failure time varied. However, given the short duration of maximum heat (likely 60–90 seconds for the largest shrubs), the loss of heat over distance (85–100 feet minimum), the fire-rated minimum 20-minute glazing specified for this project, and the strategically located non-combustible 6-foot tall walls located at the top of slope, wildfire heat and flame will be deflected and heat experienced by the windows from the wildland fire is not expected to be enough (in temperature or duration) to cause window failure. Quarles et al. (2010) provides strong endorsement for tempered (toughened) glass performance. His research and tests conclude that multi-pane (2–3 panes) with at least one pane tempered is well-suited for wildfire exposures. He indicates that tempered glass is at least four times stronger and much more resistant to thermal exposures than normal annealed glass. The use of code required dual pane tempered glass provides several benefits, with thermal exposure performance the most important for this study. This project would utilize dual panes, both panes tempered, to increase the thermal and overall strength of the exposed windows on the proposed structures.

7.3 Masonry Walls

Heat-deflecting masonry walls that are six feet in height, provide a vertical, non-combustible surface in the line of heat, fumes, and flame traveling up the slope. Once these fire byproducts intersect the wall, they are deflected upward or, in the case where fuels are lighter, the fuels are quickly consumed, heat and flame are absorbed or deflected by the wall, and the fuel burns out within a short (30 second–2 minute) time frame (Quarles and Beall 2002). Vegetation located from the retaining wall to the structure will be limited to drought tolerant, fire resistive plantings that will not readily facilitate fire spread. Walls like these have proven to deflect heat and airborne embers and are

consistent with NFPA 1144 Standard for Reducing Structure Ignition Hazards from Wildland Fire – 2008 Edition, Section 5.1.3.3 and A.5.1.3.3 and International Urban Wildland Interface Code (ICC 2012). NFPA 1144, A.5.1.3.3 states: “Noncombustible walls and barriers are effective for deflecting radiant heat and windblown embers from structures.” These walls and barriers are usually constructed of noncombustible materials (concrete block, bricks, stone, stucco) or earth with emergency access openings built around a development where 30 feet (9 meters) of defensible space is not available.

7.3.1 Stackwall Precast Concrete Fence

Precast concrete fences have grown in popularity and the fire resistance capabilities make them a more affordable option than masonry walls. The design uses an H configured post allowing the solid panels to slide into position. The Stackwall manufacturer recommends using a diamond blade saw to trim the panels if the fit is too tight (see Appendix C). These walls must be solid, and any void may allow embers to travel through the wall threatening the property. The panels shall be installed into a 6-inch footing covering the bottom. Stackwall will be inspected prior to the Project achieving final inspection. The wall panels may need to be grouted or caulked to ensure they remain solid, and they need to make sure the bottoms are covered. See Appendix C Stackwall Building instructions.

The Gannon Tidwell project agrees to pay the City of Encinitas Fire Department for an additional inspection of the precast concrete fence to ensure there are not loose panels or gaps of any kind. The fence shall pass inspection before the project can achieve final inspection.

7.4 L-metal

I am a retired Division Chief / Fire Marshal from North County Fire Protection District in Fallbrook, CA. During my 30-year career I have personally seen, verified, that flammable items stacked up against the home, i.e., paint cans, lumber, etc., can ignite and burn the bottom plate behind the stucco wall. Fire Marshals are convinced that this has resulted in numerous homes being destroyed by wildfire, but it is very hard to prove in the post fire analysis when the home is destroyed. I have confirmed this can happen on the 2002 Gavilan Fire in Fallbrook, the 2003 Paradise Fire in Valley Center, the 2007 Rice Fire in Fallbrook and the 2007 Witch Creek Fire. While this is a rare phenomenon it does happen and is not currently part of the building code The prevention of this really lies in homeowner awareness about what they store next to their home and the preparation they should be doing in advance of a Wildfire. The State of California and the City of Encinitas has adopted the “Ready, Set, Go” wildfire preparedness program that educates residents on how to be properly prepared for a wildfire as well as how to prepare the home. (Readyforwildfire.org).

L-metal shall be installed on the proposed structures, with the inspection being performed at hydro. See L-metal design appendix B.

7.5 Under Appendages Fire Sprinklers

The Tidwell project shall install the Frontline Wildfire Defense System fire sprinklers under any appendages such as eaves, decks, covers, etc. The Frontline Wildfire Defense System brings together purpose-built hardware and powerful software in one complete package that can confront wildfires – all through a smart mobile app.

Frontline's second-generation wildfire sprinkler system is powered by Frontline's fire tracking software and turns on automatically when fire is within seven miles of the home, or in this case the masonry wall. Once active, the system saturates your property with water and biodegradable firefighting foam, creating an environment that is too wet to burn.

This is another mitigation offering for the reduction in the FMZ that is not covered in the current codes. This also gives homeowner maintenance and awareness to what is required in this FPP. This FPP does not allow combustible patio furniture but that is not something that the inspector typically sees when performing the final inspection. The Frontline Wildfire Defense system would activate, when a fire is within seven miles of the home, flooding the combustible furniture. Part of firefighter training for performing structure protection is to remove all combustible furniture away from the structure or saturate it with foam. The Frontline Wildfire Defense System does not require firefighters or homeowners to be present to perform the task of wetting combustibles close to the home.

The Frontline wildfire sprinkler system has a controller/system that can be turned off through the App on your phone or device at any time. The system can also be turned off manually by flipping a big red switch on the front of the controller unit itself.

7.6 Decks

Since a lot of homes add decks, patio's after final inspection, the homeowner needs to understand that normal decking material they can buy at Home Depot, Lowes or their local lumber yard may not meet the requirments of this plan. The entire deck walking material shall meet the 709A.3 standards for ignition resistance. (The code only requires the first ten feet from the structure to be ignition resistant). Any decks if built shall utiize the IBHS and Firewise recommendatiions that decks shall have at least a 1/4 inch gap between the deck boards. IBHS testing proves that the smaller gaps were more vulnerable to catching flammable debris that an ember can easily ignite. The joist spacing shall be 24 inches on center instead of 16 inches. The joist shall have foil faced self adhering adhesive flashing tape (foil-faced bitumen tape) on the top of each joist. Using a foil faced self-adhering bitumen flashing tape reduces flame spread by removing the joist as a fuel source for both paralleland perpindicular deck board installations.The underside of the proposed decks shall have Frontlines Wildfire Defense system fire sprinkler installed. The decks underside

shall be protected to grade by either masonry walls or fire-resistant exterior wall material meeting the requirements of CA Building Code Chapter 7, Section 707A.8 For other NFPA and IBHS recommedations for Decks go to, https://www.nfpa.org/-/media/Files/Firewise/Fact-sheets/FirewiseFactSheetsEmberIgnitedDecks.ashx

This plan recommends the sloped area of the project where a deck would be built utilize masonry walls, back fill and hardscape with pavers, concrete or someother non-combustible product.

7.7 Non-Combustible Fences, Patio Covers, Trellises

The Immediate Zone requires that the first five feet of fencing or gates that connect to the structure be non-combustible. This plan requires that all fencing, gates, patio covers, etc. meet the non-combustible requirements. Heavy Timber is typically allowed for patio covers but if building after final inspection and occupancy the plans shall be submitted to the City of Encinitas and approved by the Fire Marshal. Any Patio Cover or trellis, arbor, etc. shall have Frontlines Wildfire Defense System sprinklers installed.

7.8 Exterior Emergency Wildland Fire Sprinklers

The emergency wildland fire sprinkler systems were controversial at first. Modern technology has addressed the concerns brought up from being able to test them and adding water to a native environment, to being able to remotely operate them. The initial concern from Fire Marshals was that under an extreme Santa Ana wind event they would not be effective. Frontline's second-generation wildfire sprinkler system adresses the issue by activating before the fire is threatening the structure. Frontline's fire tracking software turns on automatically when fire is within seven miles of the home, or in this case the masonry wall. Once active, the system saturates your property with water and biodegradable firefighting foam, creating an environment that is too wet to burn. When I retired in 2014 the fire service was equipping fire engines with foam to be used before the fire threatened the structure. The thermal resistance properties allows firefighters to foam a structure and its vegetation and move on to another home. The Frontline System does the same thing without firefighter intervention.

The westerly aspect of the vegetation in this case would not be impacted by the Santa Ana wind event as it would be with an easterly aspect.

CHAPTER 8. CONCLUSION

This FPP is submitted in support of an application for project entitlement of the Gannon Tidwell project. It is submitted in compliance with requirements of the County's and the City of Encinitas requirements for FPP content. The requirements in this document meet fire safety, building design elements, fuel management/modification, and landscaping recommendations of the County of San Diego and the City of Encinitas. Where the

project does not strictly comply with the Code, such as with the fuel modification zone widths, mitigation has been proposed that provides functional equivalency as the code intent.

Fire and Building Codes and other local, county, and state regulations in effect at the time of each building permit application supersede these recommendations unless the FPP recommendation is more restrictive.

The recommendations provided in this FPP have been designed specifically for the proposed construction of the proposed structures that are adjacent to open space and are in a Very High Fire Hazard Severity Zone. The project site's fire protection system includes a redundant layering of protection methods that have been shown through post-fire damage assessments to reduce risk of structural ignition and compensate for fuel modification area reduction. The proposed structures have been provided with additional fire protection measures as detailed in chapters 4,5 and 6 to compensate for the reduced fuel modification zones. Maintenance includes removing all dead and dying materials and maintaining appropriate horizontal and vertical spacing. In addition, plants that establish or are introduced to the fuel modification zone that are not on the approved plant list shall be removed.

Ultimately, it is the intent of this FPP to guide, through code and other project specific requirements, the construction of structures that are defensible from wildfire and, in turn, do not represent significant threat of ignition source from the adjacent native habitat. It must be noted that during extreme fire conditions, there are no guarantees that a given structure will not burn. Precautions and mitigating actions identified in this report are designed to reduce the likelihood that fire would impinge upon the proposed structures. There are no guarantees that fire will not occur in the area or that fire will not damage property or cause harm to persons or their property. Implementation of the required enhanced construction features provided by the applicable codes and the mitigating fuel modification requirements provided in this FPP will accomplish the goal of this FPP to assist firefighters in their efforts to defend these structures and reduce the risk associated with this project's WUI location. For maximum benefit, the developer, contractors, engineers, and architects are responsible for proper implementation of the concepts and requirements set forth in this report. Homeowners are responsible for maintaining their structures, and lots as required by this report and the applicable Fire Code, and the City of Encinitas.

Typically, once a home gets final approval and occupancy, homeowners forget about the plan and the requirements. This plan must include maintaining the landscape and structural components according to the appropriate standards and embracing a “Ready, Set, Go[1]” stance on evacuation. Accordingly, occupants should evacuate the residence and the area as soon as they receive notice to evacuate, or sooner, if they feel threatened by wildfire or structure fire in a nearby residence. The homeowner should also activate the

Frontline Wildfire Defense system fire sprinklers if they have not already been activated. Fire is a dynamic and somewhat unpredictable occurrence, and it is important for residents to educate themselves on practices that will improve their home survivability and their personal safety. International Fire Chiefs Association “Ready, Set, Go” website link: http://wildlandfiresg.org/

The project is infill in nature and the building of this project would result in increased wildland fire resistance to the surrounding homes and neighborhood. The open space to the west will always pose a wildland fire threat to the homes that border the drainage. Any proposed new homes that border these open space drainages need to be built with increased, (more than the code requires), wildland fire resistance in mind.

The location of the project with a westerly aspect and surrounded by estate homes to the north, east and south provided built in fire protection. If the home had an easterly aspect the home would not have enough fire protection and would be a conduit for fire to spread to the other homes. The location of the project in relation to the open space drainage along with the additional requirements listed in this Fire Protection Plan will result in the structures having improved survivability from fire and reduce the chance of ignition. In its overall fire hazard assessment of the project and the implementation of the mitigation measures prescribed, it is the expert assessment by *Sid Morel of Santa Margarita Fire Consulting, LLC,* that the Tidwell project is better than what is prescribed in the California Fire Code in terms of quality, effectiveness, fire resistance, durability, and safety.

Preparer and persons that assisted in developing this plan:

Sid Morel of Santa Margarita Fire Consulting, LLC.
Dave Bacon, Retired USFS Division Chief and Fire Behavior Specialist
Ed Jones, Captain North County Fire Protection District

PREPARED BY:	PROPERTY OWNER:
Santa Margarita Fire Consulting, LLC	Property Owner Name
Signature	Signature
President	Gannon Tidwell/Owner
Name / Title	Name / Title
January 24, 2024	2/23/2024
Dated	Dated

References

Alexander, M.E.; B.J. Stocks, B.M. Wotton, M.D. Flannigan; J.B. Todd; B.W. Butler, R.A. Lanoville. 1998. The international crown fire modeling experiment: an overview and progress report. In: Proceedings of the second symposium on fire and forest meteorology; 1998 January 12–14; Phoenix, Arizona. Boston, Massachusetts: American Meteorological Society; 20–23.

Anderson, Hal E. 1982. Aids to Determining Fuel Models for Estimating Fire Behavior. USDA Forest Service Gen. Tech. Report INT-122. Intermountain Forest and Range Experiment Station, Ogden, Utah.

Andrews, Patricia L., Collin D. Bevins, and Robert C. Seli. 2004. BehavePlus fire modeling system, version 3.0: User's Guide. Gen. Tech. Rep. RMRS-GTR-106 Ogden, Utah: Department of Agriculture, Forest Service, Rocky Mountain Research Station. 132p.

Biswell, Harold H. 1989. Prescribed Burning in California Wildlands Vegetation Management. University of California Press, Berkeley and Los Angeles, California. 255 p.

Bowman, R. 1973. Soil Survey of the San Diego Area. USDA in cooperation with the USDI, UC Agricultural Experiment Station, Bureau of Indian Affairs, Department of the Navy, and the U.S. Marine Corps.

Butler, B.W., J. Cohen, D.J. Latham, R.D. Shuette, P. Spoko, K.S. Shannon, D. Jimenez, and L.S. Bradshaw. 2003. Measurements of radiant emissive power and temperatures in crown fires. Canadian Journal of Forest Research. 34:1577–1587.

CAL FIRE. 2013. Fire and Resource Assessment Program. California Department of Forestry and Fire. Website access via http://frap.cdf.ca.gov/data/frapgismaps/select.asp?theme=5.

City of Encinitas. (2020, January 25). *The City of Encinitas .* Retrieved from The City of Encinitas : https://encinitasca.gov/Government/Departments/Public-Safety

Cohen, Jack D. 1995. Structure ignition assessment model (SIAM). In: Weise, D.R.; Martin, R.E., technical coordinators. Proceedings of the Biswell symposium: fire issues and solutions in urban interface and wildland ecosystems. 1994 February 15–17; Walnut Creek, CA. Gen. Tech. Rep. PSW-GTR-158. Albany, California:

Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 85–92

Cohen, J.D. 2000. Preventing disaster: home ignitability in the wildland-urban interface. Journal of Forestry 98(3): 15–21.

Cohen, J.D. and B.W. Butler. 1996. Modeling potential ignitions from flame radiation exposure with implications for wildland/urban interface fire management. In: Proceedings of the 13th conference on fire and forest meteorology. October 27–31; Lorne, Victoria, Australia. Fairfield, Washington: International Association of Wildland Fire.

Cohen, J.D. and J. Saveland. 1997. Structure Ignition Assessment Can Help Reduce Fire Damages in the W-UI. Fire Management Notes 57(4): 19–23.

Cohen, Jack and Steve Quarles. 2011. Structure Ignition Assessment Model; The Origins and Basis of SIAM. From presentation at the 2011 NFPA Wildland Fire - Backyard and Beyond Conference in October 2011.

Dennison, Phillip, Kraivut Charoensiri Dar A. Roberts, Seth H. Peterson, and Robert O. Green. 2006. Wildfire Temperature and Land Cover Modeling Using Hyperspectral Data. Center for Natural & Technological Hazards, University of Utah, University of California Santa Barbara and Jet Propulsion Laboratory. 36 pp.

Foote, Ethan I.D.; Gilless, J. Keith. 1996. Structural survival. In: Slaughter, Rodney, ed. California's I-zone. Sacramento, California: CFESTES; 112–121.

Fish and Wildlife; San Diego County Fire Chiefs, San Diego, California 1997

Howard, Ronald A., D. Warner North, Fred L. Offensend, Charles N. Smart. 1973. Decision analysis of fire protection strategy for the Santa Monica mountains: an initial assessment. Menlo Park, CA: Stanford Research Institute. 159 p.

Institute for Business and Home Safety (IBHS). 2008. Megafires: The Case for Mitigation. 48 pp.

International Code Council, Inc. 2012. International Wildland-Urban Interface Code: Appendix G – Self-Defense Mechanism. April 2011.

Manzello, Samuel, R. Gann, S. Kukuck, K. Prasad, and W. Jones. 2007. An Experimental Determination of a Real Fire Performance of a Non-Load Bearing Glass Wall Assembly. National Institute of Standards and Technology. 13 pp.

NFPA 285. Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components. 2012 Edition.

Peturske, S. (2019, May 9). Five Years Later, Carlsbad Officials recall Poinsettia Fire . Carlsbad , CA, United States .

Rothermel, R. C. (1983). *How to Predict the Spread and Intensity of Forest and Range Fires.* Ogden: United States Department of Agriculture, Forest Service .

Scheidt, V. N. (2023). *Biology Report .* San Diego: Vincent N. Scheidt.
(Fish and Wildlife and San Diego County Fire Chiefs , 1997)

APPENDIX A

BehavePlus 6.0.0 (Build 626 Beta 3)

FM9 NE 50mph
Head Fire
Sun, Oct 16, 2022 at 17:25:58

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		9
Fuel Moisture		
1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	
Live Woody Fuel Moisture	%	
Weather		
Midflame Wind Speed (upslope)	mi/h	20
Terrain		
Slope Steepness	%	30
Notes		
NE 50mph FM9 treated landscape		

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Head Fire

Results

Output Variable	Value	Units
Surface Fire Rate of Spread	148.7	ft/min
Surface Fireline Intensity	1210	Btu/ft/s
Surface Fire Flame Length	11.8	ft

End

BehavePlus 6.0.0 (Build 626 Beta 3)

FM9 SW25 MPH

Head Fire

Sat, Oct 15, 2022 at 14:24:42

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		9
Fuel Moisture		
1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	
Live Woody Fuel Moisture	%	
Weather		
Midflame Wind Speed (upslope)	mi/h	10
Terrain		
Slope Steepness	%	30

Notes

Fuel Model 9 chosen to represent treated fuels.

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Head Fire

Results

Output Variable	Value	Units
Surface Fire Rate of Spread	47.5	ft/min
Surface Fireline Intensity	387	Btu/ft/s
Surface Fire Flame Length	7.0	ft

End

BehavePlus 6.0.0 (Build 626 Beta 3)

SCAL18 50mph
Head Fire
Thu, Oct 13, 2022 at 09:56:33

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		SCAL18
Fuel Moisture		
1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	5
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50
Weather		
Midflame Wind Speed (upslope)	mi/h	20
Terrain		
Slope Steepness	%	30
Notes		

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].

Fire spread is in the HEADING direction only [SURFACE].

Wind is blowing upslope [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

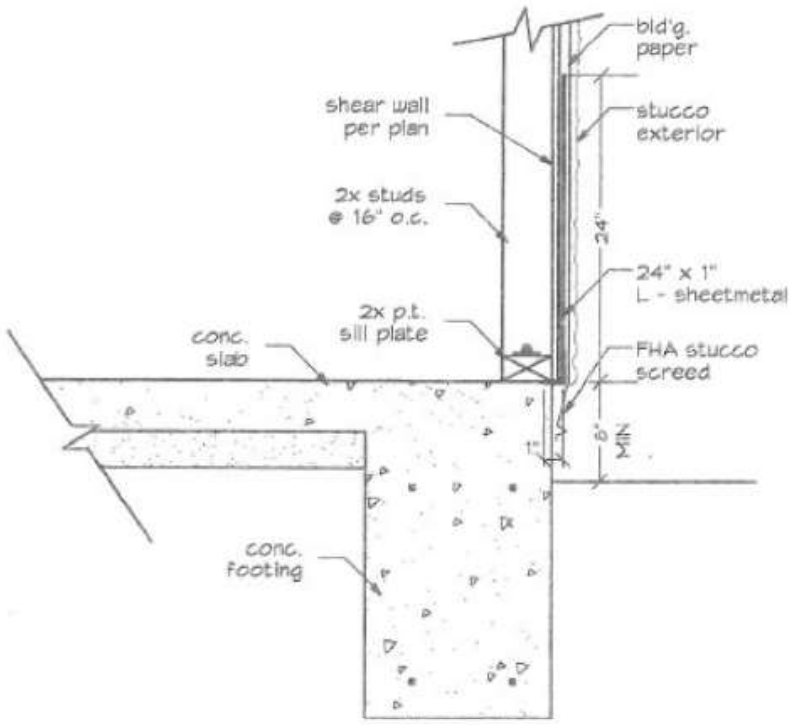
Head Fire

Results

Output Variable	Value	Units
Surface Fire Rate of Spread	251.6	ft/min
Surface Fireline Intensity	18277	Btu/ft/s
Surface Fire Flame Length	41.1	ft

End

Appendix B



F1 FIREBLOCK

1" = 1'-0"

Stackwall Manufacturing, Inc.
Installation Guide for Walls UP TO 6 FEET TALL

Items Required

- Tape measure
- Level
- Post hole digger
- Shovel
- Wheelbarrow
- Line for laying out the site
- Ready mix concrete for footings
- Skill saw or grinder w/ diamond blade

Before You Start

1. Measure fence footage and locate gate placement
2. Call DigAlert - 811 at least 2 working days prior to start the excavation to have underground utilities marked prior to digging. One easy phone call to 811 starts the process to get your underground utility lines marked for free. When you call 811 from anywhere in the country, your call will be routed to your local One Call Center. Local One Call Center operators will ask you for the location of your digging job and route your call to affected utility companies. Your utility companies will then send a professional locator to your location to mark your lines within a few days. Once your underground lines have been marked, you will know the approximate location of your utility lines and can dig safely, because knowing what's below protects you, homeowners and business owners.
   More information you can get at www.digalert.org.

Design Criteria

The fence design and installation condition are based on:

- Max wind speed 105 mph (3s Gust)
- Max spectral response acceleration parameter at period of 1s, Sds = 2.500
- Soil Class 5 per Table 1804.A2 2010 California Building Code (worst case of soils conditions)

Laying Out the Jobsite

1. Mark each corner of the area you are working on. Pound a stake into the ground at each spot where the posts will go.
2. Run a string around the perimeter of your fence line. This will identify potential problems with hedges, trees, and other objects. Please remember, that the violation of the property line is against the law. So make an agreement with the neighbor(s) or follow the instructions per Figure 1.

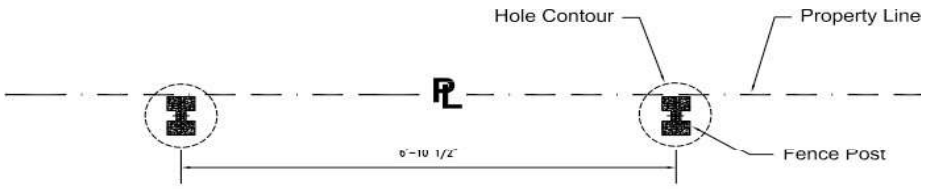


Figure 1. Required Post Location

Regular Soil Post Hole Size Specifications:

1. Posts should be 82.5" apart from center to center of each hole/post
2. For a fence up to 6 feet tall, hole must be 12" in diameter and 32" deep
3. Use a posthole auger or digger to make a hole at the post site.
4. Put 2 to 3 inches of gravel in the bottom of the hole for drainage

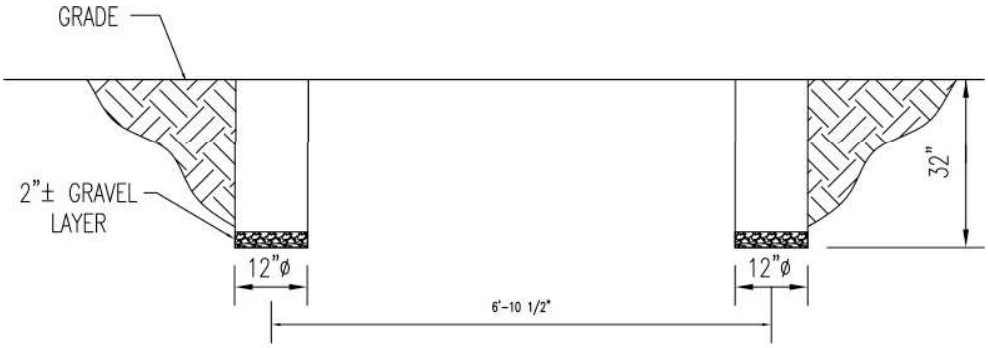


Figure 2. Required Footing Pit Spacing

Installing Posts

1. Place post in center of hole. Each post weight 250 to 330 lbs.
2. Make sure post "H" shape is aligned correctly with all other posts facing the designated direction
3. Fill post hole with pre-mixed wet concrete (Pre-mixed concrete: one part cement, two parts sand, three parts gravel. Add enough water to make it thick but not chunky.
4. Pour concrete into the hole up to ground level. Poke the air bubbles out of the concrete with a 1-by-2 board.
5. Level the post with a bubble level
6. Check the level and adjust the post if necessary.
7. Let the posts dry 24 hours before sliding panels in between the posts

Placing Panels

1. Panels can be placed in between the post slots 24 hours after the posts are installed.
2. Most panels weigh between 160 - 230 lbs., depending on the design, so 2 to 3 people are needed to lift and position them. Make sure all panels are oriented the same way. If short panels are needed, they can be cut with the skill saw or diamond blade.
3. Begin with one panel and slide in between the pre-set posts into the "H" shaped lots, vertically. If installing a double-sided design, sanding the edges of the panels with a diamond blade might be needed to fit the panels in place.

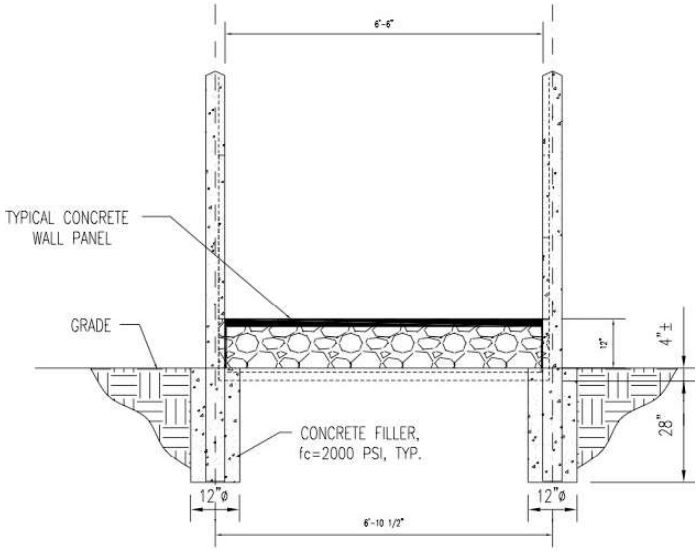


Figure 3. First Panel Installation.

4. Repeat step 3 and stack each panel vertically one on top of the other.

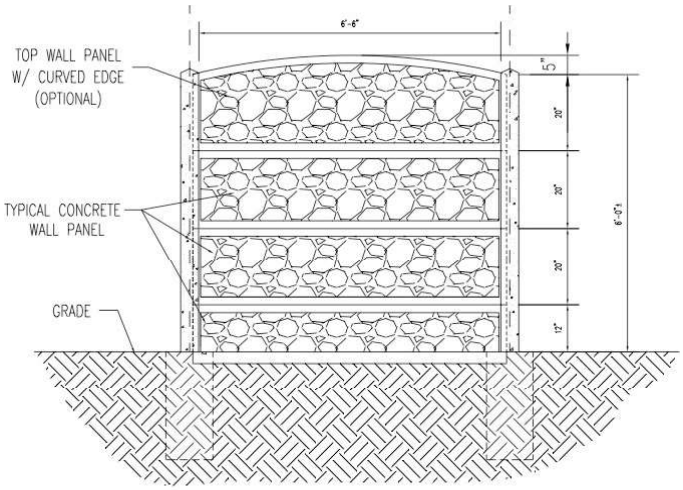


Figure 4. Full Section Installed

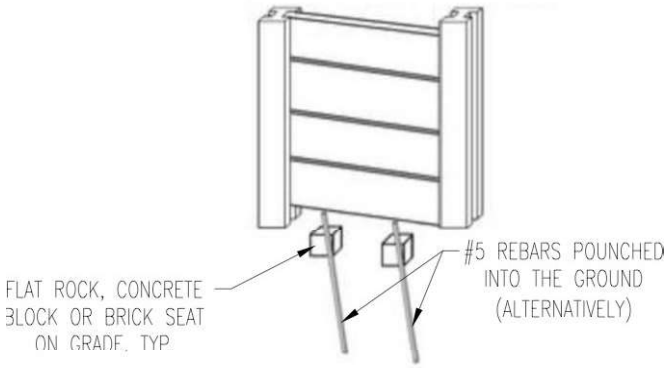


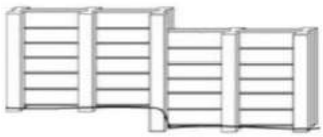
Figure 5. Leveling the Wall Panels.

Stepping with Slope

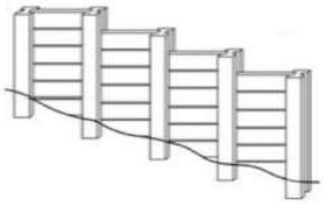
There are two types of stepping that can be done. Which one will be used if often based on personal preference although when there is a relatively steep slope the continuous stepping looks the best. For a severe slope, consider reducing the distance between posts.

Occasional Stepping and Continuous Stepping

When installing posts for occasional stepping, longer posts are required, which depend on the stepping gradient. Posts can be made up to 12' in length total. Depending on the stepping gradient, posts might require being 6' to 8' above the ground. For continuous stepping usually the slope is relatively even and on the high side of the post, thus giving a constant drop or rise of 1 inch per 5 feet.



Occasional Stepping.



Continuous Stepping.

Top Rails

If installing panel toppers with fence, they are installed after panels have been slid into place and wall is complete. Commercial grade Quickrete mortar repair is distributed on the top panel and the top rail is then glued and set into place.

Filling in Gaps Between Panels

Option 1: Natural Concrete Colored Wall
Once the panels are installed, the gaps in between them can be filled with Quickrete mortar repair and smoothed out with a damp sponge.

Option 2: Integrated Color Wall

Once the panels are installed, the gaps in between the colored panels are best filled in with a similar colored grout. Just fill in the gaps and smooth out with a damp sponge.

Optional Washing

After completion, the fence needs to be washed with a light mixture of water/muriatic acid (1" acid in a bucket) using an acid brush obtained at your local hardware store. The acid wash reduces color fluctuations on the wall.

Post Cap Installation

Each decorative post cap is glued using commercial grade Quickrete mortar repair glue and placed on the top of each post.

Painting

Any exterior paint color can be used to color the wall once it is fully complete and installed. A sprayer, a paintbrush or a paint roller can color the wall. It is best to use an exterior masonry paint to ensure longevity of paint.

Frequently Asked Questions

1. How much concrete do you need for wall posts placement?
Usually, about two 90lb. bags of ready-mix concrete are needed to fill each posthole when installing posts.

2. Do I have dig down to exactly a 32” deep hole to install the posts?
Yes, it is important to dig out the exact measurements for each post to ensure proper installation.

3. What if a panel section doesn’t fit exactly and I need a shorter piece?
All panels and all posts can be cut with a concrete diamond blade cutter to fit any piece exactly to where you need it to fit.

For any additional questions, please contact us at:
888-622-9255 Toll Free / 909-397-5350 Direct / 909-397-5352 Fax
info@stackwall.com
149 S. San Antonio Ave., Pomona CA 91766

* For a fence over 6’ tall, StackWall Manufacturing Inc. provides a separate set of installation instructions

Appendix D

From: Kalinowski, Alison (Ali)@Wildlife <Alison.Kalinowski@Wildlife.ca.gov>
Sent: Friday, January 19, 2024 5:03 PM
To: sidmorel@outlook.com <sidmorel@outlook.com>
Cc: Mayer, David@Wildlife <David.Mayer@wildlife.ca.gov>; Zoutendyk, David <David_Zoutendyk@fws.gov>; Curtis, Taylor L <taylor_curtis@fws.gov>; Eng, Anita M <anita_eng@fws.gov>; Wildlife Ask R5 <AskR5@wildlife.ca.gov>; Turner, Jennifer@Wildlife <Jennifer.Turner@wildlife.ca.gov>
Subject: RE: Fire clearing within open space

Hi Sid,

Thank you for reaching out via the Wildlife AskR5 email. My name is Ali Kalinowski and I work in CDFW's Natural Community Conservation Planning (NCCP) group to help review projects in jurisdictions that have an adopted or drafted subarea plan which guide regional development and conservation efforts. I wanted to confirm that CDFW has received your email, and we are reviewing the information you have provided in coordination with staff from U.S. Fish and Wildlife Service (USFWS).

I will be out of the office next week until January 31st, but I will get back to you as soon as I can. I have cc'd my supervisor, Dave Mayer, and folks from USFWS in case they wanted to chime in on the topic in my absence.

Thank you,

Ali

Alison (Ali) Kalinowski
Environmental Scientist
CA Department of Fish and Wildlife
3883 Ruffin Road, San Diego, CA 92123
Alison.Kalinowski@wildlife.ca.gov

Thanks,

Ali

Alison (Ali) Kalinowski
Environmental Scientist
CA Department of Fish and Wildlife
3883 Ruffin Road, San Diego, CA 92123
Alison.Kalinowski@wildlife.ca.gov

From: Sidney Morel <sidmorel@outlook.com>
Sent: Tuesday, January 16, 2024 5:06 AM
To: Wildlife Ask R5 <AskR5@wildlife.ca.gov>
Subject: Fire clearing

> You don't often get email from sidmorel@outlook.com. Learn why this is important

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hello, my name is Sid Morel and I am a retired Fire Marshal and a CEQA approved Wildland Fire Protection Planner. I have two projects going that are constrained from meeting the defensible space clearing requirements due to Open Space issues. Both Fire Marshals I am dealing with want me to check with you regarding the possibility of doing some thinning into the Open Space.

The first project is located at 2901 Wishbone Way in Encinitas and the APN is 264-222-33. I've attached the Bio report for the project. There is presence of Gnatcatcher and Coastal Sage present.

The second project is in the City of Poway off Coyote Creek Trail and the APN is 278-210-28. I don't have the bio yet but have attached a site plan.

I've attached the MOU that has been used in the past to allow clearing to happen.

Please let me know if there is any way to gain some more defensible space beyond the 50-foot buffer.

Thanks,

Sid Morel
Santa Margarita Fire Consulting
760-644-1104

Hi Sid,
I was able to get out and see the site with Vince today. There is definitely a lot of good-quality coastal sage scrub habitat on site. My biggest concerns were:
1) it wasn't clear if fuel mod activities would be conducted prior to site development, and
2) if fuel mod activities would occur in the 50-100ft zone past the planned wall at the ~50ft zone.

From what I understand, there is a 50ft wetland avoidance buffer established by the City of Encinitas so I'm not sure how fuel modification activities are interacting with the buffer at this time. If fuel mod activities are to occur as part of site development (after CEQA) and not prior, then I may leave this project to my CEQA team since the development will be the main focus.
Regardless, please also ensure that you are speaking with the U.S. Fish & Wildlife Service for impacts to coastal CA gnatcatcher habitat. My contact is Taylor Curtis (taylor_curtis@fws.gov)
Please keep me posted,

Jennifer Blackhall
(she/her, Miss/Ms.)