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OFFICE OF CAMPUS PLANNING & DESIGN

March 2021

Draft

Initial Study/

Mitigated

Negative Declaration

Santa Cruz Island Reserve Development Plan Project

University of California at Santa Barbara
Natural Reserve System

Santa Cruz Island Reserve
Development Plan Project

Draft
Initial Study and Mitigated Negative Declaration

Prepared For

University of California, Santa Barbara
Office of Campus Planning and Design
Santa Barbara, California 93106-2032

Prepared By
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Santa Barbara, California

March, 2021

UNIVERSITY OF CALIFORNIA at SANTA BARBARA
NATURAL RESERVE SYSTEM

SANTA CRUZ ISLAND RESERVE DEVELOPMENT PLAN PROJECT

INITIAL STUDY and MITIGATED NEGATIVE DECLARATION

CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

This Initial Study (IS) and proposed Mitigated Negative Declaration (MND) has been prepared for the University of California Santa Barbara Natural Reserve System Santa Cruz Island Reserve Development Plan Project (the "Project") in compliance with the California Environmental Quality Act (CEQA) Statute and Guidelines (Public Resources Code Section 21000 et. seq. and California Code of Regulations Title 14, Chapter 3 Sections 15000–15387, respectively.

1.1 PROJECT OVERVIEW

Proposed Project. The University of California Board of Regents established the University of California (UC) Natural Reserve System (NRS) in 1965 to provide protected environments (Reserves) that represent California's natural habitats for the purposes of research, education and public service. The UC Santa Barbara Natural Reserve System (UCSB NRS) manages seven Reserves, including the Santa Cruz Island Reserve (SCIR). The SCIR was inducted into the NRS in 1973, but has been operational as a UCSB field station since 1966. The SCIR provides access, assistance, and facilities to researchers and classes for studies of the northern Channel Islands, with special emphasis on Santa Cruz Island.

Existing field station facilities are well maintained, but aging, and housing to accommodate SCIR staff members and researchers conducting studies on the island is limited. Additionally, shower and bathroom facilities are limited and aging. The SCIR Development Plan Project would replace one Reserve staff residence, provide one additional Reserve staff residence, remodel the interior of the existing restroom/shower building, develop new overnight accommodations for senior-level research users, and make associated upgrades to existing infrastructure and utilities that accommodate existing and proposed facilities. All project-related development would be located in the vicinity of existing field station facilities.

Project Location. The SCIR Development Plan Project site is located on Santa Cruz Island, which is roughly 25 miles off the coast of Southern California and part of Santa Barbara County (Figure 1.1-1). The project site is at the SCIR field station, which is located near the center of the island in the Central Valley that runs east to west across the island (Figure 1.1-2).

1.2 PROJECT INFORMATION

Project Title:	Santa Cruz Island Reserve Development Plan Project
Lead Agency Name and Address	The Regents of the University of California 1111 Franklin Street, Oakland, CA 94607
Contact Persons:	Shari Hammond, Principal Planner, Campus Planning and Design, (805) 893-3796 Marion Wittmann, Ph.D., Executive Director, UCSB Natural Reserve System (805) 893-6179
Project Location	The proposed Project is located at the Santa Cruz Island Reserve Field Station
Project Sponsor:	University of California, Santa Barbara Natural Reserve System, Santa Barbara, CA 93106-2030
Custodian of the Administrative Record	Office of Campus Planning and Design University of California, Santa Barbara
Previous EIRs from which this Initial Study Tiers:	None

1.3 PROJECT BACKGROUND

The University of California Natural Reserve System (UC NRS) was established in 1965 and is a network of 41 protected natural areas located throughout the State that provide environments for research, education, and public service programs. Each Reserve is assigned to one of nine participating UC campuses for administration.

The UCSB NRS manages seven Reserves: Carpinteria Salt Marsh Reserve, Coal Oil Point Reserve, Santa Cruz Island Reserve, Sedgwick Reserve, Kenneth S. Norris Rancho Marino Reserve, Sierra Nevada Aquatic Research Laboratory, and Valentine Camp Reserve. The ecosystems and facilities of each Reserve are available, by application, to faculty, researchers, and students from all UC campuses, and to users from other institutions, public or private.

The SCIR was inducted to the UC NRS in 1973, and evolved from UCSB's Channel Islands Field Station, which was formed in 1966. The primary purpose of the Reserve has been to facilitate research and instruction through provision of site-specific expertise, overnight

accommodations and transportation around the island. Use of the Santa Cruz Island Reserve is limited to research, educational and public service purposes.

1.4 ENVIRONMENTAL SETTING

Santa Cruz Island. Santa Cruz Island is the largest of the Channel Islands, covering 96 square miles and with over 77 miles of coastline. The island is approximately 24 miles long and from two to six miles wide. A central valley splits the island along the Santa Cruz Island fault, with volcanic rock on the north side and older sedimentary rock on the south. As the largest of the eight Channel Islands, it supports more terrestrial wildlife species than the other Channel Islands. In correlation with its area, Santa Cruz Island displays the greatest diversity of vegetation and topography of all of the Channel Islands. The eastern portion (24 percent) of the island is managed by the National Park Service, while the remaining 76 percent of the island is owned and managed by The Nature Conservancy (TNC). The SCIR is located on the portion of the island owned by The Nature Conservancy. A map of Santa Cruz Island depicting the island's ownership boundaries is shown on Figure 1.4-1. The island has been collaboratively owned by TNC and NPS since 1997.

On the portion of the island owned by the National Park Service, improvements include several trails, two public campgrounds, the historic Smugglers' and Scorpion ranches, boat docks at Prisoners' Harbor and Scorpion Harbor, a ranger station, and a small U.S. Navy communications facility (an inholding of The Nature Conservancy). The portion of the island owned by The Nature Conservancy includes the historic Main Ranch complex (dating from 1864), another set of ranch buildings known as Christy Ranch, the SCIR field station, and two airstrips. Dirt roads traverse the island.

Existing Field Station Facilities and Operations. The SCIR field station site is located near the center of Santa Cruz Island, on the lower edge of the north-facing slope of the island's central valley. The topography of the site consists of small ridges and a valley perpendicular to the east-west trending main central valley. The field station contains buildings, small roadways, and previously farmed areas that are now dominated by fennel and non-native grasses. The site is south of and adjacent to a stream that runs through the central valley. The stream flows intermittently during the winter and spring rainy season, then slowly disappears during the dry summer months.

The field station buildings were constructed between 1967 and 1987 and are arranged across a site approximately 20 acres in size. A main cluster of buildings in the central portion of the station includes a garage/bathroom facility, a dorm building with bunk beds for approximately 25 visitors, two trailers divided into three single-occupancy bedrooms each that may be used by senior researchers and faculty, a kitchen, office, library, laboratory, and a classroom. A director's residence is located approximately 500 feet southwest of the main cluster of buildings, and a steward's residence is located approximately 600 feet to the south. The locations of the existing field station buildings are shown on Figure 1.4-2, and Figures 1.4-3, -4 and -5 include representative views of field station buildings.

The field station operates year-around to provide accommodations for researchers and field classes. All staff and overnight users must stay in the field station facilities**.** Overnight visitors must also bring their own food, toiletries, and bedding. Each year, the SCIR is used by approximately 1,000 users over 5,000 user days.

Utilities. Domestic water is provided by two wells that are shared with The Nature Conservancy and are located approximately 1,000 feet east of the field station. Water from the wells is pumped through a 1.5-inch pipeline and is distributed to the main cluster of field station buildings, the director's residence, the steward's residence, and a 22,000-gallon storage tank located approximately 0.6 mile to the west of the field station. Wastewater produced at the field station is treated and disposed by two septic systems.

A limited amount of electricity is available at the field station that is produced by the photovoltaic system located at The Nature Conservancy's Main Ranch. Existing battery storage and a backup diesel generator that are also operated by The Nature Conservancy supplement the photovoltaic system. Small photovoltaic panels are also located at the field station to provide electricity for the SCIR director's and steward's residences.

Propane is used at the field station primarily for cooking purposes. Hot water is primarily supplied using solar water heating systems, however, propane is also used to supplement solar heating during the winter months. Propane used at the field station is delivered by the National Park Service by their boat that travels to the island on a weekly basis.

Access. Transportation to Santa Cruz Island is available to the public and is provided by Island Packers, a commercial ferry operation and authorized concessioner of the Channel Islands National Park that conducts regularly scheduled trips from the Ventura Harbor to Scorpion and Prisoners' Harbors on the island. The SCIR field station is in the island's central valley, approximately 3.2 miles from Prisoners' Harbor. Vehicle access to the field station from Prisoners' Harbor is along the island's central valley road, and transportation between the Harbor and the field station is provided by field station staff using the station's vehicles. With prior approval from the SCIR Director and The Nature Conservancy, air transportation to the island can be provided by Channel Islands Aviation, which is located at the Camarillo Airport in Ventura County.

1.5 PROJECT OBJECTIVES

The proposed SCIR Development Plan Project is intended to support the programs of the SCIR, including the activities and partnerships with The Nature Conservancy and the National Park Service. The objectives of the Project are to:

- Provide new and enhanced facilities within the existing footprint of the SCIR field station.

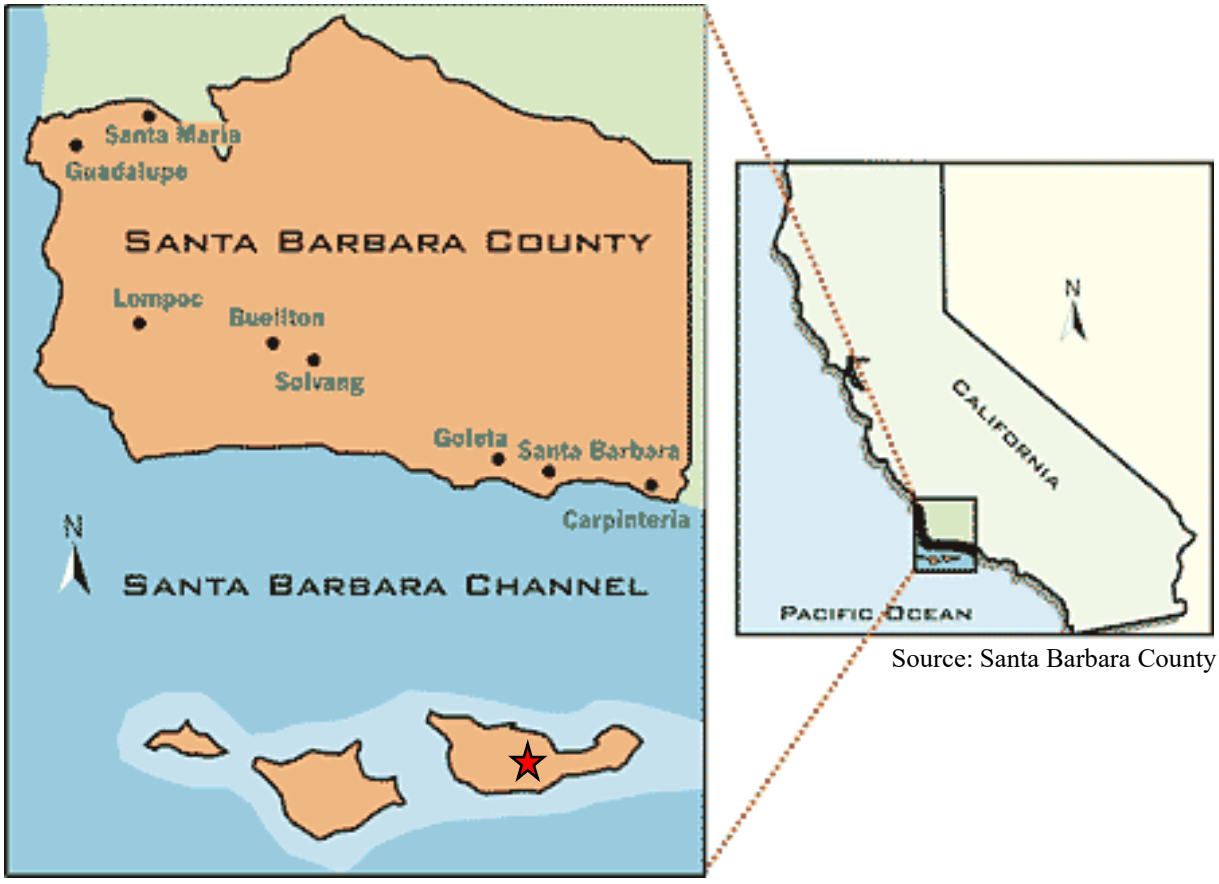
- Construct new housing for existing Reserve staff.

- Construct new accommodations for senior-level research users to meet existing demands for overnight facilities.

1.6 REQUIRED PERMITS AND APPROVALS

The University of California is the Lead Agency for the SCIR Development Plan Project and is responsible for complying with the requirements of CEQA. The UCSB Chancellor is the Lead Agency decision-maker for the Project. The proposed Project has received approval from The Nature Conservancy, which owns the land where the field station is located.

The Coastal Commission will review the SCIR Development Plan Project and approval by the Commission is required. The UCSB NRS will seek the Coastal Commission's approval of the Project by requesting approval of a Coastal Development Permit.



Source: Santa Barbara County

★ **Santa Cruz Island Reserve Project Site**

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.1-1

Project Region

Santa Cruz Island Reserve Field Station Location

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.1-2

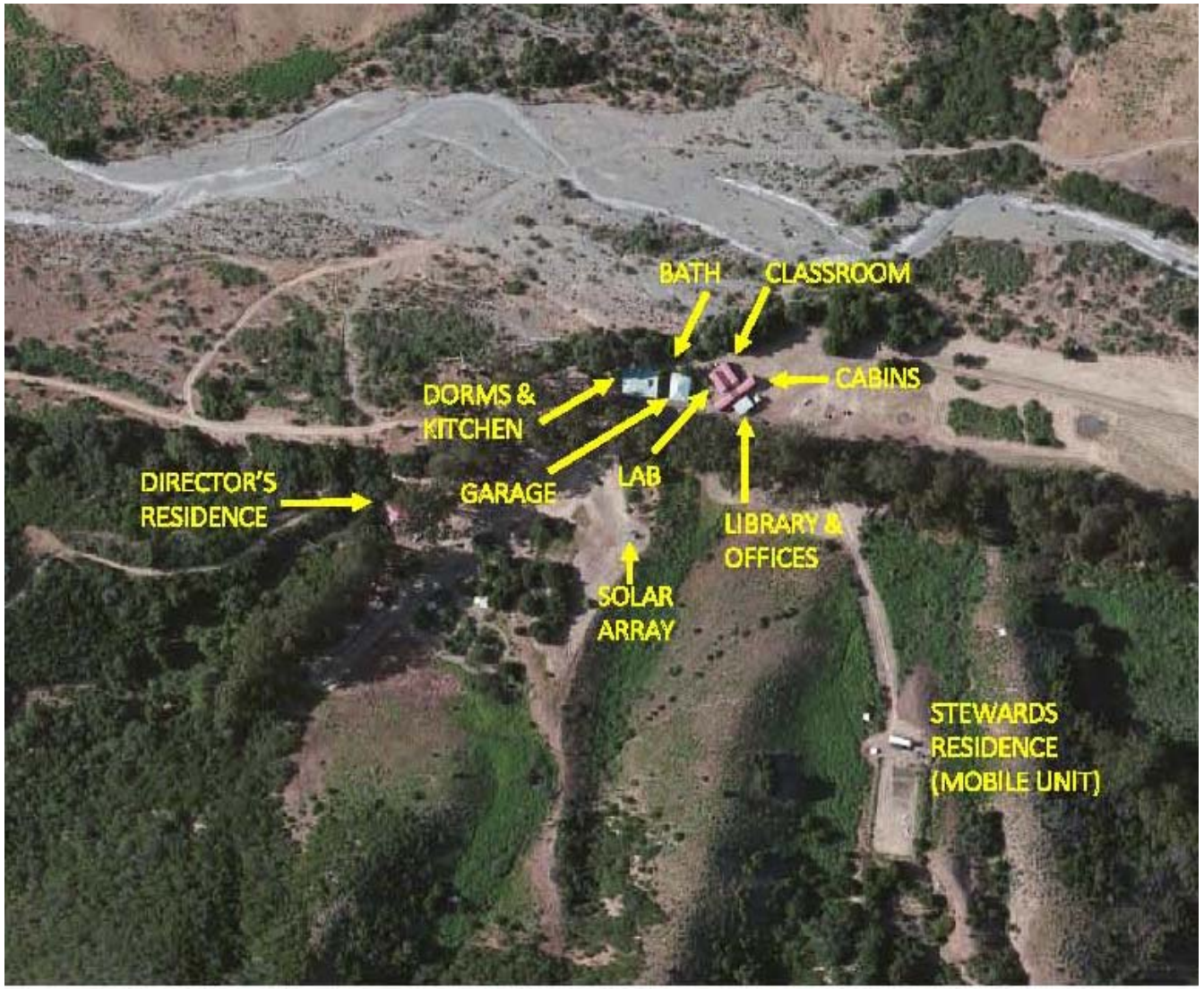
Santa Cruz Island Reserve Field Station Location

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.4-1

Santa Cruz Island and Ownership Boundaries



UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.4-2

Santa Cruz Island Reserve Field Station Facilities

Photo 1. The field station classroom building is the structure on the left and the station's laboratory is the structure on the right.

Photo 2. The field station cabins with private bedrooms are located in the structure to the left. The classroom building is the structure on the right.

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.4-3

Field Station Photos

Photo 3. The field station restroom and shower building.

Photo 4. Existing steward's residence that is to be relocated and used as a storage structure.

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.4-4

Field Station Photos

Photo 5. Field station buildings. The main field station building is on the left. The garage and restroom/shower building is on the right.

Photo 6. Field station main building.

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 1.4-5

Field Station Photos

2.0 PROJECT DESCRIPTION

This section describes the design and use characteristics of the proposed SCIR Development Plan Project.

2.1 PROJECT LOCATION

The proposed Project is located at the Santa Cruz Island Reserve field station, on Santa Cruz Island, roughly 25 miles off the coast of Southern California. The field station is located near the center of the island in the Central Valley that runs east to west. The field station is approximately 3.2 road miles from Prisoners' Harbor, which is the primary access location for the station. The field station is approximately 0.5 mile west of the historic Main Ranch complex. Figure 2.1-1 shows the Project site and surrounding areas.

2.2 PROPOSED PROJECT

The proposed Project includes three major elements:

- The construction of two new staff residences and associated utility infrastructure, and the relocation of the existing steward's residence.
- Interior upgrades to the field station's existing restroom and shower facility.
- Construction of new researcher accommodations and associated utility infrastructure.

All Project-related development would occur within the approximate 20-acre area that has been developed with field station buildings and facilities. The location of the proposed staff residences, the existing restroom and shower building, and proposed researcher accommodations are shown on Figure 2.2-1 and Figure 2.2-2. Detailed descriptions of each Project element are presented below.

2.2.1 Proposed Staff Residences

Two new residences that would be occupied by existing SCIR staff are proposed to be located south of and adjacent to the location of the existing SCIR steward residence. The existing residence would be moved approximately 480 feet north of its present location to a site adjacent to the field station access road. The relocated residence would be used for tool and equipment storage.

The area that would be used for the new staff residences slopes gently to the north, and ranges in elevation from approximately 312 feet above sea level in the southern portion of the site

to approximately 288 feet in the northern portion. Slopes that are adjacent to the western and eastern sides of this project area rise approximately 30 to 50 feet above the site. A small ephemeral drainage is located between the new residences site and the adjacent slope to the east, approximately 25 feet east of the closest proposed residence. This drainage flows to another ephemeral drainage that is approximately 85 feet to the east. The area that would be used for the construction of the proposed residences has been used as a garden and non-native grasses throughout this project area are mowed regularly.

Each of the proposed residences would have two bedrooms, two bathrooms, and a kitchen. One of the residences would be approximately 1,000 square feet, and the other would be approximately 1,200 square feet. The 1,200-square foot residence would also have a laundry and office. The proposed residences would be constructed using metal shipping containers, also known as "shipping container homes" that are pre-fabricated at an off-site location. These types of residences are cost efficient, able to be delivered to the island and transported to the field station, are rodent and fire resistant, and are durable. Both of the new residences would have a maximum height of 14 feet, and the exterior colors would be neutral tones that are compatible with surrounding vegetation.

Foundations for the new residences would be metal screw piles with connecting girder beams that the containers are set on. This construction method minimizes grading required for foundation preparation and construction. Access to the new field station residences would be along the road that provides access to the existing steward's residence. This unpaved road currently extends southward approximately 500 feet from the main central valley road that provides access between the field station and Prisoners' Harbor. The existing field station road would be extended approximately 160 feet to the south so that it serves both of the new residences.

A detailed site plan depicting the proposed residences is shown on Figure 2.2-3. Elevations and floor plans for the new residences are on Figure 2.2-4.

2.2.2 Restroom and Shower Facility Upgrade

The field station has only one restroom and shower facility available for use by persons visiting the field station. The existing facility has two toilets and two showers each for men and women. The facility is aging and upgrades are needed to accommodate field station users. The restroom and shower facility, along with an adjacent garage that is part of the same structure, are located within the main cluster of field station buildings in the northern part of the field station (Figure 2.2-2). The restroom and shower facility, along with all of the field station buildings within the main cluster of buildings, is located at an elevation of approximately 245 feet above sea level and within the designated 100-year floodplain of the steam that is north of and adjacent to the field station.

The proposed upgrades to the restroom and shower facility would consist of an interior remodel only, and include improvements such as new fixtures, counters, and partitions. The proposed remodel would not expand the size or "footprint" of the facility.

2.2.3 New Researcher Accommodations

Overnight accommodations at the field station for senior researchers and faculty are presently limited to two trailers divided into three single-occupancy bedrooms each. The proposed Project would provide additional researcher accommodations at a site that is near the western edge of the field station and approximately 200 feet east of the existing Director's Residence. This project site ranges in elevation from approximately 264 to 260 feet above sea level and slopes gently to the south. The ground cover in this project area is non-native grassland that has been mowed regularly.

The proposed researcher accommodations would consist of five private bedrooms, a shared kitchen, bathroom and laundry facilities, and would have a total floor area of approximately 1,070 square feet. The shared facilities would be located in a shipping container structure that is approximately 400 square feet and covered with corrugated metal siding. The five bedrooms and a shared bathroom would be in six separate dome-shaped structures that are constructed of prefabricated panels made of fiber cement or metal that would be assembled at the project site. A new deck would provide access between each of the researcher accommodations structures, and all of the proposed structures would have a maximum height of 15 feet.

Foundations for the researcher accommodations structures would be metal screw piles with girder beams to set the structures on. An existing unpaved access road that leads to the nearby Director's Residence is located on the researcher accommodations project site, and would be relocated approximately 40 feet to the west. The relocated road would continue to provide access to the Director's Residence and would also provide access to the researcher accommodations site.

A detailed site plan depicting the proposed researcher accommodations is on Figure 2.2-5. Elevations and floor plans for proposed structures are on Figure 2.2-6.

2.2.4 Project-Related Infrastructure and Utilities

Water. Water for domestic uses and fire suppression purposes is supplied by two wells that are shared with The Nature Conservancy and located approximately 1,000 feet east of the field station. Water from the wells is pumped through a 1.5-inch pipeline and is then distributed to the field station buildings.

An extension of an existing water supply line would be installed to serve the new staff residences. This line would be located within the proposed new staff residences access road, and would extend approximately 130 feet northward from an existing pipeline that serves the existing steward's residence that is to be relocated. A new water supply line extension to serve the

researcher accommodations would also be installed and extend approximately 150 feet eastward from an existing water pipeline that serves the Director's residence.

Wastewater. Wastewater treatment and disposal at the field station is provided by two on-site waste water treatment (septic) systems. One of the existing systems serves the main cluster of buildings in the northern portion of the field station and existing steward's residence, and the other system serves the Director's Residence.

The Project proposes to install two new septic systems. One system would be located west of and adjacent to the proposed staff residences, and the other would be located north of and adjacent to the researcher accommodations area. The proposed septic tanks would be constructed of fiberglass and transported to Santa Cruz Island by a National Park Service landing craft, a Navy barge depending on availability, or a commercial vessel. The tanks would then be transported to the field station by truck. The locations and layout of the proposed septic systems are depicted on Figures 2.2-3 and 2.2-5.

Electrical Power. Electricity for the field station is produced primarily by photovoltaic solar panels located at The Nature Conservancy's Main Ranch. This system has battery storage and a backup diesel generator that supplement the Ranch and the SCIR field station's electricity supply.

Additional electricity to serve the proposed staff residences and researcher accommodations would be supplied by proposed photovoltaic systems. A 15Kw system would be installed to serve the proposed staff residences, and a 10 to 15 Kw system would be installed to serve the proposed researcher accommodations. The new photovoltaic systems would be mounted on the ground near the existing field station solar panels that are approximately 200 feet south of the main cluster of field station buildings.

Propane. The Project would install six new propane tanks: two tanks adjacent to each of the proposed staff residences, and two tanks adjacent to the new researcher accommodations building. Two tanks are required at each site so one of the tanks can be in operation while the other is being filled on the mainland. Propane tanks would be transported by National Park Service boats that travel to the island once a week.

Fire Protection. The proposed staff residences and researcher accommodations would include wet fire sprinkler systems. California Building Code standards for new construction in a designated fire hazard severity zone will also be implemented. The purpose of these construction standards is to protect life and property by increasing the ability of a building to resist the intrusion of flames or burning embers, and to reduce fire-related losses.

Water stored in the existing 22,000-gallon storage tank located approximately 0.6 miles to the west of the field station would continue to be available to serve the field station and the

proposed new structures. In addition, a new 3,000-gallon water tank to be located south of and adjacent to the southern new staff residence would be installed.

2.3 PROJECT PHASING

Implementation of the SCIR Development Plan would be conducted in three phases. Phase 1 would include construction of the proposed staff residences, along with related improvements such as utility extensions, access road improvements, solar panel installation, and installation of a new water storage tank. Phase 1 of the project also includes the installation of new septic systems for both the staff residences and the future researcher accommodations. Funding for the implementation of Phase 1 has been identified. Phase 2 would result in the construction of the proposed restroom and shower facility interior upgrades. The proposed researcher accommodations would be constructed in Phase 3 of the Project. While Phase 1 is planned to be implemented first, the Project's other two phases may not be carried out in sequential order, and will depend on availability of funding. Overall, it is anticipated that the Project would be completely implemented over a period of approximately 10 years.

2.4 CONSTRUCTION CHARACTERISTICS

Grading. Construction of the proposed staff residences would require approximately 550 cubic yards of grading to extend the existing road to the residences, and to construct a 2h:1v slope with a maximum height of approximately six feet in the southern portion of the staff residences site. Excavated soil from this area would be used to repair the lower portion of the existing access road that leads to the staff residences site. The proposed slope would be revegetated using island-sourced native seeds and plants. The proposed grading plan for the new staff residences is shown on the detailed site plan (Figure 2.2-3).

Approximately 100 cubic yards of grading would be required for the proposed researcher accommodations. Approximately 50 cubic yards of grading would be to relocate the existing access road that extends through the project site, and approximately 50 cubic yards of grading would be required for the proposed building pad. The proposed grading plan for the researcher accommodations is shown on the detailed site plan (Figure 2.2-5).

Erosion control at all graded sites would include the implementation of best management practices, including the installation of silt fences and jute fabric on cut slopes.

Construction Equipment and Material Delivery. The SCIR has requested the services of the U.S. Department of Defense Innovative Readiness Training (IRT) program to deliver the pre-fabricated shipping container homes to the field station. Established in 1993, IRT serves American communities and provides military training opportunities to increase deployment readiness. Training provided by IRT includes a wide variety of construction, health care, transportation, and cybersecurity services.

Each of the pre-fabricated shipping containers used to construct the two proposed staff residences and the researcher accommodations common area would be transported to the field station by helicopter. The shipping containers would either be transported from a barge adjacent to the island, or from a mainland California military base. It is anticipated that a total of seven prefabricated shipping containers, varying in size, would be delivered. After being transported to the field station, each container would either be temporarily placed in an open field located in the northeast corner of the field station, or placed directly onto the prepared structure foundation. Vegetation in the field that would be used for the temporary storage of the containers is mowed non-native grasses, and the temporary placement of the containers in this area would not result in permanent disturbances of the ground surface. Containers that are placed in the field would be transported to the proposed building sites using a crane that is delivered to the island by the National Park Service landing craft.

It is anticipated that other Project-related construction materials would be delivered to the island by a National Park Service landing craft that makes regular trips to the island. It is also anticipated that most other equipment needed to construct the Project is currently located on the island, including equipment at the field station and equipment used by The Nature Conservancy at their facilities on the island.

Sustainability Characteristics. The Project will seek a variance from the UC Sustainable Practices Policy that generally requires all new building construction to achieve LEED-Silver certification. Given the Project's remote location and primarily prefabricated components, many of the location-based provisions of the LEED rating system will be impractical or inapplicable. Sustainability will be an underlying principle of the Project's design and construction, and while the Project will not seek formal LEED certification, the proposed buildings would meet all LEED standards for energy and water use reduction, responsible materials use, and indoor air quality. Further, the project will target zero-net energy use and minimization of fossil fuel use by maximizing solar energy generation and electrifying heating and hot water systems.

2.5 FIELD STATION VISITATION CHARACTERISTICS

The SCIR is open to groups and individuals with a research interest or teaching need. Despite a seasonal climate, which affects access and use during winter and early spring months, use of the SCIR field station has ranged from 667 to 1,426 users and 3,440 to 8,171 person-days per year, averaging 1,000 users and approximately 5,000 person-days per year, since 2001. Housing and common spaces are nearly fully occupied from approximately March to November of each year. It is an objective of the Project to add new accommodations and facilities for long-term research users within the footprint of the Santa Cruz Island Reserve field station to meet existing demands for overnight facilities. It is not anticipated that the Project would result in an increase in the number of persons that use the field station on an annual basis.

Field Station Boundary

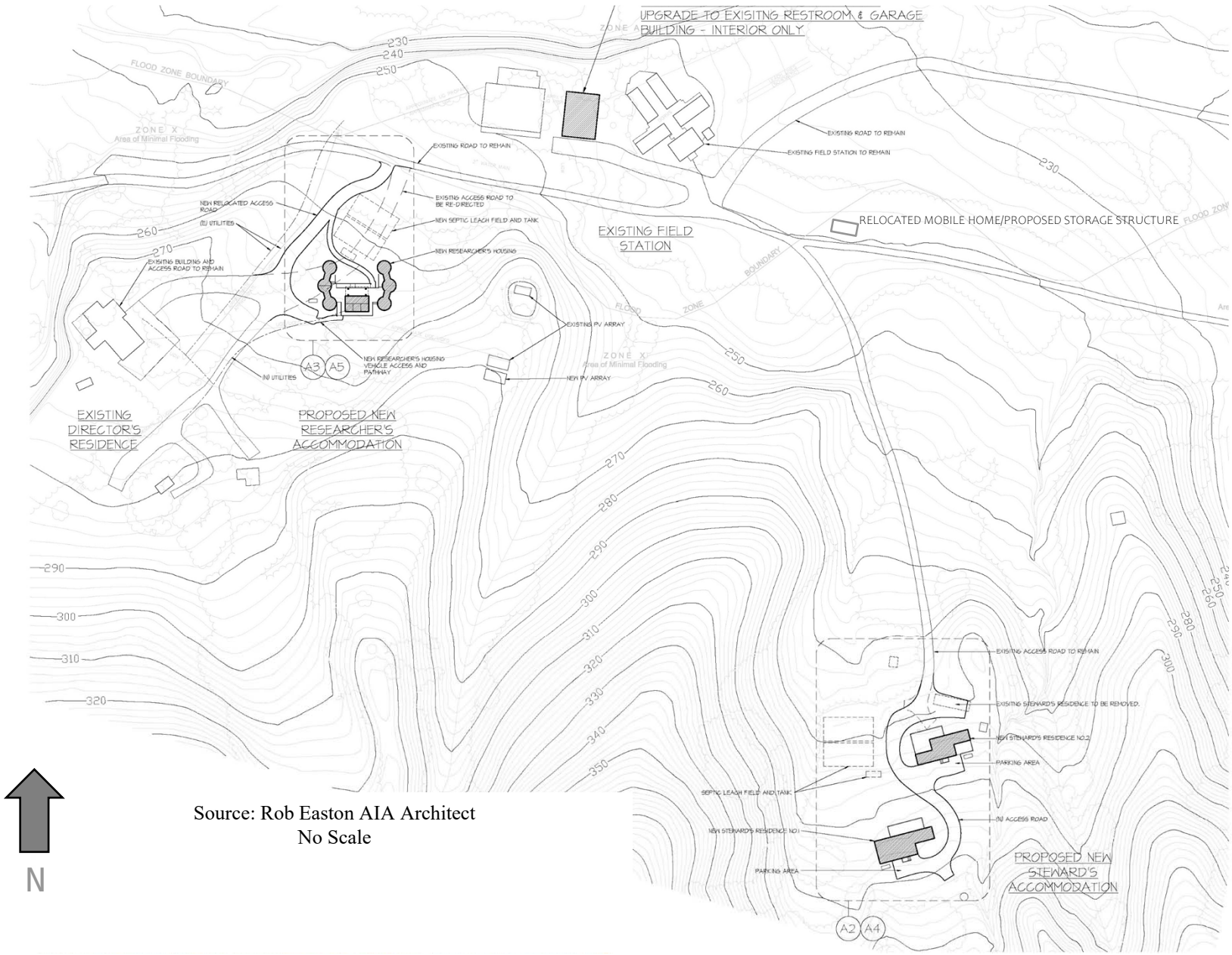
Area of Detail

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 2.1-1

Project Area



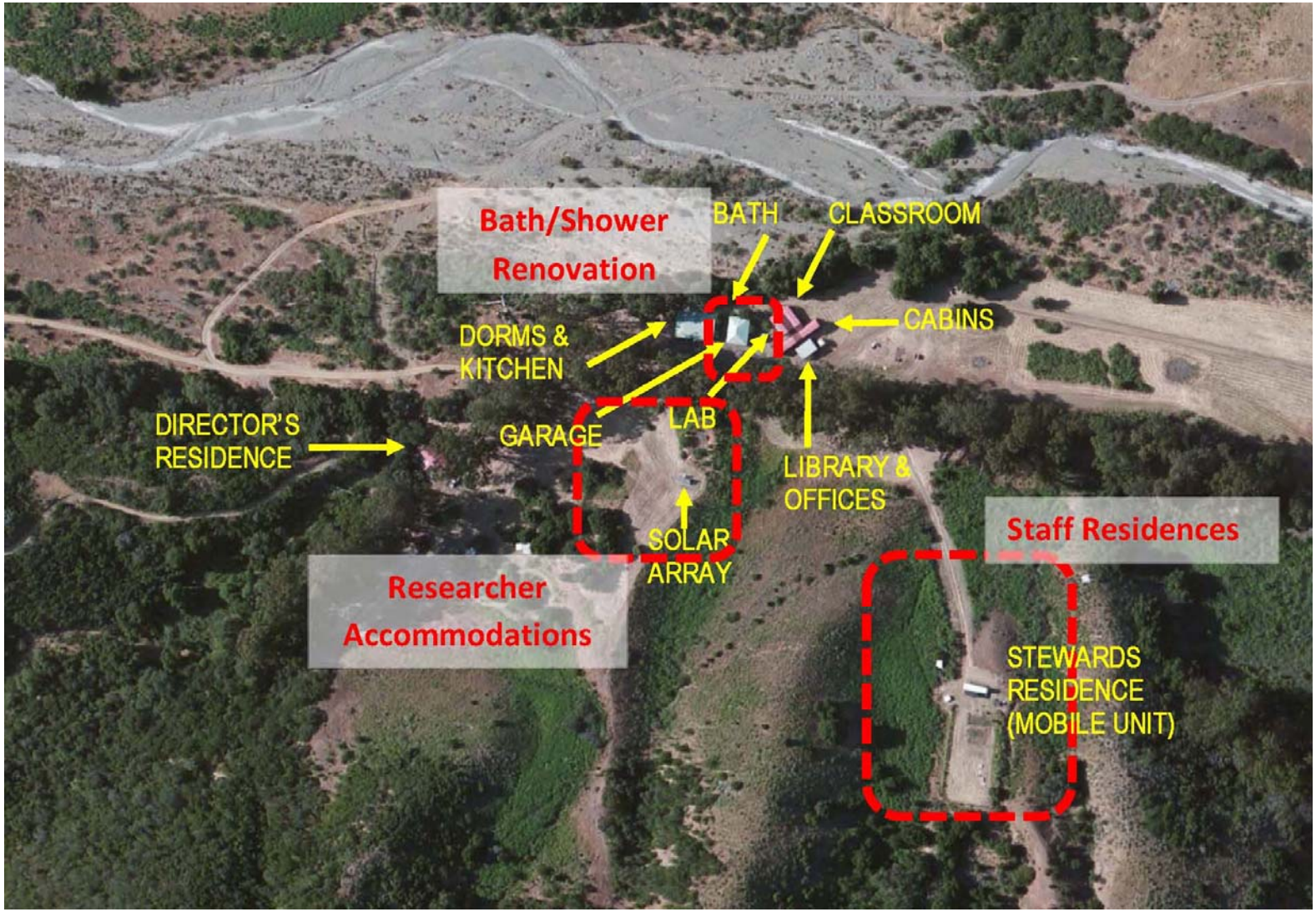
Source: Rob Easton AIA Architect
No Scale

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 2.2-1

Proposed Site Plan

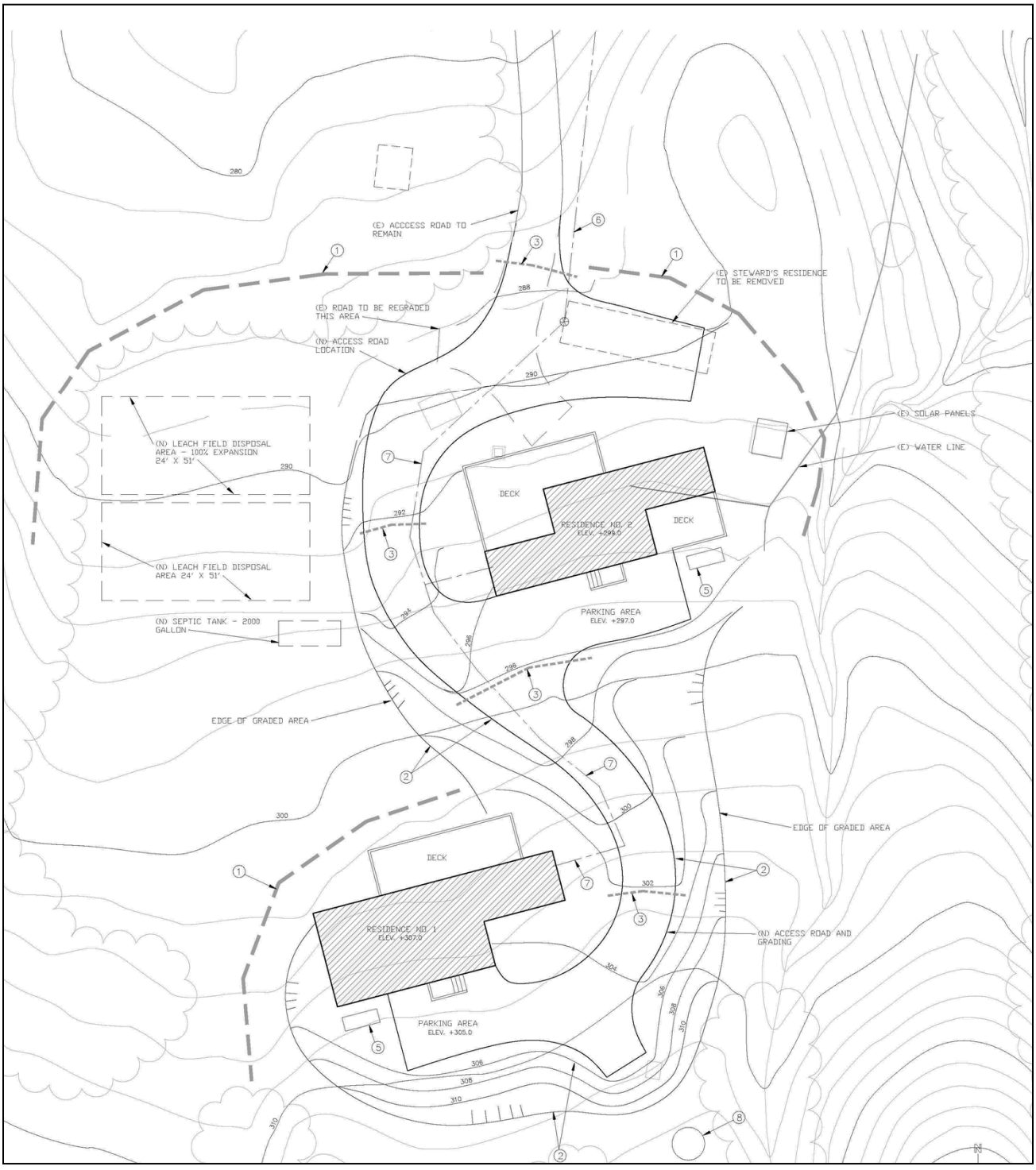


UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 2.2-2

Proposed New and Renovated Facility Locations

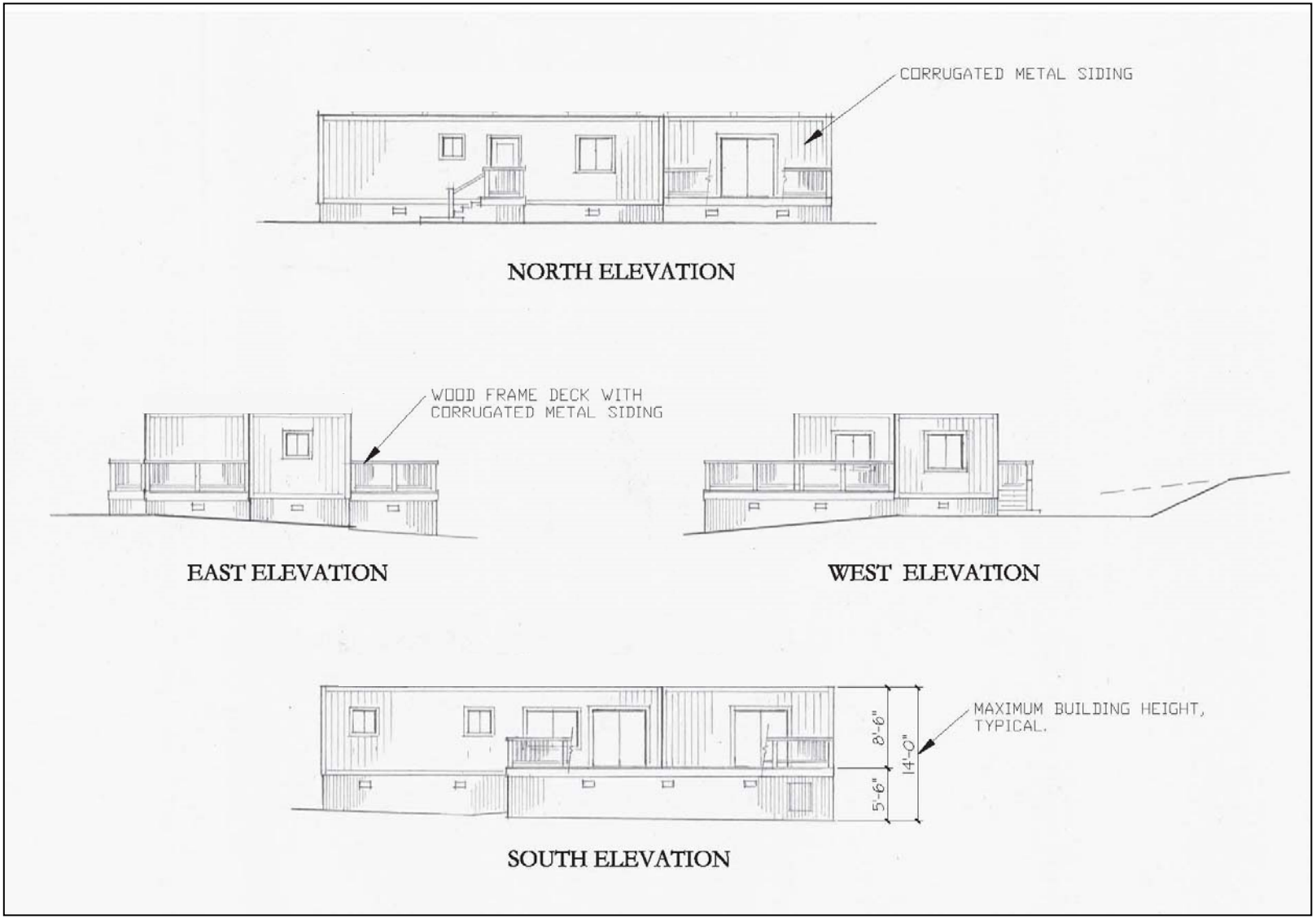


UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 2.2-3

Staff Residences Site Plan Detail



Source: Rob Easton AIA Architect
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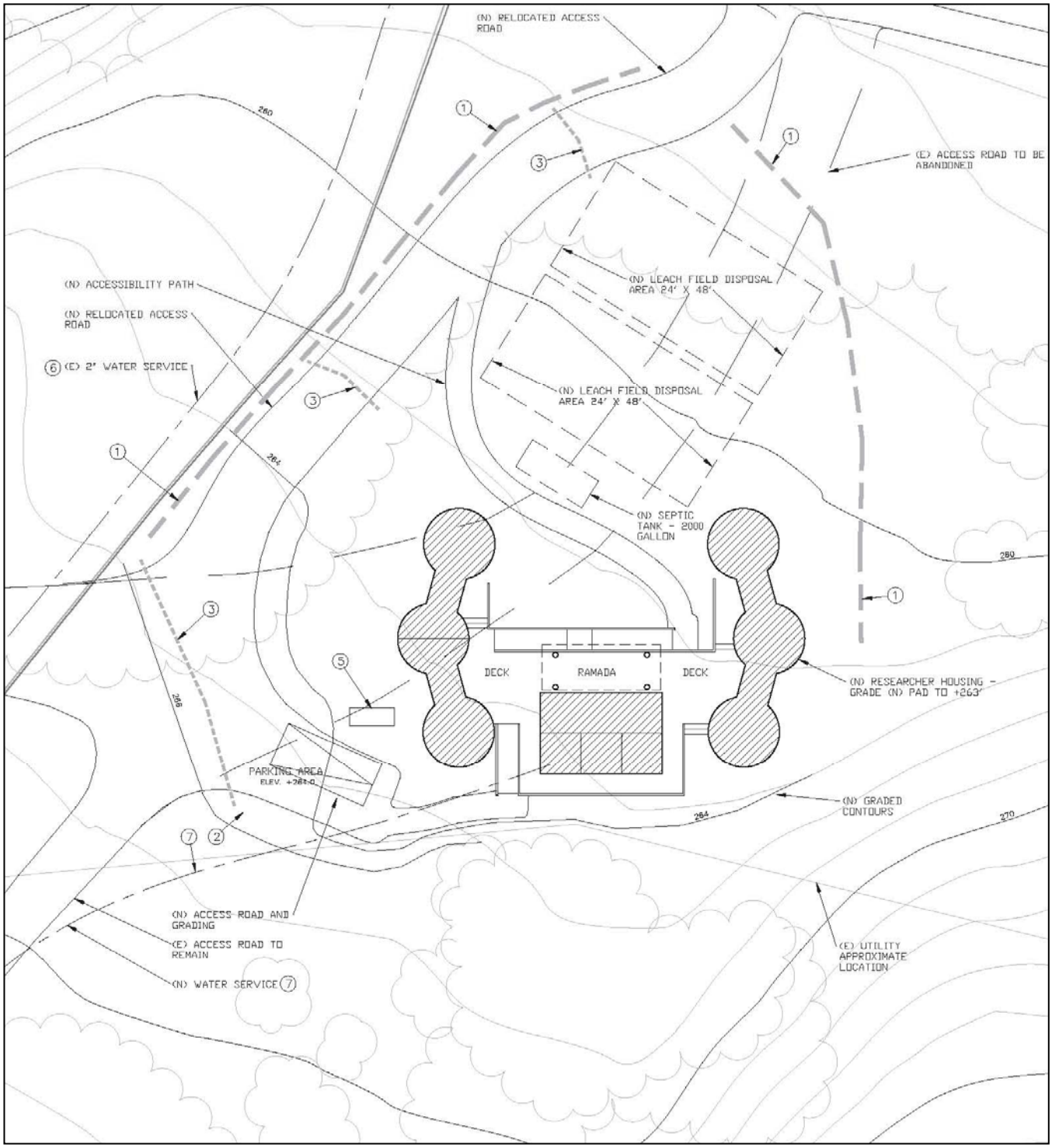
UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 2.2-4

Staff Residences Elevations



Source: Rob Easton AIA Architect
No Scale

UCSB Natural Reserve System

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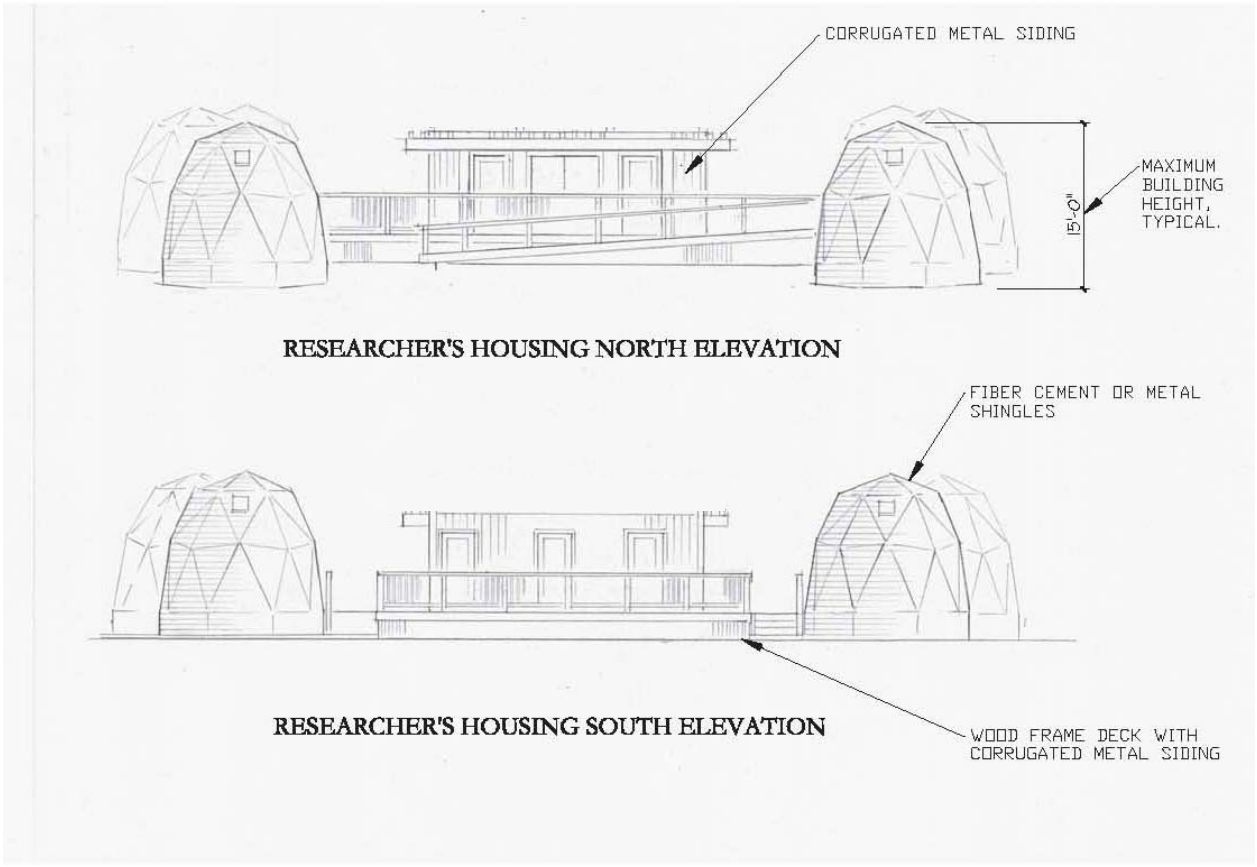
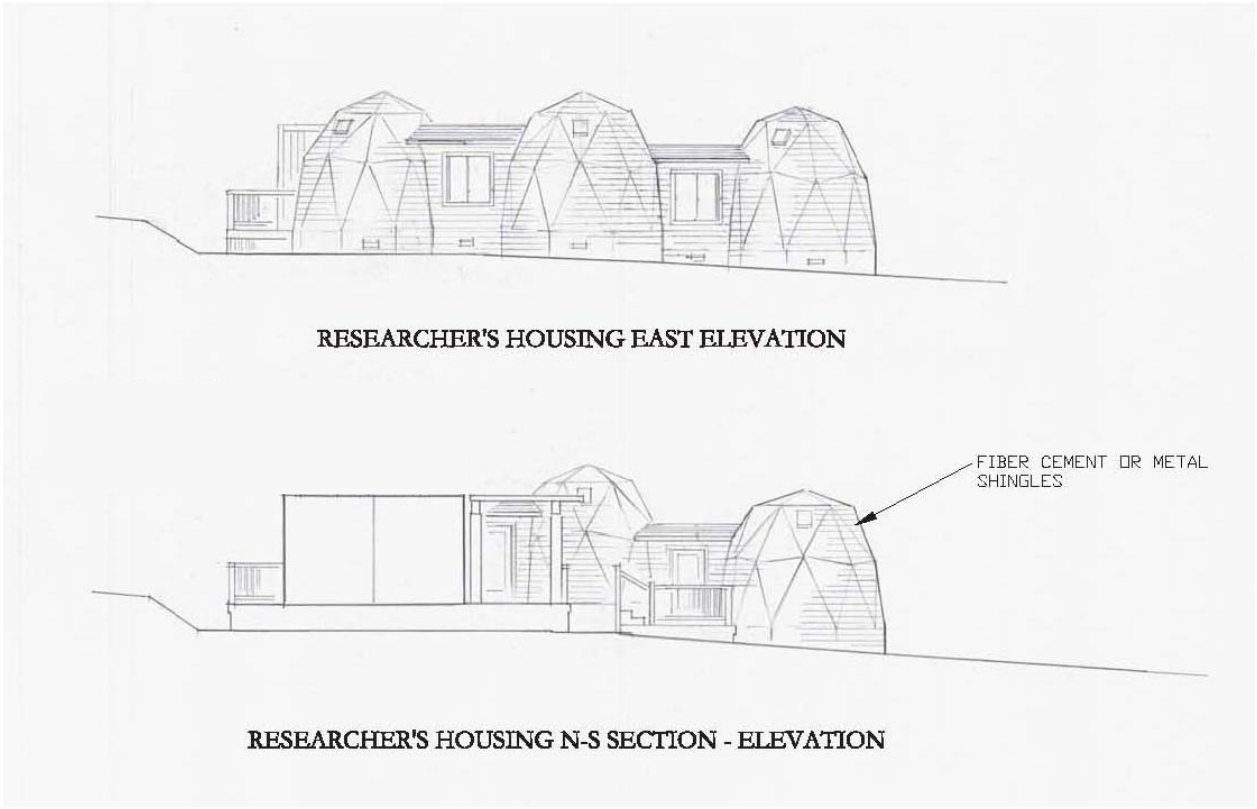
Figure 2.2-5

Researcher Accommodations Site Plan Detail





UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 2.2-6

Researcher Accommodations Elevations

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

Descriptions of impacts that would result from the implementation of the Santa Cruz Island Reserve Development Plan Project that have the potential to be significant, or that have been determined to be less than significant, are included in the narrative of Section 5.0 of this IS/MND.

If this Initial Study's evaluation of potential environmental impacts concludes that the Project would not result in an impact regarding a specific environmental issue area, that issue area is denoted with an "NI" (no impact) in the table below. Environmental issue areas denoted by an "LS" were determined to have less than significant impacts. Environmental issue areas denoted with an "M" would have impacts that can be feasibly reduced to a less than significant level with the implementation of mitigation measures identified by this IS/MND. The Project would not result in any "Potentially Significant Impacts" that cannot be reduced to a less than significant level.

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

NI: No impact
LS: Less than significant impact
M: Less than significant with the implementation of proposed mitigation

4.0 ENVIRONMENTAL DETERMINATION

On the basis of the environmental impact evaluation that follows:

☐ I find that the proposed project WOULD 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, the project impacts were adequately addressed in an earlier document or there will not be a significant effect in this case because revisions in the project have been made that will avoid or reduce any potential significant effects to a less than significant level. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.

S. Hammond — 3.2.2021
Signature — Date

Shari Hammond — University of California Santa Barbara
Printed Name — For

5.0. EVALUATION OF ENVIRONMENTAL IMPACTS

The University has defined the column headings in the Initial Study checklist as follows:

A) "**Potentially Significant Impact**" is appropriate if there is substantial evidence that the project's effect may be significant. If there are one or more "Potentially Significant Impacts" a Project EIR will be prepared.

B) "**Project Impact Adequately Addressed in LRDP EIR**" applies where the potential impacts of the proposed project were adequately addressed in the LRDP EIR and mitigation measures identified in the LRDP EIR will mitigate any impacts of the proposed project to the extent feasible. All applicable LRDP EIR mitigation measures are incorporated into the project as proposed. The impact analysis in this document summarizes and cross references (including section/page numbers) the relevant analysis in the LRDP EIR.

C) "**Less Than Significant With Project-level Mitigation Incorporated**" applies where the incorporation of project specific mitigation measures will reduce an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All project-level mitigation measures must be described, including a brief explanation of how the measures reduce the effect to a less than significant level.

D) "**Less Than Significant Impact**" applies where the project will not result in any significant effects. The project impact is less than significant without the incorporation of LRDP or project-level mitigation.

E) "**No Impact**" applies where a project would not result in any impact in the category or the category does not apply. "No Impact" answers need to be adequately supported by the information sources cited, which show that the impact does not apply to projects like the one involved (*e.g.*, the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (*e.g.*, the project will not expose sensitive receptors to pollutants, based on a project specific screening analysis).

	(A)	(B)	(C)	(D)	(E)
Issues	**Potentially Significant Impact**	**Project Impact Adequately Addressed in LRDP EIR**	**Less Than Significant with Project-level Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
5.1 AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:					
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 nonurbanized 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 which would adversely affect day or nighttime views in the area?	☐	☐	☐	✓	☐

5.1.1 Setting

The SCIR field station is located near the center of Santa Cruz Island and occupies an area of approximately 20 acres. The field station site supports a variety of vegetation types, including oak trees and oak woodland, a windrow of large eucalyptus trees, riparian scrub adjacent to the stream that is north of the field station, and areas that are a mix of non-native grassland and fennel. Areas of the field station that would be used for the development of the proposed staff residences and researcher accommodations support non-native grasses that have been mowed regularly.

Clusters of coast live oaks and island scrub oak at the Field Station are all located 25 feet or more from proposed building sites. No other native trees are located near proposed building sites.

A collection of small buildings and accessory structures have been developed at the field station. Most of the existing structures, including the main building, bathroom/shower and garage building, two trailers that provide six single-occupancy bedrooms, laboratory, and classroom, are clustered together in the northern portion of the field station. These buildings are small, single-story structures that have a rustic appearance. The buildings include wood frame structures and re-purposed shipping containers. Other field station buildings include a mobile home that is used as the steward's residence, and the director's residence. The locations of the existing buildings are shown on Figure 1.4-2, and photos of the buildings are on Figures 1.4-3, -4 and -5.

5.1.2 Checklist Responses

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

Views of scenic resources that are available from viewpoints at the field station are primarily of nearby mountain slopes, the stream that is north of and adjacent to the station, and trees located on and near the field station. Proposed structures that would result in permanent changes to existing visual conditions at the field station include the two proposed staff residences and new researcher accommodations. These structures would be small, ranging in size from approximately 1,000 to 1,470 square feet, and would have a maximum height of approximately 15 feet above surrounding grade. Proposed accessory structures that would serve the new buildings include a 3,000-gallon water tank to be located south of the staff residences, propane tanks, and solar panels. The proposed structures and accessory structures would not require the removal of any trees, would not be seen as projecting above any ridgeline, and would not interfere with existing views of the stream north of the project site. Proposed grading for the Project would be minimal (approximately 650 cubic yards) and would not result in vegetation removal that would result in prominent grading scars. The proposed cut slope to be located south of the staff residences site would be revegetated using island-sourced native seeds and plants, which would result in the slope having a long-term appearance that is similar to undisturbed areas on and near the project site. Therefore, the Project would have **less than significant** impacts to scenic vistas.

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

Scenic resources at the project site primarily consist of the large eucalyptus trees located adjacent to the field station access road, and oak trees/oak woodland located south of the proposed staff residences project site and south of the proposed researcher accommodations project site. The proposed Project would not require the removal of any trees. Proposed construction activities would occur at least 25 feet from the drip line of

oak trees located on the project site, which would minimize the potential for proposed structures to result in long-term impacts to the appearance of native trees. In addition, proposed mitigation measure BIO-3a requires temporary fencing to be erected between proposed construction sites and nearby oak woodlands, which would reduce the potential for construction-related impacts to trees adjacent to proposed construction sites to a less than significant level.

Proposed grading at the project site would not be extensive (approximately 650 cubic yards) and would not substantially alter existing topographic condition or impact rock outcroppings or other prominent geological features. The proposed cut slope to be located south of the staff residences site would be revegetated using island-sourced native seeds and plants, which would result in the slope having a long-term appearance that is similar to undisturbed areas on and near the project site. The proposed structures would not substantially change the appearance of the field station, and the proposed interior modifications to the restroom and shower building would not alter the existing appearance of that building. Therefore, the Project would not substantially change the appearance of the field station site and would result in **less than significant** impacts to scenic resources.

c. *In nonurbanized 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?*

The Project site is in a nonurbanized area that can be visited by the public, however, the field station is not generally accessible to the public (i.e., visitors must make previous arrangements and have a valid research, education, and/or public service purpose for coming to the field station). The proposed Project would result in the construction of three small structures (two staff residences and the researcher accommodations) and related infrastructure improvements that would serve proposed and existing development at the field station. As indicated in responses "a" and "b" above, the proposed field station improvements would not substantially change the appearance of the project site. Therefore, the Project's impacts to the existing scenic quality conditions at the project site would be **less than significant.**

d. *Would the project have the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

The proposed project would not result in any new exterior lighting at the project site. The only increase in existing lighting would be from interior lights in the proposed staff residences and researcher accommodations. Therefore, the Project would not be a substantial source of nighttime lighting and would result in **less than significant** lighting-related impacts.

5.1.3 Mitigation Measures

The proposed structures at the field station would have less than significant aesthetic impacts, and potential Project-related impacts to native oak trees near proposed construction areas would be reduced to a less than significant level by proposed mitigation measure BIO-3a. No additional mitigation measures are required.

	(A)	(B)	(C)	(D)	(E)
Issues	**Potentially Significant Impact**	**Project Impact Adequately Addressed in LRDP EIR**	**Less Than Significant with Project-level Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
5.2 AGRICULTURE AND FOREST 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 in Forest Protocols adopted by the California Air Resources Board. Would the project:					
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 CA Resources Agency, to non-agricultural use?	☐	☐	☐	☐	✓

	(A)	(B)	(C)	(D)	(E)
Issues	**Potentially Significant Impact**	**Project Impact Adequately Addressed in LRDP EIR**	**Less Than Significant with Project-level Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☐	☐	✓

5.2.1 Setting

Section 12220(g) of the Public Resources Code defines "forest land" as "land that can support 10 percent native tree cover for any species, including hardwoods, under natural condition, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

Public Resources Code section 4526 defines "timberland" 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 used to produce lumber and other forest products, including Christmas trees. Commercial species shall be

determined by the board on a district basis after consultation with the district committees and others."

Government Code section 51104(g) defines "timberland production zone" as "an area which has been zoned pursuant to Section 5112 or 5113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses…"

5.2.2 Checklist Responses

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 CA Resources Agency, to non-agricultural use?*

The Farmland Mapping and Monitoring Program has not classified soil types on Santa Cruz Island. Soils on the project site have been classified by the United States Department of Agriculture, Natural Resources Conservation Service as the Fiale-Tongva-Topdeck association. This soil type has a capability rating of "6e," which is not a prime agricultural soil type (soils with ratings of 1 and 2 are considered prime agricultural soils). Therefore, the Project would have **no impact** related to converting agricultural soils to a non-agricultural use.

b. *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

There are no commercial agricultural activities conducted on the project site and the project site is not enrolled in a Williamson Act agricultural preserve. Therefore, the Project would have **no impact** on existing agricultural uses.

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))?*

Santa Cruz Island is zoned "Agriculture II, 320-acre minimum lot size" by Santa Barbara County. County zoning designations, however, are not applicable to operations conducted by the University of California. Although the Project is exempt from County zoning requirements, the proposed Project would not result in a conflict or rezone of any designated forest land or timber land. Therefore, the Project would have **no impact** related to timber or forest land zoning.

d. *Result in the loss of forest land or conversion of forest land to non-forest use?*

As described in Section 5.4 (Biological Resources) below, oak woodlands are located on the field station site. The oak woodlands on the field station site could be considered forest

land as defined by Section 12220(g) of the Public Resources Code. Proposed construction activities would occur at least 25 feet from the drip line of oak trees located on the project site, which would minimize the potential for proposed structures to result in long-term impacts to the native trees. In addition, the Project's potential impacts to oak woodlands would be reduced to a less than significant level by mitigation measure BIO-3a, which requires temporary fencing to be erected between proposed construction sites and nearby oak woodlands. Therefore, the Project would result in **less than significant** impacts to forest land resources located on and near the project site.

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?*

There are no commercial agricultural operations located on or near the project site, and it is not reasonably foreseeable that agricultural operations would be established near the project site in the future. As described in response "d" above, the Project would not result in the conversion of forest land resources to a non-forest use. Therefore, the Project would have **no impact** related to environmental changes that may adversely affect agricultural or forest resources.

5.2.3 Mitigation Measures

The proposed Project would not result in significant impacts on agricultural and forest resources. No mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3 AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
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?	☐	☐	☐	✓	☐

5.3.1 Setting

Existing Air Quality Conditions. Federal and state ambient air quality standards have been established for seven "criteria" pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 microns in diameter (PM_{10}), particulates less than 2.5 microns in diameter ($PM_{2.5}$) and lead. California has also adopted standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles.

Santa Cruz Island is located in Santa Barbara County, which is under the jurisdiction of the Santa Barbara Air Pollution Control District. The District is required to monitor air pollutant levels

to assure that federal and state air quality standards are being met. Santa Barbara County is designated unclassifiable/attainment for the federal 8-hour ozone standard, and is designated unclassifiable/attainment for the federal $PM_{2.5}$ standards. On December 12, 2019, the California Air Resources Board (CARB) designated Santa Barbara County as attainment for the State ozone standards. CARB's decision will be forwarded to the Office of Administrative Law for approval. To be designated attainment, an air district must show that the ozone standard is not violated for three consecutive years. The County violates the state standards for PM_{10} and is unclassified for the state $PM_{2.5}$ standard. The air basin is an attainment area for all other federal and state air quality standards.

Ozone is formed in the atmosphere through a series of chemical reactions involving nitrogen oxides (NO_x), reactive organic gases (ROG) and sunlight. Ozone is classified as a "secondary" pollutant because it is not emitted directly into the atmosphere. The major sources of ozone in the County are motor vehicles, the petroleum industry and the use of solvents (paint, consumer products and certain industrial processes). PM_{10} is generated by a variety of sources, including windblown dust, grading, agricultural tilling, road dust and quarries. Vehicle exhaust is a major source of $PM_{2.5}$.

Air Quality Regulations. The 1990 Federal Clean Air Act Amendments and the 1988 California Clean Air Act regulate the emissions of airborne pollutants and have established ambient air quality standards. The United States Environmental Protection Agency administers federal air quality regulations, and the California Air Quality Board (CARB) is the California equivalent. The CARB establishes air quality standards and is responsible for control of mobile emission sources. Local APCDs have jurisdiction over stationary sources and must adopt plans and regulations necessary to demonstrate attainment of federal and state air quality standards. The Santa Barbara County APCD has jurisdiction over air quality attainment in the Santa Barbara portion of the South Central Coast Air Basin.

Clean Air Plans. The 1988 California Clean Air Act requires all air pollution control districts and air quality management districts in the state to adopt and enforce regulations to achieve and maintain air quality that is within the State air quality standards. The Santa Barbara APCD prepared the 1998 Clean Air Plan to respond to federal and state requirements, and the Plan was adopted as part of the State Implementation Plan. The 2001 Clean Air Plan was developed as a comprehensive update to the 1998 Plan and was expected to bring the County into attainment of the State ozone standard through 2015. By 2004 this goal was not achieved, therefore, the 2004 Clean Air Plan was adopted in December of 2004 and focuses primarily on the Clean Air Act requirements. A 2007 Clean Air Plan was adopted by the Santa Barbara APCD Board on August 16, 2007 and a 2010 Clean Air Plan was adopted on January 20, 2011. The 2010 Plan provides updated air quality information and baseline inventories, updated future emission estimates, and new chapters related to greenhouse gas, climate protection and land use. A 2013 and a 2016 Clean Air Plan have also been adopted. The 2019 Ozone Plan is the ninth triennial Plan update, and similar to other Clean Air Plan updates, the 2019 Plan identifies and evaluates "every feasible measure" strategy to ensure continued progress towards attainment of the State ozone standards.

Existing Project Site Air Emission Sources. Existing activities conducted at the field station are not a substantial source of air emissions. Primary emission sources include the use of propane for water and space heating, the use of Reserve vehicles to transport visitors to and from Prisoners' Harbor where passengers from regularly scheduled Island Packers boat trips disembark, and the use of Reserve vehicles to facilitate the transportation needs of researchers.

5.3.2 Impact Significance Thresholds

Long-Term Impacts. Based on thresholds adopted by Santa Barbara County in their *Environmental Thresholds and Guidelines Manual* (2008), a project will not have a significant project-specific or cumulative air quality impact if operation of the project will:

1. Emit (from all project sources, mobile and stationary) less than the daily trigger for offsets set in the APCD New Source Review Rule for any pollutant (55 lbs/day for ROG and NO_x, and 80 lbs/day for PM_{10}).

2. Emit less than 25 pounds per day of oxides of nitrogen (NO_x) or reactive organic compounds (ROG) from motor vehicle trips only.

3. Not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone).

4. Not exceed the APCD health risk public notification thresholds adopted by the APCD Board for air toxics.

5. Be consistent with the adopted federal and state Air Quality Plans.

Cumulative Impacts. The Santa Barbara County Air Pollution Control District's *Scope and Content of Air Quality Sections in Environmental Documents* (2017) provides the following guidance related to the evaluation of project-related cumulative impacts:

> *"As discussed in the APCD Environmental Review Guidelines, the cumulative contribution of project emissions to regional levels should be compared with existing programs and plans, including the most recent Ozone Plan. Due to the county's nonattainment status for ozone and the regional nature of ozone as a pollutant, if a project's air pollutant emissions of either of the ozone precursors (NOx or ROC) exceed the long-term thresholds, then the project's cumulative impacts will be considered significant. For projects that do not have significant ozone precursor emissions or localized pollutant impacts, if emissions have been taken into account in the most recent Ozone Plan growth projections, regional cumulative impacts may be considered to be insignificant. When a project's emissions exceed the thresholds and are clearly not accounted for in the most recent Ozone Plan growth projections, then the project is considered to have significant cumulative impacts that must be mitigated to a level of insignificance."*

Short-Term Impacts. Pursuant to the County's impact significance thresholds, short-term impacts to air quality from construction are less than significant if standard mitigation measures for fugitive dust are implemented. Since Santa Barbara County violates the State standard for PM_{10}, policies of the 1979 Air Quality Attainment Plan require that all discretionary construction activities implement dust control measures, regardless of the significance of fugitive dust impacts. Dust control measures are also required to minimize the potential for dust-related nuisance impacts. APCD Rule 345, *Control of Fugitive Dust from Construction and Demolition Activities* establishes limits on the generation of visible fugitive dust emissions at demolition and construction sites.

Santa Barbara has not established quantitative thresholds for short-term construction-related emissions because the total amount of construction emissions from all construction projects that occur within the air basin constitute a minor amount of the total pollution emissions, and the emissions are temporary. As a guideline, however, APCD Rule 202.F.3 identifies a substantial effect associated with projects having combined emissions from all construction equipment that exceed 25 tons of any pollutant (except carbon monoxide) within a 12-month period. For this analysis, the APCD guideline for short-term emissions has been used to evaluate the significance of project-related emissions.

5.3.3 Checklist Responses

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

Consistency with the 2019 Ozone Plan means that direct and indirect emissions associated with the project are accounted for in the Plan's emissions growth assumptions and the project is consistent with policies adopted in the Plan. The Ozone Plan relies on "growth profiles" collected from sources such as the California Energy Commission and population data from the California Department of Finance. The baseline (2017) population for Santa Barbra County used in the 2019 Ozone Plan is 451,700. The projected County-wide population for 2025 is 477,700, and the projected 2035 population is 505,300.

Implementation of the proposed Project would not result in or contribute to an increase in the population of Santa Barbara County. In addition, and as described in response "b" below, the Project would not result in an increase in the number of visitors at the field station. Emissions that could result from the Project resulting from an increase in energy use, would be minimized by the use of existing and proposed photovoltaic and solar hot water systems. Therefore, the Project would be consistent with/have a **less than significant** impact on the Santa Barbara County Clean Air Plan.

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?*

Short-Term Construction Impacts

Mobile Emissions. Short-term emissions from mobile sources resulting from proposed construction operations would be limited due to the minimal amount of construction activity required to implement the Project, and would occur over the Project's approximate 10-year construction period. Project-related grading would be limited to activities such as new building foundation preparation, minor grading in the vicinity of the proposed new structures, excavations for the construction of two new septic tanks, trenching to install underground electrical, propane and water lines, and minor modifications to existing roads that provide access to the new building sites. In total, the Project would result in approximately 650 cubic yards of grading.

As described in IS/MND Section 2.4 (Construction Equipment and Material Delivery), prefabricated shipping container homes and the researcher accommodations common area structure would be delivered to the field station using helicopters operated by the U.S. Department of Defense Innovative Readiness Training (IRT) program. The helicopters would travel between an off-shore barge or a mainland California military base and the field station. It is anticipated that it would require seven (7) helicopter trips (14 round trips) to deliver the shipping containers to the field station.

Other construction-related emissions that would result from the project would be from the delivery of equipment and building materials, and the use of field station vehicles to transport building materials from Prisoners' Harbor to the field station. Construction equipment and building material delivery would typically occur on a "space available" basis using the National Park Service boat that travels to the island once per week. Therefore, there is a low potential for temporary equipment and material deliveries to result in a substantial increase in existing transportation emissions. If certain pieces of construction equipment or building materials cannot be accommodated by the National Park Service, a separate project-related commercial or Park Service boat trip may be required. It is not expected that a substantial number of supplemental boat trips would be required to transport equipment or building materials to the field station.

Overall, the Project's short-term construction emissions from mobile sources would be **less than significant** due to the limited construction operations required to implement the project, and the limited short-term emissions that would result from equipment and building material delivery.

Construction Dust. Due to the limited amount of grading required for the proposed Project, it would not be a substantial source of construction-related dust emissions. However, short-term emissions of PM_{10} would incrementally contribute to an existing air

quality standard exceedance. Therefore, construction-related dust emissions at the project site would have the potential to result in a potentially significant air quality impact. This impact would be **reduced to a less than significant level** with the implementation of proposed mitigation measure AQ-1a, which provides dust control best management practices recommended by the Santa Barbara APCD and required by the 1979 Air Quality Attainment Plan.

Long-Term Operation Emissions.

The proposed Project would install two pre-fabricated staff residences at the field station and the conversion of the existing steward's residence to a storage facility, resulting in a net increase of one residence at the field station. Potential air emissions associated with the additional residence would be minimized by using photovoltaic panels to generate electricity and solar panels to produce hot water, and the residence would not result in a substantial increase in vehicle use on the island. The occupant of the additional residence would travel to and from the island using regularly scheduled Island Packer boat trips, which would not increase project-related transportation emissions when compared to existing conditions.

The proposed researcher accommodations would include five new bedrooms and associated common areas that would be used by researchers working on the island. As indicated in Section 1.5 (Project Objectives) above, it is an objective of the proposed researcher accommodations to provide facilities to meet existing demands for overnight facilities. It is not anticipated that the new accommodations would result in an increase in the number of researchers using field station facilities, and potential air emissions associated with the proposed overnight facilities would be minimized by using photovoltaic panels to generate electricity and solar panels to produce hot water. Researchers using the proposed accommodations would travel to and from the island using regularly scheduled Island Packer boat trips, which would not increase project-related transportation emission when compared to existing conditions.

As described in IS/MND Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Therefore, the proposed Project would not increase the number of people using the field station, and the proposed renovation of the existing shower and restroom building would not result in additional long-term project-related emissions. Therefore, the Project would not result in a substantial increase in long-term air emissions when compared to existing conditions, and the its long-term air quality impacts would be **less than significant**.

c. *Expose sensitive receptors to substantial pollutant concentrations?*

Short-Term Construction Emissions.

Diesel engines emit a complex mixture of air pollutants, mainly composed of gases, vapors and fine particles. The visible emissions in diesel exhaust are known as particulate matter, and consist of carbon particles (soot) and other gases that become visible as they cool. Diesel exhaust particles carry many of the harmful organic compounds and metals present in the exhaust. Exposures to airborne respirable diesel particulate matter can result in respiratory symptoms such as changes in lung function, and cardiovascular disease. In 1998, California identified diesel particulate matter as a toxic air contaminant based on its potential to cause cancer and other adverse health effects.

Construction of the proposed Project would require a minimal amount of grading (approximately 650 cubic yards) and would likely be conducted using equipment kept on the island by The Nature Conservancy. Any diesel equipment used for Project-related construction would be very limited in duration, and there are no sensitive receptors adjacent to locations where grading is proposed to occur, or where other diesel-powered equipment may operate. Therefore, potential diesel exhaust emissions that may result from the Project would not be substantial and the Project would result in **less than significant** impact short-term pollutant concentration impacts.

Long-Term Emissions

The proposed Project would not result in any new long-term sources of diesel emissions at the field station. The Project would result in net increase of one staff residence at the field station, and the proposed researcher accommodations would provide five new rooms that would be used by persons staying at the field station on a temporary basis. The electrical power demands of these new facilities would be primarily met by using existing and proposed photovoltaic solar panels. The new residential facilities, however, could have the potential to periodically require supplemental electrical power that is produced by The Nature Conservancy's diesel generator located at the Main Ranch, approximately 0.5 mile east of the field station. The additional demand for supplemental electrical power that may result from the proposed Project would be limited and would not require a substantial increase in the use of the existing generator. Therefore, the Project would not result in a substantial long-term increase in diesel emissions at the island, would not expose sensitive receptors to substantial pollutant concentrations, and long-term operation 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?*

The proposed Project would not be a source of other emissions and would not result in the operation of facilities that have the potential to result in the generation of odors. Therefore, this project-related impact would be **less than significant** and no mitigation is required.

5.3.4 Mitigation Measures

Impacts Reduced to a Less Than Significant Level with Proposed Mitigation

The implementation of the following mitigation measures would reduce the construction-related fugitive dust impacts of the Project to a less than significant level.

IMPACT AQ-1 Dust emissions from construction-related activities at the building sites could result in a significant fugitive dust impacts and contribute to existing non-attainment conditions for PM_{10}.

AQ-1a. These measures are required for all projects involving earthmoving activities regardless of the project size or duration. The measures are based on policies adopted in the 1979 AQAP for Santa Barbara County. Proper implementation of these measures is assumed to fully mitigate fugitive dust emissions.

1. During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

2. Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.

3. If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.

4. After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by

spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.

5. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to the start of grading activities.

The dust control mitigation measures listed above are best management practices that reduce short-term dust emission impacts to a less than significant level.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.4 BIOLOGICAL RESOURCES - Would the project:					
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 local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☐	✓

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☐	✓

The information and analysis included in this section is based on a report prepared by Lyndal Laughrin, PhD., (2021), titled *Biological Resources Survey Report for Proposed Development Site at UCSB Santa Cruz Island Reserve*. The entire report is attached to this Initial Study/MND as Appendix A.

5.4.1 Setting

Santa Cruz Island. Santa Cruz Island is the most biologically diverse of the California Channel Islands and is home to 12 endemic taxa. Four terrestrial vertebrates are endemic to Santa Cruz Island: the Santa Cruz Island Fox (*Urocyon littoralis santacruzae*); the Santa Cruz Island Scrub Jay (*Aphelcoma coerulescens insularis)*; the Santa Cruz Island Harvest Mouse (*Reithrodontomys megalotis santacruzae*); and the Santa Cruz Island Deer Mouse (*Peromyscus maniculatus santacruzae*). The Island Spotted Skunk (*Spilogale gracilis amphialus*) is endemic to several Channel Islands. Bat surveys conducted on the Channel Islands have detected the presence of at least 12 species of bats on the northern Channel Islands. Many of them are migratory species but a least five or six species have breeding populations on the island.

Because the island is so big and its physiography is so diverse, it hosts several vegetation communities, including Bishop pine forest, oak woodland, riparian woodland, chaparral, coastal sage scrub, valley and foothill grassland, coastal bluff, coastal marsh, and beach and dune systems. Santa Cruz Island hosts the largest vascular flora of the Channel Islands: 650 species, 74% of which (480 taxa) are native. Eight plants are endemic to Santa Cruz Island. Eight plant species found on Santa Cruz Island are federally listed as endangered, and one is listed as threatened.

The habitat for native species on the island has been fundamentally altered by historical land use. For much of the past two centuries, sheep, cattle and pigs grazed the landscape, causing widespread devastation of the island ecosystem causing severe soil erosion and landscape destabilization, and promoted the conversion of shrubland into non-native annual grasslands. The central valley area, including around the main ranch and the field station, were extensively plowed and farmed for vineyards and annual hay crops. Although sheep and cattle were removed in the

late 20th century, and pigs were gone by 2007, their impacts on the island are slow to heal in some areas. Non-native invasive plant species are the most current threat on the island today with over 170 species having been recorded on the island.

Field Station. Because of past ranching history, habitat in parts of the island have been slower to recover, including coastal terraces, valley floors and steeper volcanic hillsides. The terraces and valley floors are still dominated by annual non-native grasses and fennel, while the steep eroded hillsides are slowly re-building soils and gaining vegetation. The proposed Project site is in one of these valley floors that are dominated by fennel/non-native grassland. Degradation of the habitat at the field station project site began in the 1880's resulting from ranching and vineyard operations, and continued into the beginning of the 21st century. No listed plant species occur within the project site, however the Federally Endangered and California State Endangered plant species, Santa Cruz Island bush-mallow (*Malacothamnus fasciculatus var. nesioticus*), has been used in landscaping sites around field station buildings.

Vegetation communities located on the 20-acre field station site are shown on Figure 5.4-1. The proposed staff residences and researcher accommodations project sites contain buildings, roadways, and areas that were previously farmed and are now dominated by fennel non-native grassland that are mowed regularly. Areas that support a windrow of large eucalyptus trees are located adjacent to the proposed researcher accommodation site to the north and west. An area located in the northeastern portion of the field station, that may be used for the temporary storage/staging of the proposed staff residence container homes and the researcher accommodations common area structure, is dominated by non-native grasses that are mowed regularly.

Areas that support sensitive habitat are located in the vicinity of proposed development sites. Areas that support island scrub oak and oak woodland habitat are located south of and adjacent to the proposed staff residences project site, and are also located south of and adjacent to the researcher accommodations project site. Areas that support mulefat riparian scrub habitat are located in the northwestern and northeastern portions of the field station, a minimum of approximately 300 feet from proposed development areas.

As shown on Figure 5.4-2, the proposed researcher accommodations site is occupied by mowed non-native grasses. Figure 5.4-3 shows that the proposed staff residences site is occupied by an existing road, mowed grasses, and areas that support a mix of non-native grasses and fennel.

No wetlands have been identified within the field station area. The stream to the north of the field station and the small intermittent drainages located on and adjacent to the field station flow intermittently during the winter and spring rainy seasons, then slowly disappear during the dry summer months.

5.4.2 Checklist Responses

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?

Mammals

Four terrestrial mammal species occur on the island. Three are endemic subspecies to Santa Cruz Island: the island deer mouse (*Peromyscus maniculatus santacruzae*), the salt marsh harvest mouse (*Reithrodontomys megalotis santacruzae*) and the Santa Cruz Island fox (*Urocyon littoralis santacruzae*). The fourth species, the Island Spotted skunk (*Spilogale gracilis amphialus*), is a Northern Channel Islands endemic as it is also found on Santa Rosa Island.

Small mammal monitoring has been conducted on Santa Cruz Island, especially for the fox and skunk, with only sporadic efforts directed at the island deer mice. These efforts indicate that though these species are widespread across the island, their numbers have varied over the years.

Santa Cruz Island Fox. The island fox is the largest of the Channel Islands' native mammals and is distributed as six different subspecies, one on each of the six largest Channel Islands.

Due to its limited range and small population numbers, the Santa Cruz Island fox subspecies was listed under the California Endangered Species Act as a Rare species in 1970, and since 1987 has been listed as a Threatened species. In 2004 the fox was listed by the Federal Endangered Species Act as an Endangered species. Recovery efforts resulted in it being federally delisted in 2016.

Island foxes occur in virtually every habitat on the island and forage for a wide variety of prey, including mice, ground-nesting birds, arthropods, and fruits. Fox home range size varies by habitat type, season, and gender of the animal. The island fox occurs throughout all habitat types on the island but population density varies by type. The grasslands and more open areas support fewer foxes than the wooded and more densely covered habitats. During the past couple of years, the island's total fox population estimate has been in the 2,500-3,000 range.

Island fox populations on Santa Cruz Island and in the vicinity of the field station are monitored regularly, and foxes commonly forage in and pass through the field station. However, no island fox dens have been observed in the vicinity of the proposed Project development areas. Based on the absence of previously observed island fox dens in the field station area, it is unlikely that island fox dens would be located on or near proposed construction areas. However, should a den be located in the Project area, proposed construction activities would have the potential to result in a significant impact to island fox. This potential impact would be reduced to a less than significant level by conducting pre-construction surveys for island fox dens in and near proposed ground disturbance areas. Proposed mitigation measure BIO-1a requires that proposed construction sites and surrounding areas be surveyed for active or inactive island fox dens no more than 14 days

prior to the start of ground disturbing activities. The mitigation measure also requires that the California Department of Fish and Wildlife (CDFW) be contacted if surveys detect an active or inactive island fox den, and that avoidance measures specified by CDFW be implemented prior to the start of construction activities. Implementation of the proposed survey and required avoidance measures would ensure that potential impacts to island fox are **reduced to a less than significant level**.

Island Spotted Skunk. The island spotted skunk (*Spilogale gracilis amphiala*) is found only on Santa Cruz and Santa Rosa islands and is identified by CDFW as a California Species of Special Concern (CDFW, 2020). The skunk is primarily nocturnal and carnivorous, consuming mice and insects.

Similar to the potential to impact the island fox described above, based on the results of frequent monitoring in and around the field station it is unlikely that spotted skunk dens would be located in the vicinity of proposed construction areas. To ensure that potential Project-related construction activities to the skunk are **reduced to a less than significant level**, proposed mitigation measure BIO-1a requires that preconstruction surveys also be conducted for this species prior to the start of construction activities.

Salt Marsh Harvest Mouse. The salt marsh harvest mouse is listed as an Endangered Federal and California Endangered species. This mouse is usually only found near island's mesic (moist) habitats, which are not present at the project site. Therefore, the proposed Project would result in **less than significant** impacts to this species.

Landbirds

Santa Cruz Island has a greater diversity of breeding landbirds than the other Channel Islands, with about seventy different species recorded to date. The Santa Cruz Island scrub-jay is endemic to Santa Cruz Island, while eight other land-breeding birds are subspecies endemic to two or more of the Northern Channel Islands. Many other species are regularly observed migrants but there are also quite a number that are only very sporadically recorded.

Extensive riparian areas, oak woodlands, chaparral, and pine forests provide habitat for acorn woodpeckers (*Melanerpes formicivorus*), red-breasted nuthatches (*Sitta canadensis*), northern flickers (*Colaptes auratus*), and the endemic island scrub-jay, as well as pacific-slope flycatchers (*Empidonax difficilis*), black phoebes (*Sayornis nigricans*), and spotted towhees (*Pipilo maculatus*). Coast live oaks and Bishop pines, as well as introduced stands of eucalyptus (*Eucalyptus* sp.), also provide breeding habitat for northern saw-whet owls *(Aegolius acadicus).* The primary habitats for the endemic jay are oak woodland, pine woodland, and chaparral. There are estimated to be over 1,500 individuals in the population.

Two count stations located near the proposed staff residences and researcher accommodations sites were established at the field station and bird observations were made on June 10 and 12, 2020. Following standard breeding bird survey protocols used annually

for other bird surveys on the island, observations were made at each station for 10 minutes, and all bird species seen or heard within a 100-meter radius were recorded. The survey results are shown on Table 5.4-1.

Table 5.4-1
Bird Species Present in the Field Station Area.

OBSERVED BIRD SPECIES	SEASON PRESENT
Observed From Count Stations	
Spotted Towhee	All year
Song Sparrow	All year
Island Scrub Jay	All year
House Finch	All year
Mourning Dove	All year
Acorn Woodpecker	All year
Northern Flicker	All year
Ash-throated Flycatcher	Breeding season
Black-headed Grosbeak	Breeding season
Observed in Field Station Areas	
Bewick's Wren	All year
Black Phoebe	All year
Anna's Hummingbird	All year
Allen's Hummingbird	All year
American Kestrel	All year
Eurasian Collared-Dove	All year - introduced sp.
Pacific-slope Flycatcher	Breeding season

Source: Laughrin, 2020

Separate raptor and owl surveys have also been conducted at the project site. Raptor and owl surveys were conducted in 2018 and were updated in May and June 2020. No raptors or owls were observed within proposed development sites during the 2020 surveys, however, one pair of American kestrels were observed within the field station area. The kestrels used the eucalyptus tree row south of and adjacent to the proposed development and along the field station access road to perch and hunt from, and were also observed in nearby open fields. They used a nest hole in a eucalyptus tree to successfully fledge two nestlings. Other breeding raptor/owl species that were or have been observed in the island's central valley outside of development site and/or observation time window include bald eagle, red-tailed hawk, and peregrine falcon.

The oak woodland habitat located adjacent to the proposed staff residences and researcher accommodations sites provide suitable nesting habitat for a variety of bird species. If

Project-related construction is performed in or adjacent to oak woodland habitat during the typical breeding and nesting season for raptors and migratory bird species (February 15 to September 15), short-term impacts to nesting birds could result.

The removal of an active bird nest from the project site, or the disturbance of an active nest located adjacent to the project site, would be a violation of Fish and Game Code Section 3503 and would result in a significant impact. Potential impacts resulting from the removal or disturbance of an active bird nest can be **reduced to a less than significant level** by implementing proposed mitigation measures BIO-2a through 2c, which require that nest surveys be conducted prior to the start of construction operations.

Reptiles and Amphibians

Reptiles. Five reptile species are widespread across the island and can be found in the proposed development areas. These common species include the island fence lizard (*Sceloporus occidentalis becki*), the side-blotched lizard (*Uta stansburiana*), the southern alligator lizard, (*Elaria multicarinatus*), the island gopher snake (*Pituophis catenifer pumilus*), and the yellow-bellied racer (*Coluber constrictor*). Potential Project-related impacts to these common reptile species would be **less than significant**. There will be no significant impact from this project to any of the amphibian or reptile populations.

Amphibians. Three amphibian species occur on Santa Cruz Island, including the Channel Islands slender salamander (*Batrachoseps pacificus pacificus*), Black-vented salamander (*Batrachoseps nigriventris*), and the Baja California treefrog (*Pseudacris hypochondriaca*). None of these species are likely to be found in the proposed development area as all prefer more mesic habitats. Therefore, the potential for Project-related impacts to amphibian species is **less than significant.**

Fish

There are no fresh water streams in the survey area, hence no fish species. In fact, there are no freshwater fish anywhere on the island. Therefore, the proposed Project would have **no impact** on fish 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?*

Riparian Habitat

Potential Direct Impacts. The proposed staff residences and researcher accommodations, along with the proposed accessory structures and uses that would serve the proposed new buildings, would be located in previously disturbed areas that are occupied by non-native

grasses and fennel. The small ephemeral drainage located approximately 25 feet east of a proposed residence is occupied by non-native grasses and fennel and does not support riparian habitat. Therefore, the staff residences and researcher accommodation projects would not result in direct (i.e., removal) impacts to riparian habitat located on or near the project sites. Proposed interior modifications to the existing restroom and shower building would not result in impacts to riparian habitat located on or near the field station.

As shown on Figure 5.4-1, areas that support mulefat riparian scrub habitat are located along the northern edge of the field station adjacent to the stream that is north of the station. This riparian habitat is approximately 300 feet northwest of the proposed researcher accommodations project site and approximately 600 feet north of the proposed staff residences site. No Project-related construction activities would occur within or near the riparian scrub habitat. Therefore, the Project would have **no impact** related to direct impacts to riparian habitat associated with the stream that is north of the field station.

Potential Indirect Impacts. As described in Section 5.7 (Geology) potential short-term erosion-related impacts that may result from proposed construction activities would not be significant because the Project would be required to prepare and implement a Stormwater Pollution Prevention Plan, which would minimize the potential for the Project to result in sedimentation and other water quality-related impacts. As described in Section 5.X (Hydrology and Water Quality) the Project would not be a long-term source of sediment or other pollutants that would have the potential to result in significant downstream water quality impacts. Therefore, the Project would have **less than significant** impacts related to indirect impacts to riparian habitat associated with the stream that is north of the field station

Oak Woodland

Potential Direct Impacts. As shown on Figure 5.4-1, oak woodland habitat is located south of and adjacent to the proposed staff residences and researcher accommodations building sites. The potential for direct impacts to individual oak trees and sensitive oak woodland habitat would be minimized because the proposed staff residences and researcher accommodations, along with the proposed accessory structures and uses that would serve the proposed new buildings, would be located a minimum of 25 feet from the oak woodland habitat areas. Therefore, proposed construction and grading activities would be located well beyond the dripline of individual oak trees and outside of the trees' critical root zone, which is an area extending six feet beyond the tree dripline.

As described in IS/MND Section 5.20 (Wildfire) below, limited areas of vegetation management would be required at the field station to reduce the risk associated with potential wildfire-related impacts. Vegetation management activities in the vicinity of the proposed staff residences and researcher accommodations would generally consist of reducing fuel loads (i.e., mowing highly flammable vegetation such as non-native grasses

and fennel) within 30 feet of proposed structures, and thinning vegetation located 30-100 feet of the proposed structures.

Required fuel load reduction activities within 30 feet of proposed new structure would not result in significant impact to nearby oak woodland habitat or impact individual oak trees because the proposed staff residences and researcher accommodation would be a minimum of approximately 25 feet from native habitat areas, and only the southern proposed staff residence is within approximately 25 feet of oak woodland habitat. The proposed buffer areas substantially limit the need for fuel management activities within nearby sensitive habitat areas. Vegetation management within the zone that is 30-100 feet of a structure generally requires activities such as the removal of dead vegetation, selected removal of highly flammable non-native vegetation, selected thinning (not removal) of native understory vegetation, and if necessary, the trimming of low-hanging branches or other "ladder fuels" that can result in fire spreading into the crowns of nearby trees. Therefore, the Project would not result in the removal of any native trees, and required vegetation management activities to reduce wildfire risk in the vicinity of proposed new structures would only be conducted in limited areas. As a result, the Project would result in **less than significant** direct impacts to oak woodlands or individual oak trees located in the vicinity of the proposed construction sites.

Potential Indirect Impacts. Potentially significant indirect impacts to individual oak trees and oak woodland habitat may result from construction-related activities such as grading, trenching and excavations. These activities have the potential to sever roots, change hydrologic conditions adjacent to the tree, and compact the ground surface. Soil disturbance or compaction within the critical root zone has the potential to result in significant long-term impacts to the health and viability of an oak tree. These potentially significant impacts would be **reduced to a less than significant level** by the requirements of proposed mitigation measure BIO-3a, which identifies measures to avoid and reduce potential indirect impacts to oak trees located near proposed construction sites.

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?*

As shown on Figure 5.4-1, no wetland habitat has been identified at the field station. The stream to the north of the field station and the small intermittent drainages located on and adjacent to the station flow intermittently during the winter and spring rainy seasons, then slowly disappear during the dry summer months. Therefore, the proposed Project would have **no impact** related to potential direct or indirect effects on wetlands.

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?*

The project site is not an established native resident or migratory wildlife corridor and does not support a known native wildlife nursery site. Project-related construction could temporarily reduce wildlife movement that does occur through the site, however, proposed construction operations would occur in limited areas on the 20-acre field station site, and the Project does not include fences that would restrict wildlife movement. Therefore, the Project would have a **less than significant** impact related to wildlife movement.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The land use and resource protection policies of the UCSB 2010 Long Range Development Plan (LRDP) were adopted to serve as the Coastal Plan for the UCSB campus. Therefore, the 2010 LRDP does not apply to the proposed Santa Cruz Island Reserve Development Plan Project. Development projects undertaken by the University of California are not subject to local land use regulations or permitting requirements. Therefore, the land use and policy programs of the Santa Barbara County Comprehensive Plan do not apply to the proposed Project.

Given the absence of an applicable University planning program for the Project, the proposed Development Plan has been evaluated based on the applicable requirements of the California Coastal Act. An evaluation of the proposed Project's consistency with the applicable Coastal Act requirements is provided in Section 5.11 (Land Use and Planning) of this IS/MND. The analysis concluded that with the implementation of mitigation measures identified by this IS/MND, the proposed Project would be consistent with applicable resource protection requirements of the Coastal Act.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed project site is not included in any Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, the Project would have **no impact** related to the implementation of such plans.

5.4.3 Mitigation Measures

Impacts Reduced to a Less Than Significant Level With Proposed Mitigation

Potential impacts of the Project on biological resources can be reduced to a less than significant level with the implementation of the following mitigation measures.

IMPACT BIO 1. Proposed construction activities that result in ground disturbance have the potential to result in significant impacts to Santa Cruz Island fox and island spotted skunk if active or inactive dens are located on or near the construction sites.

BIO-1a. Project-related pre-construction surveys for Santa Cruz Island fox and island spotted skunk shall be conducted prior to the beginning of Project-related ground disturbing activities. Prior to the start of a Project-related ground disturbing activity, the ground surface of the proposed construction site(s) and surrounding area(s) shall be surveyed to detect the presence or absence of active and inactive dens by a qualified biologist. Project-related pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbing activities. Should the surveys detect the presence of an active or inactive den, field station staff shall contact the California Department of Fish and Wildlife (CDFW) and avoidance measures specified by CDFW shall be implemented prior to the start of Project-related ground disturbing activities.

IMPACT BIO-2 Project-related construction activities have the potential to result in the removal or disturbance of active nests used by raptors and common bird species.

BIO-2a. To avoid disturbance or loss of active bird nests during development of the proposed Project, all tree and vegetation disturbing activities shall be conducted to the extent feasible between September 15 and February 15, outside of the typical nesting season.

BIO-2b. If tree or vegetation removal is determined to be necessary during the typical nesting season (February 15 to September 15), a nesting bird survey shall be conducted by a qualified biologist approximately one week prior to the proposed action. Surveys shall follow standard protocols as established by CDFW and/or CCC. If the biologist determines that a tree/shrub is being used for nesting at that time, disturbance shall be avoided until after the young have fledged from the nest and achieved independence. If no nesting is found to occur, tree or vegetation removal can proceed.

BIO-2c. To avoid indirect disturbance of active bird nests by Project construction occurring within the typical nesting season, a qualified biologist shall be retained to conduct one or more pre-construction surveys per standard protocols approximately one week prior to construction, to determine presence/absence of active nests adjacent to the project site. The survey shall be conducted to detect any bird breeding or nesting behavior on the project site or within

500 feet for raptors and 300 feet for all other bird species. If no breeding or nesting activities are detected, noise-producing construction activities may proceed. If breeding/nesting activity is confirmed, work activities within 300 and/or 500 feet of the active nest(s) shall be delayed until the young birds have fledged and left the nest.

IMPACT BIO-3. The proposed Project has the potential to result in significant indirect impacts to oak trees and oak woodland habitat.

BIO-3a. The following tree protection measures shall be implemented prior to start of project grading and construction activities, and throughout the duration of all construction activities.

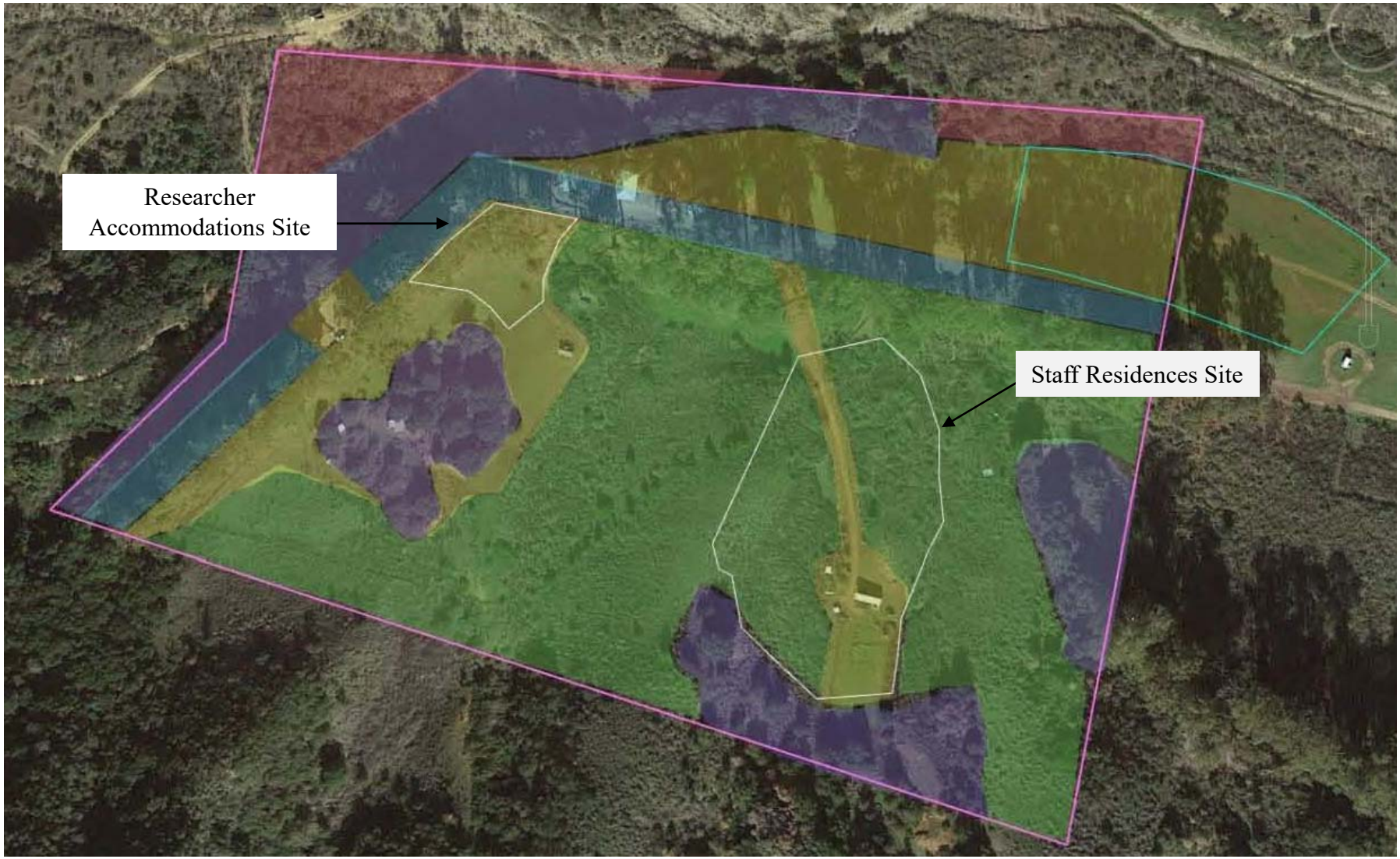
1. All project-specific development plans shall clearly designate a project site limit/construction envelope. The project limit area/construction envelope shall include corridors for the extension of underground utilities.

2. Prior to the start of construction activities, temporary protective fencing, staking, or barriers shall be installed to reduce the potential for inadvertent disturbance of oak trees and oak woodland habitat located adjacent to the proposed staff residence and researcher accommodations construction sites. The fencing/staking/barriers shall be located six (6) feet outward from the dripline of the oak trees closest to the construction sites, and shall be maintained throughout all grading and construction activities.

3. The storage of construction equipment and materials within six (6) feet of any oak tree's dripline shall be prohibited.

4. Any oak tree roots over one inch in diameter encountered during trenching/construction activities shall be cleanly cut using sterilized tools.

5. Drainage plans for the proposed residences and researcher accommodations shall not direct water or cause ponding beneath the dripline of oak trees.



UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 5.4-1

Field Station Vegetation Map

Photo 1. Researcher accommodations project site looking southwest to northeast.

Photo 2. Researcher accommodations project site looking southeast to northwest.

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 5.4-2
Researcher Accommodations
Project Site Photos

Photo 1. Staff Residences project site looking north from southern edge of the site.

Photo 2. Staff residences project site looking north from the center of the site.

UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 5.4-3

Staff Residences Project Site Photos

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.5 CULTURAL RESOURCES - Would the project:					
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?	☐	☐	✓	☐	☐

The information and analysis included in this section regarding the potential for the Project to result in impacts to archaeological resources is based on a report prepared by Gamble and Russell titled *Phase 1 Archaeological Study for the Santa Cruz Island Infrastructure and Facilities Project, Santa Cruz Island Reserve, Santa Barbara County California (2019).* An addendum to the 2019 study that was prepared in 2020 also provides information regarding the Project's potential impacts to cultural resources. Information from both reports is summarized below. The confidential reports are on file with the UCSB Office of Campus Planning and Design and may be reviewed by appropriately qualified persons.

5.5.1 Setting

The proposed project site is within the historic territory of the Native American Indian group known as the Chumash. The Chumash occupied the region from San Luis Obispo County to Malibu Canyon on the coast, the four northern Channel Islands, and inland as far as the western edge of the San Joaquin Valley. The Chumash are subdivided into factions based on distinct dialects.

Numerous archaeologically sensitive prehistoric cultural resource sites are known to exist on Santa Cruz Island. Historic resources also occur on the island, generally consisting of structures and improvements associated with establishment of ranching operations. In general, the prehistoric and historic periods associated with Santa Cruz Island can be identified as follows:

- Terminal Pleistocene and Early Holocene, 13,000-7,000 Before Present (BP)
- Earlier Middle Holocene, 7,000-5,000 BP
- Middle to Late Holocene, 5000-1000 BP
- Late Holocene, 1,000 BP-European Contact
- European Contact
- Historical Period

Two known archaeological sites have been recorded in the vicinity of the proposed project sites at the SCIR field station. Archaeological site CA-SCRI-194 is a small shell midden. Site CA-SCRI-384 includes house pits, associated features, and artifacts.

5.5.2 Checklist Responses

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

The only existing field station structure that would be removed from its current location is a mobile home that is currently used as a residence. The mobile home would be moved to a new site at the field station and repurposed as a storage structure. The mobile home has been extensively modified and is not considered to be a significant historical resource. Proposed interior improvements to the existing restroom and shower building would not alter the appearance of that structure. As described in Section 5.1 (Aesthetics) above, the proposed Project would not substantially change the visual character of the field station or the visual character of other areas of the island that contain historical resources. Therefore, the proposed Project would have a **less than significant** impact on historical resources.

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

An archaeological investigation that evaluated the potential for the proposed Project to result in impacts to archaeological resources was conducted by Dr. Lynn Gamble and Dr. Glenn Russell. The investigation included a record search at the Central Coast Information Center of the California Resources Information System located at UCSB. The record search identified two archaeological sites on and near the field station. One of the sites (CA-SCRI-194) is located adjacent to the site proposed for the construction of the researcher accommodations, and the other site (CA-SCRI-384) is located 40-50 meters west of the researcher accommodations site.

The archaeological investigation included a pedestrian reconnaissance survey of the proposed staff housing site and researcher accommodations site. The ground surface at the proposed staff housing site was "highly visible" while the ground surface at the researcher accommodations site was constrained by dense brush. Based on the results of the records search and site survey, the archaeological investigation concluded that no indications of an

archaeological site were identified in the area that would be used for the development of the proposed staff residences. Therefore, construction activities within the proposed staff residences site would not impact archaeological resources.

The archaeological investigation also included a limited extended Phase 1 (subsurface) testing program for the site proposed for the development of the researcher accommodations. The subsurface testing was conducted by Dr. Lynn Gamble and Dr. Glenn Russell, and a Native American Chumash monitor. The subsurface testing included the excavation of three auger units on the west side of the researcher accommodations site, and three auger units on the east side. All soil from the excavations was screened through wire mesh. No shells, other ecofacts, nor artifacts were found in any of the auger pits or excavated soil. Based on the results of the limited Phase 1 investigation, it was concluded that the proposed development at the researcher accommodations site would not result in impacts to archaeological sites CA-SCRI-194 or CA-SCRI-384.

Based on the results of the archaeological investigations conducted for the proposed project, the likelihood of encountering buried archaeological deposits at the Project sites is considered to be low. However, due to the location of recorded archaeological sites at the field station, the Project area is considered to be archaeologically sensitive. Although unlikely, if previously undetected archaeological materials (such as shellfish fragments, flaked stone, bone, or other cultural material) are encountered during construction, the Project would have the potential to result in a significant impact to cultural resources. Although unlikely to occur, this potentially significant impact can be **reduced to a less than significant level** by implementing the requirements of proposed mitigation measures CUL-1a through 1d.

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

As described in response "b" above, there is low potential for buried archaeological resources to be located at the project site. In the unlikely event that Native American or historic-period burials are encountered during project-related construction activities, a significant cultural resource impact would result. If human remains are encountered, the University will be responsible for complying with provisions of Public Resources Code Sections 5097.98 and 5097.99, and 7050.5 of the California Health and Safety Code. With the implementation of regulatory requirements and proposed mitigation measures CUL-1a through 1d, potentially significant impacts to burial sites that may be located on the project site would be **reduced to a less than significant level**.

5.5.3 Mitigation Measures

Impacts Reduced to a Less Than Significant Level With Proposed Mitigation

Impacts to cultural resources that have the potential to result from the construction of the proposed Project can be reduced to a less than significant level with the implementation of the following mitigation measures.

IMPACT CUL-1 Ground disturbing activities at the Project site have the potential to result in significant impacts to cultural resources.

CUL-1a. A Native American monitor shall be retained to monitor initial site grading activities conducted on the proposed staff residences and researcher accommodations project sites.

CUL-1b. The Native American monitor shall have the power to temporarily halt or redirect project construction in the event that potentially significant cultural resources are exposed. Based on monitoring observations and the actual extent of project disturbance, the monitor shall have the authority to refine the monitoring requirements as appropriate (i.e., change to spot checks, reduce or increase the area to be monitored) in consultation with the UCSB Office of Campus Planning and Design. Upon completion of the monitoring program a monitoring report shall be presented to the UCSB Office of Campus Planning and Design and to the Central Coast Information Center (CCIC).

CUL-1c. In the event that archaeological resources are unearthed during project construction, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find. After the find has been appropriately mitigated, work in the area may resume. A Native American monitor shall be present during any mitigation work associated with required mitigation efforts.

CUL-1d. If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American

Heritage Commission. If avoidance of the remains is not feasible, they should be excavated and removed by a qualified archaeologist in the presence of the Most Likely Descendent. Repatriation of the exhumed remains and all associated items shall be conducted in accordance with the requirements of the California Native American Graves Protection and Repatriation Act (Health and Safety Code 8010-8011).

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.6 ENERGY - Would the project:					
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?	☐	☐	☐	✓	☐

5.6.1 Setting

Existing Conditions. A limited amount of electricity is available at the field station that is provided by photovoltaic solar panels and battery storage located at The Nature Conservancy's Main Ranch, approximately 0.5 mile east of the field station; and solar panels located south of the main cluster of field station buildings. Propane is used at the field station primarily for cooking, and also supplements solar water heating and space heating during winter months.

University Requirements. The UC Sustainable Practices Policy (2020) addresses a range of issue areas related to enhancing sustainable practices, including standards to reduce energy use in new buildings. In summary, the energy use reduction standards require that:

- New building projects be designed, constructed, and commissioned to outperform the California Building Code (CBC) energy-efficiency standards by at least 20 percent and strive to design, construct, and commission buildings that outperform CBC energy efficiency standards by 30% or more.

- The Sustainable Practices Policy requires new buildings to at minimum, achieve a USGBC LEED "Silver" certification. However, as described in Section 2.4 (Sustainability Characteristics), given the Project's remote location and primarily prefabricated building components, many of the location-based LEED rating system requirements will be impractical or inapplicable. Energy sustainability, however, would be an underlying principle of the Project's design and construction, the proposed buildings would meet all LEED standards for energy and water use reduction,

responsible materials use, and indoor air quality. Further, the project will target zero-net energy use and minimization of fossil fuel use by maximizing solar energy generation and electrifying heating and hot water systems.

5.6.1 Checklist Responses

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?

See response below.

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

The proposed Project would result in the construction and use of two staff residences; the relocation of one existing mobile home residence that would be re-purposed for storage uses; and the development of new researcher accommodations that would facilitate overnight stays in five small private rooms. Energy for the proposed new facilities would be provided primarily by existing and proposed photovoltaic panels and six new propane tanks to be located at the development sites. Other Project-related improvements, such as utility extensions to serve new development, road improvements, and upgrades to the existing shower/restroom building, would not have a long-term energy demand.

Short-term energy use required for the construction of the project would result primarily from the transportation of building materials to the island and field station, and use of equipment for construction-related purposes. Due to the small size and prefabricated nature of the proposed structures and the limited amount of grading required to construct the project, construction-related energy use would not be substantial.

The increase in energy use at the field station associated with the long-term use of the proposed staff residences and researcher accommodations would not be substantial, and in large part would rely on renewable electricity and hot water generated by existing and proposed solar panels. As described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. As a result, the overall energy use associated with the transportation of field station users to the island would not be increased, and energy required for the use of existing field station facilities would not be substantially increased. Therefore, the Project would have a **less than significant** energy use impact.

5.6.3 Mitigation Measures

The proposed Project would not result in significant energy impacts and no mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.7 GEOLOGY AND SOILS - Would the project:					
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?	☐	☐	☐	✓	☐

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☐	✓

5.7.1 Setting

Regional Setting. A set of low rounded ridges rise above sea level off the southern coast of California to form the eight Channel Islands. The four northern-most of the islands lie in the Santa Barbara Channel, and the remaining islands are scattered offshore between Los Angeles and the Mexican border

Santa Cruz Island is approximately 96 square miles and is the largest of the Channel Islands. The island is approximately 24 miles long, and ranges in width from two miles across at the isthmus on its eastern end to approximately 6.5 miles at its widest point. Santa Cruz Island is bisected from east to west by the Santa Cruz Island Fault zone, along which the prominent central valley (Canada del Medio) has been eroded. Most of the central valley drains to Prisoners' Harbor through a valley about two miles long called Canada del Puerto. The Santa Cruz Island Fault juxtaposes older, more eroded 150-million-year old metamorphic rocks on the south side of the island with much younger 20-million-year old volcanic formations on the north side of the island. There is no historical record of earthquakes generated by movement along this fault, however, offsets in small stream channels crossing the fault indicate geologically recent movement.

Site Geology. Surficial geologic units mapped at the project site consist of terrace sediments of older alluvium (Dibblee, 2001). Formational material (rock) of the Santa Cruz Island Schist likely underlies the project site at depth (Geo Solutions, 2020a and 2020b).

Dibblee (2001) maps the Santa Cruz Island Fault about 0.25 mile north of the project site, trending east-west with a concealed splay of the fault in the vicinity of the project site. The United States Geological Survey shows the nearest splay of the fault traversing the north side of the stream located north of the field station, about 800 feet north of the project site (Geo Solutions, 2020a and 2020b).

Groundwater Conditions. Groundwater was not encountered when soil investigations were conducted at the project site in March, 2020 (Geo Solutions, 2020a and 2020b). A review of well logs from an investigation conducted in 2010 for water wells located east of the project site indicated groundwater depths of approximately 192 feet above mean sea level. Ground surface elevations at the project site vary, but elevations at the main cluster of field station buildings generally range from about 258 to 270 feet above sea level (Geo Solutions, 2020a and 2020b).

Liquefaction. Liquefaction is the loss of soil strength caused by earthquake-generated ground shaking. Liquefaction typically occurs in loose, saturated granular soil. Liquefaction is generally not considered to be a significant concern if onsite soils have a high clay content, consist of dense granular soils, or if groundwater is not present within the upper 40 to 50 feet. The degree of liquefaction susceptibility at a specific location will be dependent upon a variety of factors, including; groundwater must be present within the potentially liquefiable zone; potentially liquefiable soil must have certain grain size and other characteristics; and potentially liquefiable soil must be of low to moderate relative density.

An evaluation of liquefaction potential was conducted for the Project. That evaluation indicates that groundwater depths are greater than 50 feet below the ground surface at the project site. Based on the estimated depth to groundwater and relative density of the older alluvial deposits encountered at depth, the potential for liquefaction to occur at the project site is considered to be low (Geo Solutions, 2020a and 2020b).

5.7.2 Checklist Responses

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.*

   There are no Alquist-Priolo zoned faults on Santa Cruz Island.

The Santa Cruz Island Fault about 0.25 mile north of the project site, and a splay of the fault is approximately 800 feet north of the project site. Therefore, there is a low potential for ground rupture impact to affect the Project and potential fault-related impact are **less than significant.**

ii) Strong seismic ground shaking?

It is likely that the project site will experience strong ground shaking sometime during the life of the Project. Potentially significant earthquake-related ground shaking may result from movement along a local fault or a major earthquake along a more distant fault. Similar to other development in southern California, potential ground shaking-related impacts to proposed structures and Project-related infrastructure can be reduced to a less than significant level by conducting project-specific geotechnical investigations, using foundation and building design measures recommended by engineering evaluations, and compliance with applicable design standards such as those required by the California Building Code.

Geotechnical engineering reports prepared for the Project (Geo Solutions, 2020a and 2020b) include seismic design criteria and recommendations for the design of proposed Project buildings to comply with the requirements of the California Building Code. With the implementation of building code requirements and site-specific design recommendations, potential ground shaking impacts would be **less than significant** and no mitigation measures are required.

iii) Seismic-related ground failure, including liquefaction?

Based on the estimated depth to groundwater and relative density of the older alluvial deposits encountered at depth, the potential for liquefaction to occur at the project site is considered to be low. Therefore, potential ground failure impacts would be **less than significant** and no mitigation measures are required.

iv) Landslides

The construction of the proposed staff residences and researcher accommodations structures would require a total of approximately 650 cubic yards of grading, primarily to make minor modifications to existing access roads and to prepare proposed building pads. Proposed grading at the staff residences site would create a slope with a 2:1 gradient that is approximately six feet in height at the southern end of that project site. Cut slopes with a gradient of 2:1 or flatter are generally assumed to be stable and not result in a significant slope stability impact. Proposed grading at the staff residences site would not disturb the existing 30- to 50-foot high slopes that are adjacent to the site. Grading along the southern perimeter of the proposed researcher accommodations

site would create a new slope approximately two feet in height, which would not result in a potentially significant slope stability impact. The proposed interior upgrades to the existing shower and restroom building would not have the potential to result in a slope stability impact. Therefore, the proposed Project would result in **less than significant** slope stability impacts.

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

Short-Term Impacts. Potential erosion and sedimentation impacts that may result from the Project would result primarily from short-term ground disturbing construction activities that remove existing ground cover vegetation, such as the relocation of the existing access road through the researcher accommodations site; extending the existing access road southward approximately 160 feet to the staff residences; the creation of new slopes at the southern ends of the staff residences and researcher accommodations sites; and the construction of the two proposed septic tanks. Overall, Project-related grading would be limited (650 cubic yards), and excess soil would be used to repair the existing access road that leads to the staff residences site. The proposed road repairs would correct existing erosion problems associated with the road, and provide a more level road surface.

Construction sites over one acre in total area are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) that has been prepared in accordance with the requirements of statewide general NPDES permit for stormwater discharges from construction sites, and that has been reviewed and approved by the Regional Water Quality Control Board. The primary objective of the SWPPP is to identify, implement and maintain appropriate best management practices to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from construction sites.

The combined area that would be subject to ground disturbance at the proposed staff residences and researcher accommodations sites is approximately one acre in size. Therefore, the Project would be required to file a Notice of Intent to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, and to develop and implement a site-specific Storm Water Pollution Prevention Plan (SWPPP) prior to the start of ground disturbing activities. The primary objective of the SWPPP is to identify, implement, and maintain appropriate best management practices to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from construction sites. Proposed erosion control measures depicted on the Project plans include the use of silt fences and jute fabric on cut slopes. With the implementation of proposed erosion control measures and compliance with NPDES regulatory requirements, the Project would result in **less than significant** short-term erosion impacts and no mitigation measures are required.

Long-Term Impacts. Upon the completion of construction activities, proposed cut slopes at the staff residences and researcher accommodations project sites would be revegetated

using island-sourced native seeds and plants, and other disturbed areas, such as the locations of the proposed septic tanks, would also be revegetated. Placing fill soil on the lower portions of the existing access road that leads to the staff residences site would reduce erosion that currently occurs along the roadway. Therefore, the Project would be a **less than significant** long-term source of sediment discharges.

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?*

As described in subsection "a" above, the Project would not result in changes to existing conditions that would result in potentially significant slope stability impacts. The implementation of building construction recommendations identified in the geotechnical reports prepared for the staff residences and researcher accommodations projects (Geo Solutions, 2020a and 2020b) would ensure that potential Project-related soil hazard impacts are **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?*

The implementation of building foundation design and construction recommendations identified by the geotechnical reports prepared for the Project (Geo Solutions, 2020a and 2020b) would ensure that potential project-related soil hazard impacts are **less than significant**.

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

The proposed Project includes the construction and operation of two new on-site wastewater treatment and disposal (septic) systems that would serve the staff residences and researcher accommodations. The locations of the proposed septic systems are shown on Figures 2.2-3 and 2.2-5. The proposed design of the septic systems is based on the results of on-site investigations and soil percolation tests (GeoSolutions, 2020c and 2020d) and project-specific design recommendations (MNS Engineers, 2020). Although the Project is not subject to Santa Barbara County Health Department Environmental Health Services (EHS) requirements, UCSB Environmental Health and Safety requested the proposed septic systems comply with County EHS standards. The County's septic system standards also reference requirements of the California Plumbing Code and State Water Resources Control Board's On-site Wastewater Treatment System Policy. The septic system design report prepared for the Project concludes that the proposed systems would meet applicable regulatory requirements. Therefore, the project site soils would adequately support the use of septic tanks, and the Project would result in **less than significant** impacts related to the use of the proposed wastewater treatment and disposal systems.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

It is not anticipated that the surficial alluvium deposits located on the project site would contain unique paleontological resources, and there are no unique geologic features located on the project site. Therefore, the project would have **no impact** on paleontological resources or unique geological features.

5.7.3 Mitigation Measures

The proposed Project would not result in significant geology or soils impacts and no mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.8 GREENHOUSE GAS EMISSIONS – Would the project:					
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?	☐	☐	☐	✓	☐

5.8.1 Setting

Causes and Effects of Climate Change. Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred because it indicates that there are other related effects in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. As reported by the United Nations Intergovernmental Panel on Climate Change (IPCC, 2013), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence that the global average net effect of human activities since 1750 has been one of warming. The prevailing scientific opinion on climate change is that most of the observed increase in global average temperatures since the mid-20th century is likely due to the observed increase in anthropogenic greenhouse gas (GHG) concentrations (IPCC, 2013).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are 1) present in the atmosphere naturally, 2) are released by natural sources,

or 3) are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, CH_4 has a GWP of 21, meaning its global warming effect is 21 times greater than carbon dioxide on a molecule per molecule basis.

There is a substantial body of scientific evidence that climate change is occurring due to an increase in the concentration of greenhouse gases in the Earth's atmosphere. California's Fourth Climate Change Assessment (2018) summarizes the current understanding of climate impacts in California. The Assessment concludes that there is very high scientific confidence that temperatures in the State are warming and snow pack is declining; and there is very high scientific evidence that sea levels are rising. There is also medium-high confidence that the number of heavy precipitation events, the occurrence of drought, and area burned by wildfire is increasing.

Estimates of future sea level elevations vary considerably based on assumptions regarding greenhouse gas emission control effectiveness and other factors. The *California Coastal Commission Sea Level Rise Policy Guidance* (2015) document recommends using sea level rise estimates prepared by the National Research Council. Those estimates predict that for most of California, sea level will rise two to 12 inches by 2030; five to 24 inches by 2050; and 17 to 66 inches by 2100. Short-term increases in sea level due to large storms are likely to be of greater concern to coastal infrastructure and development in coastal areas over the next several decades than long-term sea level rise rates (California, 2010).

Regulatory Framework

A brief summary of some of the legislation and regulatory requirements that addresses both climate change and greenhouse gas emissions is provided below.

Federal Authority. On September 22, 2009, the USEPA released its final GHG Reporting Rule (Reporting Rule), in response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161) that required the USEPA to develop "… mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy". The Reporting Rule applies to most entities that emit 25,000 metric tons (MT) CO_2E or more per year. On September 30, 2011, facility owners were required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule mandates recordkeeping and administrative requirements for the USEPA to verify annual GHG emissions reports but does not regulate GHG as a pollutant.

The Clean Air Act defines the USEPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. On May 13, 2010, USEPA set greenhouse gas emissions thresholds to define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit covered facilities to the nation's largest greenhouse gas emitters: power plants, refineries, and cement production facilities.

California Regulations and Programs. California climate change regulations most applicable to the proposed project are summarized below.

Executive Order S-3-05. This Executive Order provides that by 2010, emissions of greenhouse gases shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels.

*Assembly Bill 32***.** The California Global Warming Solutions Act of 2006 (AB 32) requires the California Air Resources Board to adopt regulations to evaluate statewide greenhouse gas emissions, and then create a program and emission caps to limit statewide emissions to 1990 levels. The program is to be implemented in a manner that achieves emissions compliance by 2020. AB 32 did not directly amend CEQA or other environmental laws, but it did acknowledge that emissions of greenhouse gases cause significant adverse impacts to human health and the environment.

Senate Bill (SB) 97. Signed in August 2007, this bill acknowledged that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

Executive Order B-30-15. This order was signed by Governor Brown in April 2015 and established a greenhouse gas reduction target of 40 percent below 1990 levels by 2030. The order

also directed state agencies with jurisdiction of greenhouse has emission sources to implement measures to achieve the interim 2030 goal, as well as the existing 2050 goal established by Executive Order S-3-05.

Senate Bill 32. This bill was signed in 2016 and established a greenhouse gas emissions reductions target of at least 40 percent below 1990 levels by 2030.

Executive Order B-55-18. This executive order established a statewide goal to achieve carbon neutrality as soon as possible and no later than 2045.

Scoping Plans. In June 2008, the California Air Resources Board (CARB) developed a Draft Scoping Plan for Climate Change, pursuant to AB-32. The Scoping Plan was approved on December 12, 2008. The Scoping Plan proposed a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce dependence on oil, diversify energy sources, save energy, and enhance public health while creating new jobs and enhancing the growth in California's economy. The Climate Change Scoping Plan was updated in May 2014, and confirmed that California is on target for meeting the 2020 greenhouse gas emissions reduction goal. On December 14, 2017, CARB approved the 2017 Final Scoping Plan Update. The Plan outlines CARB's programs to achieve a 40 percent reduction in greenhouse gas emissions from 1990 levels by 2030, as required by the passage of SB 32 in 2017.

UCSB and University of California Programs. Climate change programs implemented by UCSB and the University of California are summarized below.

2016 Draft Climate Action Plan. UCSB approved its first Climate Action Plan (CAP) in 2009 based on GHG emissions data gathered during calendar year 2007. The 2009 CAP included emissions data and addressed mitigation strategies for scope 1 emissions (direct emissions: on-site natural gas, diesel and propane combustion; campus fleet emissions; marine vessel and fugitive emissions) and scope 2 emissions (indirect emissions: purchased electricity). The 2012 UCSB CAP included scope 1 and 2 emission, and also included data and mitigation strategies for scope 3 emissions (university-funded business air travel and student, staff, and faculty commuting). The 2014 Climate Action Plan quantified and analyzed UCSB's current, historical, and projected emissions and evaluated the campus' progress toward meeting reduction targets in years 2020 and 2050. Planned and conceptual climate change mitigation strategies outlined in 2014 CAP demonstrated UCSB's ability to achieve a 1990 greenhouse gas emission level (90,736 MT CO2e) by 2020 as the campus building stock and population continue to grow as projected by the 2010 LRDP.

The 2016 Draft CAP includes greenhouse gas emissions inventory results through calendar year 2015, mitigation strategies for additional emission reductions, and revised emissions forecasts. The total 2015 greenhouse gas emissions were estimated to be 70,446 MT CO2e, compared to 2012 greenhouse gas emissions of 91,596 MT CO2e. UCSB emissions fell below the 2020 reduction target in both calendar years 2014 and 2015. The 2016 Draft CAP also includes

the goals of carbon neutrality by 2025 for scope 1 and 2 emissions, and complete carbon neutrality by 2050.

Emission reduction strategies identified by the 2016 CAP include: energy efficiency, including the use of on-site solar power generation in new construction; fleet fuel use reductions; procurement of biogas; behavioral changes related to construction and conservation; reduced commuter emissions; and reduced air travel. The CAP forecasts annual emission reductions of 22,788 MT CO2e resulting from the identified emission reduction measures.

*UC Sustainable Practices Policy (2018)***.** The University of California has adopted a policy program to minimize its impact on the environment and to reduce its dependence on non-renewable energy. The policy addresses a range of issue areas related to enhancing sustainable practices, including:

- Green Building Design
- Clean Energy
- Climate Protection
- Sustainable Transportation
- Sustainable Building Operations for Campuses
- Zero Waste
- Sustainable Procurement
- Sustainable Foodservices
- Sustainable Water Systems
- Sustainability at UC Health

The Green Building Design practices require new buildings to outperform the California Building Code energy-efficiency standards by at least 20 percent and should strive for 30 percent or more. Laboratory space in new buildings also shall meet at least the prerequisites of the Labs 21 Environmental Performance Criteria. The Clean Energy practices state that each UC campus will reduce energy use intensity by an average of at least two percent annually, and will install on-site renewable electricity supplies and energy storage systems whenever cost-effective and/or supportive of the campus Climate Action Plan or other goals. The Climate Protection practices state that each campus will develop strategies to meet the following goals: climate neutrality from scope 1 and 2 sources by 2025; climate neutrality from specific scope 3 sources by 2050 or sooner; and reduced greenhouse gas emissions to 1990 levels by 2020.

5.8.2 Impact Significance Thresholds

Neither the CEQA Guidelines nor UCSB has established a quantitative threshold of significance for greenhouse gas emission impacts. The Santa Barbara Air Pollution Control District (SBAPCD) has not adopted greenhouse gas CEQA significance thresholds for land use development projects, but has adopted thresholds for stationary source projects (i.e., projects with processes and equipment that require an APCD permit to operate). The SBAPCD Environmental Review Guidelines (2015) indicate that stationary source projects emitting less than the screening significance level of 10,000 MT CO2e will not have a significant greenhouse gas impact.

The County of Santa Barbara recently adopted an interim GHG emission screening threshold to evaluate new development projects while the County updates its Energy and Climate Action Plan (ECAP). The updated ECAP, now referred to as the 2030 Climate Action Plan, will identify emission reductions in the county needed in both existing and new development to meet its 2030 GHG emission reduction target. The recently adopted project screening threshold is 300 MTCO2e per year. Projects that are expected to emit fewer than 300 MTCO2e annually require no further analysis and would not have a significant impact on climate change. Projects expected to emit more than 300 MTCO2e of GHGs annually would need to analyze their estimated GHG emissions against an efficiency GHG emission threshold and apply mitigation measures as appropriate. Types and sizes of projects that correspond to the 300 MTCO2e screening threshold have also been identified. For example, a single-family housing project with less than 62,000 square feet of floor area, and a multi-family housing project with less than 55,000 square feet of floor area, would result in less that the screening threshold of 300 MTCO2e.

The proposed Santa Cruz Island Reserve Development Project would result in a net increase of one additional single-family residence and the development of researcher accommodations that would accommodate up to five persons. Based on these Project characteristics, the screening threshold for multi-family housing projects (55,000 square feet of floor area) has been used to evaluate the proposed project.

5.8.3 Checklist Responses

a. *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Project-related GHG emissions would result from temporary construction operations, and the long-term operation of the proposed staff residences and researcher accommodations. Other Project-related facilities, including proposed infrastructure and utility improvements, and upgrades to the existing restroom and shower building, would not result in a substantial long-term increase in existing GHG emissions associated with operations at the field station.

Short-term construction emissions resulting from the implementation of the Project would generally be limited to the use of equipment currently located on the island for the small (650 cubic yards) amount of proposed grading, and the transportation of equipment and construction materials to the island. Material transport emissions would include the limited use of helicopters (estimated to be a total of 14 trips between the field station and a barge located near the island or the mainland) to transport the proposed shipping container structures to the field station, materials and equipment delivered to the island by commercial services or regularly scheduled trips by a National Park Service boat/landing craft or a Navy barge depending on availability, and vehicles used on the island to transport delivered material. Overall, construction-related GHG emissions are not considered to be substantial.

Long-term Project-related GHG emissions resulting from the operation of proposed facilities would result from the use of the new staff residences and researcher accommodations. As described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station, therefore, long-term GHG emission resulting from the transportation of field station users to the island would not be increased. The proposed staff residences would result in a net increase of one residence on the island as an existing residence would be relocated and used as a storage structure. The proposed researcher accommodations would provide five new units for short-term occupancy by persons conducting studies on the island. In total, the proposed new residences and researcher accommodations would have a total square footage of 3,270 square feet, which is substantially less than the County's interim project screening threshold of 55,000 square feet for multi-family residences.

Based on the limited amount of construction activity required to the implement the Project, and the small size of proposed structures, the Project's GHG emissions would result in a **less than significant** impact.

Other Climate Change Effects. The effects of global climate change may result in an increase in sea level, more frequent and severe floods, and an increase in wildfire hazards. The proposed project site is located in the interior of the island at an elevation of approximately 250 feet above sea level. Therefore, a rise in sea level of up to 66 inches by the year 2100 would not result in adverse direct effects to the project site.

As described in Section 5.10 (Hydrology and Water Quality) of this IS/MND, the proposed new buildings (the staff residences and researcher accommodations) and the relocated mobile home that would be used for storage purposes, are not located within the designated 100-year floodplain of the stream located north of and adjacent to the field station. The existing restroom and shower building is located within the stream's 100-year floodplain, however, the proposed interior modifications to this structure would not increase flood hazards within or adjacent to the designated floodplain.

As described in IS/MND Section 5.20 (Wildfire) the Project would be required to comply with Public Resource Code requirements to implement vegetation management measures in the vicinity of proposed new construction (i.e., the two staff residences and the researcher accommodations). In addition, the new buildings would be constructed consistent with California Building Code standards for new construction in a designated high fire hazard severity zone. Therefore, the Project would not substantially increase wildfire hazard-related impacts at the project site.

In conclusion, the Project would not be significantly impacted by climate change-induced increases in sea level, flooding, or wildfire events. Therefore, these effects of global climate change would have **less than significant** impact on the Project.

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

The UCSB 2016 Draft Climate Action Plan outlines measures to reduce campus-related emissions of greenhouse gases. Measures identified by the Climate Action Plan most applicable to the Project are requirements for energy efficiency that would reduce energy use in new buildings. Although the 2016 Draft Climate Action Plan is not directly applicable to proposed development on the Santa Cruz Island, the Project would be consistent with requirements of the Plan because its design would be required to outperform the Title 24 California Building Energy Efficiency Standards by at least 20 percent. Design measures proposed by the Project to achieve energy efficiency objectives include the installation of photovoltaic panels that meet most of the new structures' electricity needs, and the continued use of solar panels for hot water heating. These energy production and energy use reduction measures are also consistent with the requirements of the State's 2017 Final Scoping Plan Update, which identifies various "low carbon energy" strategies to reduce GHG emissions, including the use of renewable energy sources (i.e., photovoltaic and hot water solar panels), and to reduce energy use. Therefore, the Project would be consistent with applicable provisions of adopted plans and policies that are intended to reduce greenhouse gas emissions, and the Project's greenhouse gas emission impacts would be **less than significant**.

5.8.4 Mitigation Measures

The Project would not result in significant impacts related to greenhouse gas emissions and no mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.9 HAZARDS AND HAZARDOUS MATERIALS – Would the project:					
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, would the project result in a safety hazard 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?	☐	☐	☐	✓	☐

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	✓	☐	☐

5.9.1 Setting

It is the policy of the University of California to maintain a reasonably safe environment for its students, academic appointees, staff and visitors. Campus operations are to be conducted in compliance with applicable regulations and with accepted health and safety protocols. The UCSB Office of Environmental Health and Safety (EH&S) has the primary responsibility for coordinating the management of hazardous materials, laboratory safety, and compliance with State and Federal health, safety and environmental regulations.

There are no public airports on Santa Cruz Island. Two private airstrips owned by The Nature Conservancy are located on the island. One airstrip is approximately ten miles west of the field station, and the other is approximately 2 miles east of the station.

Fire hazard severity zones have not been established for Santa Cruz Island by the California Department of Forestry and Fire Protection (Cal Fire). The eastern end of the island is designated as a Federal Responsibility Area for fire prevention and suppression, and the remainder of the island is a State Responsibility Area.

5.9.2 Checklist Responses

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

The proposed staff residences, researcher accommodations, restroom and shower building upgrades, and temporary construction activities, would not result in a substantial increase in the use of hazardous materials at the field station. Hazardous material use associated with the Project would generally be limited to substances such as cleaning agents, paints, and other similar types of household-type products. The Project-related use of these types of substances would not result in a significant hazard to the public or the environment.

The Project would install six new propane tanks: two tanks adjacent to each of the proposed staff residences, and two tanks adjacent to the new researcher accommodations building. Propane tank exchanges would be via the National Park Service boat that travels to the

island once a week, similar to existing propane deliveries to the field station. Therefore, the Project would not substantially increase or change existing hazardous material use at the field station and the Project would have **less than significant** hazardous material or health and safety impacts.

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?*

Short-Term Impacts. The potential for a major release of construction materials (solvents, paints, fuels, lubricants, concrete, etc.) from the project site is very low. However, if construction materials were to be released from the project site, potentially significant environmental impacts could occur at the project site and water quality-related environmental impacts to water resources downstream from the field station could result. Compliance with existing regulations, such as the preparation and implementation of a construction site Storm Water Pollution Prevention Plan, would reduce the potential for a release of construction materials. Therefore, the potential for short-term water quality impacts is considered to be **less than significant**.

Long-Term Impacts. As described in response "a" above, the Project's use of hazardous materials would be very limited, and there are numerous federal, state and University requirements related to the management of hazardous materials and waste. Compliance with these requirements would be adequate to ensure that potential project-related health and safety impacts are **less than significant.** No mitigation measures are required.

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?*

There are no school facilities (i.e., grades K-12) located on Santa Cruz Island. In addition, the project would not be a source of hazardous emissions or handle acutely hazardous materials or waste. Therefore, the Project would have **no impact** to school facilities.

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?*

The list of hazardous materials sites compiled by California Department of Toxic Substances Control pursuant to Government Code Section 65962.5, also known as the "Cortese List," does not identify any known sites on Santa Cruz Island (Envirostor Database, available at: https://www.envirostor.dtsc.ca.gov, accessed November 19, 2020). In addition, no active hazardous material contamination or remediation sites on Santa Cruz Island are identified by the Regional Water Quality Control Board Geotracker website (https://geotracker.waterboards.ca.gov, accessed November 19, 2020). Therefore, the

proposed project would have **no impact** related to proposed development on a known contamination site.

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, would the project result in a safety hazard for people residing or working in the project area?*

There are no public airports located on Santa Cruz Island. Two private airstrips owned by The Nature Conservancy are located on the island. One airstrip is approximately ten miles west of the field station, and the other is approximately two miles east of the station. Permission from The Nature Conservancy is required before aircraft can use either of the landing strips and all flights are coordinated through TNC. Due to the separation distance between the landing strips and the field station, and the low volume of aircraft operations on the island, the Project would result in **less than significant** airport-related safety impacts.

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

Due to the remote location of the field station on Santa Cruz Island, emergency response capabilities are constrained. The proposed Project, however, would not increase the number of visitors to the station, and would not substantially increase the number of staff located at the station. Therefore, the Project would not increase the potential need for emergency responses to the field station and would have a **less than significant** impact related to the implementation of emergency response or evacuation plans.

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

Cal Fire has not established fire hazard severity zones for Santa Cruz Island, however, due to the remote location of the field station, limited access and water supplies, and abundant native vegetation, the project site could be considered to be located in a high wildfire hazard area. The proposed Project would not substantially increase structural development on the island or at the field station that could result in increased loss due to wildfire. In addition, the Project would not increase visitation at the field station that could result in an increased potential for injury or death due to wildfire. Therefore, the Project would result in less than significant long-term wildland fire impacts. Please refer to Section 5.20 (Wildfire) for additional information regarding potential wildfire-related impacts to the proposed Project.

Construction projects in rural, high fire hazard areas can result in activities that have the potential to ignite or contribute to the spread of a wildfire. Examples of these activities include the operation of vehicles in or adjacent to dry brush, vehicle fueling, cutting metal, welding, and the storage of construction materials.

Construction operations required to build the proposed staff residences and researcher accommodations have the potential to result in a significant short-term fire safety impact at the field station. This potential fire safety impact can be **reduced to a less than significant level** by implementing the requirements of proposed mitigation measure HAZ-1a and 1c, which identify construction site requirements that minimize the potential for fire hazards.

5.9.3 Mitigation Measures

Impacts Reduced to a Less Than Significant Level With Proposed Mitigation

Potential hazard-related impacts that have the potential to result from the construction of the proposed Project can be reduced to a less than significant level with the implementation of the following mitigation measures.

HAZ-1 Construction activities at the Santa Cruz Island Reserve field station have the potential to result in a significant short-term fire safety hazard.

1a. Prior to the initiation of project-related development, a construction site fire safety plan shall be prepared. At minimum, the plan shall address the following items:

1. Construction site brush clearance
2. Off-road vehicle operation
3. Welding and cutting
4. Vehicle fueling requirements and limitations
5. Emergency communications
6. Flammable material and equipment storage at the construction site(s)
7. Fire suppression capabilities at the construction site

1b. The construction site fire safety plan shall be reviewed and approved by UCSB EH&S – Fire Safety Division prior to the start of any project-related construction activities.

1c. All approved construction site fire safety plan requirements shall be implemented throughout the duration of construction operations at the field station.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.10 HYDROLOGY AND WATER QUALITY - Would the project:					
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 a 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, or?	☐	☐	☐	✓	☐
iv) impede or redirect flood flows?	☐	☐	☐	✓	☐

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	✓	☐

5.10.1 Setting

Project Site Conditions

Surface Water Resources. Santa Cruz Island is bisected longitudinally by the Santa Cruz Island fault zone along which the prominent central valley, Cañada del Medio, has been eroded. The greater part of the central valley is drained by a stream that is located north of and adjacent to the Santa Cruz Island Reserve field station. This stream drains to Prisoners' Harbor through a gorge called Cañada del Puerto. Like all drainages on the island, the stream flows intermittently during the winter and spring rainy season, then slowly disappears during the dry summer months.

A small ephemeral drainage is located on the eastern portion of the field station, approximately 25 feet east of the northern proposed staff residence, and approximately 60 feet east of the southern proposed staff residence. This drainage flows to another ephemeral drainage that is approximately 85 feet to the east of the proposed northern residence. These drainages, as well as storm runoff from the field station, flows generally northward towards the stream north of the field station. There are no paved roads or parking areas, or other existing development at the field station, that are substantial sources of pollutants that have the potential to adversely affect the quality of runoff water.

Ground Water Resources. No substantial bedrock aquifers are known to exist on the island, and practically all groundwater is contained in alluvial aquifers (National Park Service, 2010). Groundwater was not encountered when soil investigations were conducted at the field station in March, 2020 (Geo Solutions, 2020a and 2020b). A review of well logs from an investigation conducted in 2010 for water wells located east of the field station indicated groundwater depths of approximately 192 feet above mean sea level. Ground surface elevations at the project site vary, but elevations at the main cluster of field station buildings generally range from about 258 to 270 feet above sea level (Geo Solutions, 2020a and 2020b).

100-Year Flood Areas. The Federal Emergency Management Agency (FEMA) has designated a 100-year flood zone for the stream located north of the field station. As shown on Figure 5.10-1, the flood zone is located on the northern portion of the field station. Structures located in the flood zone include the main cluster of field station structures. The field station restroom and shower structure is the only Project-related structure located within the designated flood zone. The site that would be used for the proposed staff residences is a minimum of approximately 500 feet north of the flood zone boundary, and the proposed researcher accommodation structures would be approximately 200 feet north of the flood zone boundary.

Storm Water Management Requirements

Central Coast Post-Construction Stormwater Management Requirements. The Central Coast Regional Water Quality Control Board adopted post-construction requirements for new and redevelopment projects on July 12, 2013, and those requirements went into effect on March 6, 2014.

The primary objective of the post-construction stormwater management requirements is to ensure that regulated projects reduce pollutant discharges to the maximum extent practicable. The requirements emphasize protection and, where degraded, restoring key watershed processes to create and sustain linkages between hydrology, channel geomorphology, and biological health necessary for healthy watersheds.

The post-construction regulations identify minimum stormwater management and treatment requirements for projects of various sizes. The proposed Santa Cruz Island Reserve Development Plan Project is classified by the regulations as a "Tier 1" project, which is defined as projects, including single-family homes that are not part of a larger plan of development, that create or replace 2,500 square feet or more of impervious surface. The proposed Project is classified as a Tier 1 project because the proposed staff residences and researcher accommodations structures would have a total area of approximately 3,270 square feet. Stormwater management requirements for Tier 1 projects include:

- Limit disturbance of natural drainage features.
- Limit clearing, grading, and soil compaction.
- Minimize impervious surfaces.
- Minimize runoff by dispersing runoff to landscape or using permeable pavements.

General Construction Permit and Storm Water Pollution Prevention Plans. The General Construction Permit, Order No. 2012-0006-DWQ, NPDES Permit No. CAS000002, amended by the SWRCB in 2012, regulates storm water and non-storm water discharges associated with construction activities disturbing one acre or greater of soil. Construction sites that qualify must submit a Notice of Intent to gain permit coverage or otherwise be in violation of the Clean Water Act and California Water Code.

The General Construction Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for each individual construction project greater than or equal to one acre of disturbed soil area regardless of the site's risk level. The SWPPP must list the Best Management Practices (BMPs) the discharger will use to control sediment and other pollutants in storm water and non-storm water runoff. The BMPs must meet the Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT) performance standards. Additionally, the SWPPP must contain a visual monitoring inspection program; a chemical monitoring program for sediment and other "non-visible" pollutants to be implemented based on the risk level of the site, as well as inspection, reporting, training and record-keeping requirements. Section XVI of the General Construction Permit describes the elements that must be contained in a SWPPP.

As mentioned above, Order No. 20012-0006-DWQ contains requirements for construction sites based on the site's risk of discharging construction-related pollutants. Each construction project must complete a risk assessment prior to commencement of construction activities, which assigns a risk level to the site and determines the level of water quality protection/requirements the site must comply with. The Permit also includes provisions for meeting specific Numeric Action Levels for pollutants based on the sites' risk level. The SWRCB is the permitting authority, while the Central Coast RWQCB provides local oversight and enforcement of the General Construction Permit.

5.10.2 Checklist Responses

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

Short-Term Impacts

Implementation of the proposed Development Plan Project would include the construction of three new structures (two staff residences and the researcher accommodations), minor grading of slopes south of and adjacent to the proposed construction sites, the extension/relocation of existing roads that would provide access to the new structures, trenching for the extension of utilities to the proposed construction sites, and the installation of two new septic systems. If not properly managed, increased erosion and sedimentation associated with project-related ground disturbances have the potential to impair the quality of surface water. The proposed structures would be predominately prefabricated and no paved surfaces are proposed, which limits the potential for impacts related to an accidental release of construction materials. Although the potential for a major release would be low, a release of construction-related pollutants from a project-related construction site would have the potential to result in a significant water quality impact to downstream receiving waters.

The combined area that would be subject to ground disturbance at the proposed staff residences and researcher accommodations sites is approximately one acre in size. Therefore, the Project would be required to file a Notice of Intent to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, and to develop and implement a site-specific Storm Water Pollution Prevention Plan (SWPPP) prior to the start of ground disturbing activities. The primary objective of the SWPPP is to identify, implement, and maintain appropriate best management practices to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from construction sites. Proposed erosion control measures depicted on the Project plans include the use of silt fences and the jute fabric on cut slopes. With the implementation of proposed erosion control measures and compliance with NPDES regulatory requirements, the Project would result in **less than significant** short-term erosion impacts and no mitigation measures are required.

Long-Term Impacts

Areas adjacent to the proposed staff residences and researcher accommodations that are disturbed by construction activities would generally be covered by the proposed structures or revegetated using native plant species. Therefore, the proposed construction sites would not be a substantial long-term source of erosion. The existing field station access roads that would be relocated or extended to serve the proposed staff residences and researcher accommodations would not be a substantial source of erosion and sedimentation, and road repairs in the lower portions of the access road leading the staff residences site would correct existing erosion damage to the road and reduce the potential for long-term erosion impacts.

The proposed staff residences and researcher accommodations would be residential uses that would not result in the storage or use of substantial quantities of hazardous materials that would have the potential to result in impacts to the quality of surface or ground water resources.

The proposed Project includes the installation and operation of two new wastewater septic systems to serve the proposed staff residences and researcher accommodations. Although the Project is not subject to Santa Barbara County Health Department Environmental Health Services (EHS) requirements, UCSB Environmental Health and Safety requested the proposed septic systems comply with County EHS standards. The County's septic system standards also reference requirements of the California Plumbing Code and State Water Resources Control Board's On-site Wastewater Treatment System Policy. Compliance with these design and system maintenance requirements would minimize the potential for adverse effects to groundwater quality resulting from the treatment and disposal of waste water.

Therefore, potential Project-related long-term groundwater quality impacts would be **less than significant**.

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?*

Water used at the field station for domestic and fire protection purposes is produced by existing wells that are shared with The Nature Conservancy. The water demand of the proposed Project would be primarily to serve the proposed staff residences (a net increase of one residence at the field station) and the researcher accommodations that would serve up to five persons at any given time. As described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Therefore, the Project would not substantially increase the field station's water demand or result in a decrease in water supplies. New construction at the field station would include approximately 3,270 square feet of new structures, which would not result in a substantial reduction in groundwater recharge. Therefore, the proposed Project would not impede the sustainable management of groundwater resources, and the Project's impacts to groundwater supplies would be **less than significant**.

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 a substantial erosion or siltation on- or off-site.*

Please refer to the analysis in item "a" above. That analysis concluded the proposed project would result in **less than significant** short- and long-term erosion and siltation impacts.

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

Implementation of the proposed project would require approximately 650 cubic yards of grading and would result in the development of approximately 3,270 square feet of new impervious structures. The limited amount of grading and new impervious area would not have the potential to substantially increase the rate or amount of surface runoff. Therefore, the potential drainage- and flooding-related impacts of the Project would be **less than significant**.

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.*

As described in response "ii" above, the proposed Project would result in a very small increase in impervious surface area at the field station and would not result in substantial changes to stormwater drainage characteristics at the field station. Stormwater from the proposed staff housing and researcher accommodations sites would be managed consistent with the Tier 1 requirements of the Regional Water Quality Control Board's post-construction requirements for new and redevelopment. To comply with these stormwater management requirements, runoff from the proposed development sites would be dispersed to adjacent open space areas in a non-erosive manner. In addition, the Project would not result in any disturbance to the small ephemeral drainage that is located east of the proposed staff housing site. As described in response "a" above, the Project would not be a substantial short- or long-term source of polluted runoff. Therefore, the Project would have a **less than significant** impact related to the operation of existing storm water drainage systems or receiving waters.

iv) *impede or redirect flood flows?*

As shown on Figure 5.10-1, the main cluster of field station buildings, including the existing restroom and shower building, are located within the designated 100-year flood zone for the stream located north of and adjacent to the field station. Proposed improvements to the restroom and shower building would be limited to interior modifications only. The proposed Project would not expand the existing structure or change the topography of the ground surface adjacent to the building. The Project includes the relocation of an existing mobile home that would be used as a storage structure. As shown on Figure 5.10-1, the relocated mobile home would be located adjacent to but outside of the designated flood zone boundary. Therefore, the proposed Project would not impede or redirect flood flows that may occur in the designated flood zone, and the Project would have a **less than significant** impact related to flooding hazards.

d) *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

The Santa Cruz Island Reserve field station is located near the center of the island and there are no water bodies located near the field station. Therefore, the project sites would not have the potential to be affected by a tsunami or seiche. As shown on Figure 5.10-1, the main cluster of field station buildings, including the existing restroom and shower building, are located within the designated 100-year flood plain for the stream located north of and adjacent to the field station. The proposed staff residences and researcher accommodations would be residential uses that would not result in the storage or use of substantial quantities

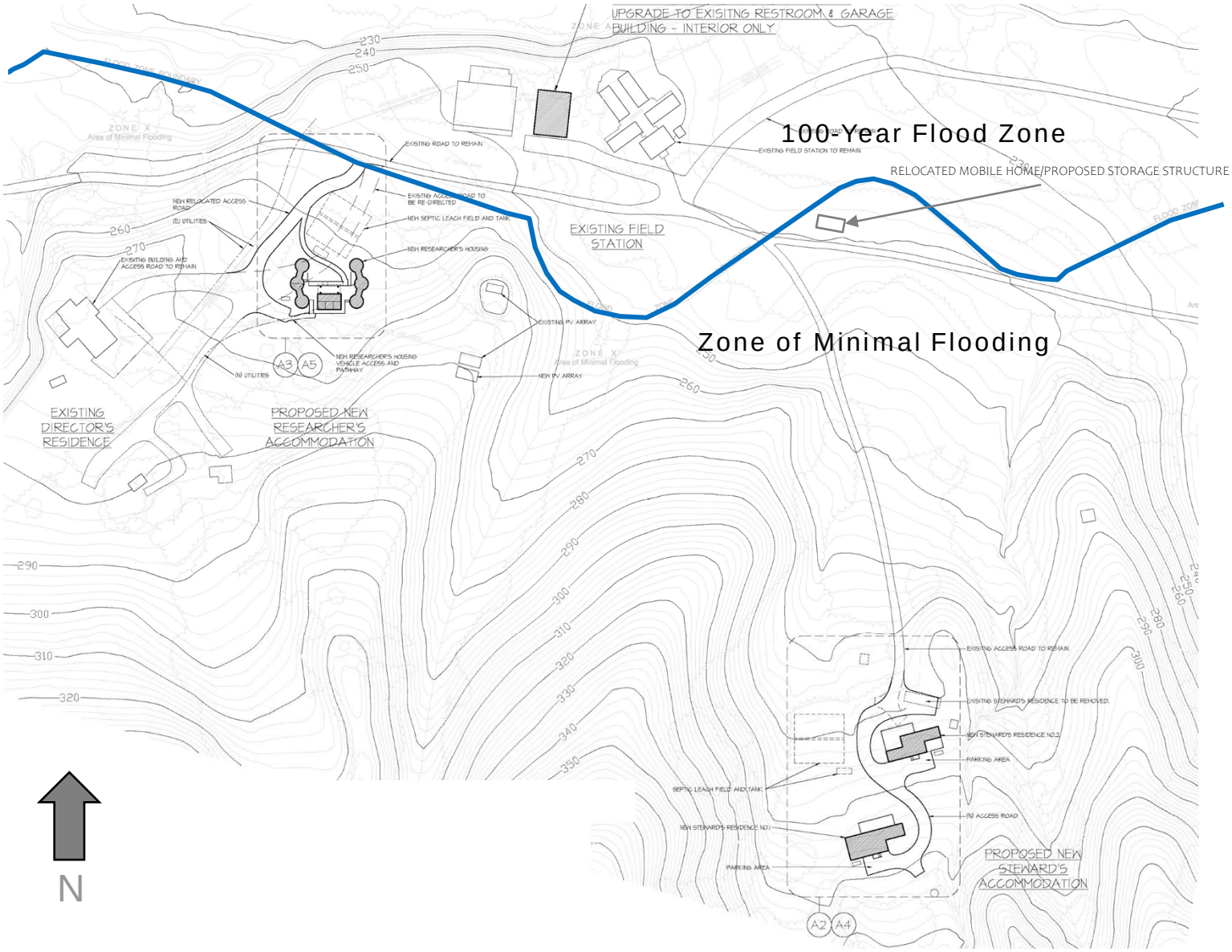
of hazardous materials, and the proposed modifications to the existing restroom and shower building would not have the potential to increase the risk of a release of substances that have the potential to impact water quality. Therefore, the Project would have a **less than significant** potential to result in the release of pollutants in the event of a flood event.

e) *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

As described in responses above, the proposed project would not be a substantial source of pollutants that would result in significant impacts to surface water quality or the quality of groundwater. In addition, groundwater resources on Santa Cruz Island are not subject to the requirements of a groundwater management plan. Therefore, the Project would have **less than significant** impacts related to this significance criterion.

5.10.3 Mitigation Measures

The proposed Project would not result in significant hydrology and water quality impacts and no mitigation measures are required.



UCSB Natural Reserve System

Santa Cruz Island Reserve Development Plan Project

Figure 5.10-1

Flood Zone Boundary

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.11 LAND USE AND PLANNING - Would the project:					
a) Physically divide an established community?	☐	☐	☐	☐	✓
b) Cause a significant environmental effect due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	✓	☐	☐

5.11.1 Setting

The Santa Cruz Island Reserve field station buildings were constructed between 1967 and 1987 and are arranged across a site approximately 20 acres in size. A main cluster of buildings in the central portion of the field station includes a garage/shower facility, a dorm building with bunk beds for approximately 25 visitors, two trailers divided into three single-occupancy bedrooms each, a kitchen, an office, a library, a laboratory, and a classroom. A director's residence and a steward's residence are located near the main cluster of buildings. The field station operates year-around to provide accommodations for researchers and field classes. Each year, the SCIR is used by approximately 1,000 users over 5,000 user days.

Santa Cruz Island has been collaboratively owned by The Nature Conservancy and the National Park Service since 1997. On the portion of the island owned by the National Park Service, improvements include trails, two public campgrounds, the historic Smugglers' and Scorpion ranches, boat docks at Prisoners' Harbor and Scorpion Harbor, a ranger station, and a small U.S. Navy communications facility. The portion of the island owned by The Nature Conservancy includes the historic Main Ranch complex, another set of ranch buildings known as Christy Ranch, the SCIR field station, and two airstrips. A limited network of dirt roads traverse the entire island.

5.11.2 Checklist Responses

a. *Physically divide an established community*?

As described in Section 5.11.1 above, development on Santa Cruz Island is very limited and there are no established communities that would be affected by the proposed project. The proposed staff residences, researcher accommodations, and upgrades to the existing shower and restroom building would occur in the established field station area, and the proposed new facilities would not interfere with existing operations conducted at the station. Therefore, the Project would have **no impact** related to this significance criterion.

b. *Cause a significant environmental effect due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

Santa Cruz Island is located in Santa Barbara County, and the County has applied an "AG-II-320" (Agriculture II, 320-acre minimum lot size) zoning designation to the entire island. The purpose of the Agriculture II district is to establish agricultural land use for large prime and non-prime agricultural lands in the rural areas of the County (minimum 40 to 320 acre lots) and to preserve prime and non-prime soils for long-term agricultural use. As a public entity, projects proposed by the University of California are not subject to the land use regulations of local jurisdictions. Instead of complying with local land use regulations, development that occurs on a U.C. campus is required to comply with policies and requirements of a Long Range Development Plan (LRDP). A separate LRDP has been prepared for each U.C. campus, however, the campus-specific requirements of the UCSB 2010 LRDP are not applicable to the proposed Santa Cruz Island Reserve Development Plan Project. Given the absence of an applicable University planning program for the Project, the proposed Development Plan has been evaluated based on the applicable requirements of the California Coastal Act. An evaluation of the proposed Project's consistency with the applicable Coastal Act requirements is provided below.

Marine Environment

Section 30230: Marine resources; maintenance. *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

The proposed Project would not result in development that would result in potentially significant adverse impacts to the marine environment or marine organisms. As described in Sections 5.7 (Geology and Soils) and 5.10 (Hydrology and Water Quality) of this IS/MND, the potential for the Project to result in short- and long-term water quality impacts that could adversely affect the biological productivity of coastal waters would be less than significant due to the small size of proposed construction operations, the residential character of the proposed facility improvements, and the Project's compliance with

applicable water quality protection regulations. Therefore, the proposed project is consistent with this Coastal Act section.

Section 30231: Biological productivity; waste water. *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The proposed Project includes the installation and operation of two new wastewater septic systems to serve the proposed staff residences and researcher accommodations. Although the Project is not subject to Santa Barbara County Environmental Health Services (EHS) requirements, UCSB Environmental Health and Safety requested the proposed septic systems comply with County EHS standards. The County's septic system standards also reference requirements of the California Plumbing Code and State Water Resources Control Board's On-site Wastewater Treatment System Policy. Compliance with these design and system maintenance requirements would minimize the potential for adverse effects to water quality resulting from the treatment and disposal of waste water.

The Project would result in a limited amount of new impervious surface area, consisting of approximately 3,270 square feet of building area associated with the proposed staff residences and researcher accommodations. As described in IS/MND Section 5.10 (Hydrology and Water Quality) above, runoff from proposed new development would be managed in accordance with Regional Water Quality Control Board requirements by dispersing Project-related runoff away from new structures in a non-erosive manner.

Water used at the field station for domestic and fire protection purposes is produced by existing wells that are shared with The Nature Conservancy. The water demand of the proposed Project would be primarily to serve the proposed staff residences (a net increase of one residence at the field station) and the researcher accommodations that would serve up to five persons at any given time. As described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Therefore, the Project would not result in a substantial increase in the demand for ground water supplies at the field station.

Vegetation at the proposed staff residences and researcher accommodations project sites is dominated by non-native grasses and invasive fennel. Nativevegetation located near the proposed development sites includes sensitive oak woodland habitat. As described in IS/MND Section 5.4 (Biological Resources) above, proposed development would be a minimum of 25 feet from areas that support oak woodland habitat, and as a result the

Project would not result in significant direct (removal) impacts to oak woodland habitat or individual oak trees. Potential indirect impacts of the Project that may result from trenching and other construction activities would be reduced to a less than significant level with the implementation of proposed mitigation measure BIO-3a, which identifies measures to avoid and reduce potential indirect impacts to oak woodland habitat and individual oak trees. The proposed development areas would be at least 300 feet from riparian habitat associated with the ephemeral stream located north of the field station. Therefore, the Project would not result in significant direct or indirect impacts to the riparian habitat associated with the stream.

As described in IS/MND Section 5.10 (Hydrology and Water Quality) above, the existing field station restroom and shower building is located within the 100-year flood zone that has been designated for the ephemeral stream located north of the station. The proposed modifications to the interior of the restroom and shower building would not have the potential to increase, impede, or redirect flood flows associated with the stream. The proposed staff residences would be located a minimum of 25 feet from a small ephemeral drainage located east of the development sites. Therefore, the new residences would not adversely affect water flows in the drainage.

In conclusion, the proposed Project would not result in significant water quality or supply impacts, would not result in significant impacts to natural streams, and potential indirect impacts of the project on sensitive habitat would be reduced to a less than significant level with the implementation of proposed mitigation measures. Therefore, the Project is consistent with this Coastal Act section.

Land Resources

Section 30240: Environmentally sensitive habitat area; adjacent developments:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

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

Vegetation at the proposed staff residences and researcher accommodations project sites is dominated by non-native grasses and invasive fennel. Native vegetation located near the proposed development sites includes sensitive oak woodland habitat. As described in IS/MND Section 5.4 (Biological Resources) above, proposed development would be a minimum of 25 feet from areas that support oak woodland habitat, and as a result the

Project would not result in significant direct (removal) impacts to oak woodland habitat or individual oak trees. Potential indirect impacts of the Project that may result from trenching and other construction activities would be reduced to a less than significant level with the implementation of proposed mitigation measure BIO-3a, which identifies measures to avoid and reduce potential indirect impacts to oak woodland habitat and individual oak trees. The proposed development areas would be at least 300 feet from riparian habitat associated with the ephemeral stream located north of the field station. Based on the design of the Project and with the implementation of proposed mitigation measures, the Project would not result in development in environmentally sensitive areas, would not disrupt habitat values, and would not degrade sensitive habitat areas. Therefore, with the implementation of proposed mitigation measures, the Project is consistent with this Coastal Act section.

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

As described in IS/MND Section 5.5 (Cultural Resources), recorded archaeological site CA-SCRI-194 is located adjacent to the site proposed for the construction of the researcher accommodations, and site CA-SCRI-384 is located 40-50 meters west of the researcher accommodations site. An archaeological investigation conducted for the proposed project concluded that the likelihood of encountering buried archaeological deposits at the Project sites is low. However, due to the location of recorded archaeological sites at the field station, the Project area is considered to be archaeologically sensitive. Although unlikely to occur, if previously undetected archaeological materials are encountered during construction, the Project would have the potential to result in a significant impact to cultural resources. This potentially significant impact would be reduced to a less than significant level by implementing the requirements of proposed mitigation measures CUL-1a through 1d. Therefore, with the implementation of proposed mitigation measures, the Project is consistent with this Coastal Act section.

Development

Section 30250: Location, generally:

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only

where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

(b) Where feasible, new hazardous industrial development shall be located away from existing developed areas.

(c) Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.

The proposed Project would add three new structures to the field station, consisting of two new residences (a net increase of one residence on the island as an existing residence would be converted to a storage facility) and the proposed researcher accommodations. Each of the new buildings would be located in proximity to existing field station structures. In addition, adequate existing services (e.g., water and power) are available to serve the proposed development, and adequate waste water treatment and disposal would be provided with the use of the proposed new septic systems. The Project would not result in a land division, industrial development, or result in a visitor serving development as the field station is not generally accessible to or used by the general public. Therefore, the Project is consistent with this Coastal Act Section.

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

The Santa Cruz Island Reserve field station is located near the center of the island and views of the ocean are not available from the project site. The proposed Project would result in a small amount of grading (650 cubic yards) and the proposed structural development would be limited (3,270 square feet of new budling area). As described in IS/MND Section 5.1 (Aesthetics) above, the Project would not result in substantial alterations of natural landforms and the proposed development would not result in significant impacts to any scenic resources located on or near the project site. Therefore, the Project is consistent with this Coastal Act Section.

Section 30253: Safety, stability, pollution, energy conservation, visitors. *New development shall do all of the following:*

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

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

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

As described in IS/MND Section 5.7 (Geology and Soils), the proposed project would not result in significant impacts related to fault rupture, ground shaking, liquefaction, or slope instability. Potential short-term erosion-related impacts resulting from proposed ground disturbances would not be significant because the area disturbed by construction activities and grading would be limited and the Project would comply with regulatory requirements included in a project-specific Storm Water Pollution Prevention Plan.

As described in IS/MND Section 5.10 (Hydrology and Water Quality) the existing restroom and shower building is located in the designated 100-year flood zone of the stream that is located north of the field station. Proposed modifications to the restroom and shower building, however, would be limited to interior improvements that would not expand the footprint of the existing building. Therefore, the proposed building improvements would not increase, redirect, or impede floodwater flows, and would not require the construction of new flood protection structures.

As described in IS/MND Section 5.20 (Wildfire) the Project would not result in a significant wildfire hazard impact at the field station. Potential wildfire risk impacts would not be significant because the amount of new development would be limited (approximately 3,270 square feet), the proposed new structures would comply with California Building Code standards for new construction in a high fire hazard zone, the Project would comply with Public Resources Code requirements for vegetation management in the vicinity of proposed structures, and the Project would be served by existing and proposed fire suppression water storage tanks that have been approved by the UCSB Campus Fire Marshal.

As described in IS/MND Section 5.3 (Air Quality) the proposed Project would not be a substantial source of long-term air emissions and would be consistent with the Santa

Barbara Air Pollution Control District's 2019 Ozone Plan. To ensure that the Project does not substantially contribute to existing exceedances of state standards for PM_{10}, proposed mitigation measure AQ-1a requires the implementation of standard construction site dust control measures.

The proposed Project would not affect a "special community" that is used for recreational purposes as the field station is not generally accessible to or used by the general public.

In conclusion, with the implementation of proposed air quality mitigation measures, the Project is consistent with the geologic and flooding hazard, air quality, and energy requirements of this Coastal Act section.

5.11.3 Mitigation Measures

With the implementation of mitigation measures identified by this IS/MND and described below, the proposed Project is consistent with applicable requirements of the California Coastal Act. No additional mitigation measures are required.

- Protection of oak woodland habitat and individual oak trees located adjacent to proposed construction sites (Section 5.4.3, Measure BIO-2a).

- Require archaeological resource monitoring during initial site preparation activities and implement specified actions in the unlikely event that potentially significant archaeological resources are detected during project construction (Section 5.5.3, Measures CUL 1a through 1d).

- Implement dust control measures during project construction (Section 5.3.4, Measure AQ-1a).

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.12 MINERAL RESOURCES - Would the project:					
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?	☐	☐	☐	☐	✓

5.12.1 Setting

There are no mineral resources or existing mineral resource recovery operations located on or near the Santa Cruz Island Reserve field station or on Santa Cruz Island.

5.12.2 Checklist Responses

a. *Would the project 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?*

See response provided below under item "b."

b. *Would the project 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?*

The proposed Project would not limit the availability of mineral resources to the Project area or region, or interfere with mineral resource recovery operations. Therefore, the Project would have **no impact** on mineral resources.

5.12.3 Mitigation Measures

The Project would have no impact to mineral resources. No mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.13 NOISE - Would the project result in:					
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, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	✓	☐

5.13.1 Setting

Noise Characteristics. Noise may be described as "unwanted or objectionable sound." It is common to measure sound magnitude in decibels (dB), which is a logarithmic scale. A doubling of sound intensity is represented by a 3 dB increase in sound level. Generally, a 1 dB increase is barely perceptible to the human ear, a 3 dB increase is clearly noticeable, and a 10 dB increase is perceived as a doubling in sound.

One method that is used to express a measured noise value is the "equivalent noise level" (Leq). The Leq is defined as the single steady noise level that is equivalent to the same amount of energy as that contained in the actual fluctuating noise levels over a period of time. Typically, Leq

is summed over a period of approximately one-hour. Another method to express a noise measurement is to use a day-night average sound level (Ldn). Ldn is the time average of noise levels for a 24-hour period with a 10 dB addition to noises occurring between 10:00 PM and 7:00 AM. This adjustment accounts for the increased sensitivity of people to nighttime noise. The Community Noise Equivalent Level (CNEL) is similar to the Ldn, except the CNEL adds 5 dB to evening noise levels (7:00 PM to 10:00 PM).

Existing Noise Sources and Receptors. The project site is located in a sparsely developed area near the center of Santa Cruz Island. Activities conducted at the field station are not a substantial source of noise. The noise receptors closest to the field station are located at The Nature Conservancy (TNC) Main Ranch, which is approximately 0.5 mile east of the field station.

5.13.2 Checklist Responses

a. *Would the project result in the 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?*

Short-Term Noise Sources

Short-term construction noise that would result from the construction of the proposed staff residences and researcher accommodations would include: the operation of grading and trenching equipment, helicopter flights over the island and at the field station to deliver the pre-fabricated shipping container homes and researcher accommodations common area structure, possible additional boat trips and use of the Prisoners' Harbor by vessels delivering construction equipment and building materials, the use of vehicles on the field station access road to transport equipment, supplies and construction personnel, and general construction-related activities at the field station project sites.

Project-related grading would require the excavation of approximately 650 cubic yards of soil. The use of mechanical grading equipment, as well as other construction equipment at the field station, would temporarily increase noise levels at and near the project sites. However, such operations would be very limited in duration and would not result in a substantial change in existing noise conditions at sensitive noise receptor sites on the island, the closest of which is the TNC Main Ranch approximately one-half mile east of the proposed construction sites.

The use of helicopters to deliver the pre-fabricated shipping containers to the field station would result in short-term increases in noise levels at the portions of the island that the helicopters fly over, and at the field station. Noise resulting from this Project-related activity would be very limited in duration and would primarily affect field station facilities. Other transportation-related noise that would result from the construction of the Project,

such as a possible increase in boat traffic in Prisoners' Harbor, and the additional use of vehicles on the field station access road, would not result in a substantial change from existing boat and vehicle use conditions and would not result in a substantial increase in transportation-related noise on or near Santa Cruz Island.

Other short-term noise conditions resulting from project-related construction operations would be limited because the proposed staff residences and researcher accommodations would be predominately pre-fabricated, which would limit the need for construction operations at the project sites. Proposed interior modifications to the existing shower and restroom building would not result in substantial increase in noise conditions at the field station.

In summary, construction noise resulting from the proposed Project would be very limited in duration, would primarily affect the field station site, and would not result in a substantial increase in existing noise conditions at the nearest off-site receptor (TNC Main Ranch), which is approximately one-half mile east of the project site. Therefore, short-term construction noise impacts of the Project would be **less than significant**.

Long-Term Noise Sources.

The proposed staff residences and researcher accommodations would be new residential uses at the field station and would not be substantial noise sources that would have the potential to result in a noticeable increase in noise conditions at the field station or at other locations on the island. As described in IS/MND Section 2.5 (Field Station Visitation Characteristics) above, it is not anticipated that the Project would result in an increase in the number of persons that use the field station on an annual basis**.** Since the Project would not substantially change existing operation characteristics at the field station, it would not result in a long-term increase in noise conditions at the station or in surrounding areas, or result in a substantial increase in noise conditions related to additional vehicle use on the island or boat traffic to the island. Therefore, long-term noise impacts of the Project would be **less than significant**.

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

Site preparation activities (i.e., grading) and the construction of the proposed structures would not require equipment or construction techniques (e.g., pile driving) that would result in the creation of excessive groundborne vibrations. Therefore, the short-term vibration impacts of the Project would be **less than significant**

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, would the project expose people residing or working in the project area to excessive noise levels?*

There are two private airstrips on the western end of Santa Cruz Island that are owned and operated by The Nature Conservancy (TNC). Permission to use the air strips must be obtained in advance from TNC, and due to their limited use the airstrips are not a substantial source of noise. It is not anticipated that the Project would result in a substantial increase in the use of the airstrips. Therefore, airport-related noise would result in a **less than significant** impact to the proposed project.

5.13.3 Mitigation Measures

The proposed Project would not result in significant noise impacts and no mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.14 POPULATION AND HOUSING –Would the project:					
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?	☐	☐	☐	✓	☐

5.14.1 Setting

Permanent residences located at the Santa Cruz Island Reserve field station include one staff residence and the Reserve Director residence. Short-term accommodations for persons staying at the field station include a dorm building with bunk beds for approximately 25 visitors, and two trailers divided into three single-occupancy bedrooms each. Infrastructure that is adequate to serve the field station (i.e., electrical power, water, septic systems for wastewater disposal, and roads) is located on and in the vicinity of the field station.

5.14.2 Checklist Responses

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)?*

The field station is currently served by an existing dirt road that extends between the station and Prisoners' Harbor. No modifications to this road are proposed or required to serve the proposed Project. New or modified infrastructure to serve the new staff residences and researcher accommodations include two new septic systems, new photovoltaic solar panels and propane tanks, and minor modifications to existing field station roads. The proposed wastewater, energy, and road improvements would be sized to serve the proposed

residential uses and would not accommodate additional development at the field station. Therefore, the Project would have a **less than significant** impact related to potential substantial unplanned population growth at the field station or on Santa Cruz Island.

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

The proposed Project would result in the development of two new staff residences and the relocation of the existing staff residence, which would then be used as a storage facility. The Project would not displace any people that currently reside on the island. Therefore, the Project would result in a net increase of one residential unit at the field station, would not displace people or housing, and would have a **less than significant** impact on existing housing supplies.

5.14.3 Mitigation Measures

The Project would have less than significant housing and housing impacts, and no mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.15 PUBLIC SERVICES - Would the project:					
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?	☐	☐	☐	☐	✓

5.15.1 Setting

Fire Protection. The review and approval of development plans for compliance with fire protection-related requirements is the responsibility of the UCSB Fire Protection Division of the Environmental Health and Safety Department. An employee of the on-campus Fire Protection Division has been designated as a "Campus Fire Marshall" by the State Fire Marshall's Office.

Police Protection. The UCSB Police Department is responsible for the safety and security of the UCSB campus as well as properties owned, controlled or occupied by the University. Due to the remote location of the island, most law enforcement responses would be from the Santa Barbara County Sheriff's Department or the Channel Islands National Park Rangers

Schools. There are no schools on Santa Cruz Island.

Parks. The eastern portion of Santa Cruz Island is owned by the National Park Service and is managed as part of the larger Channel Islands National Park that was established in 1980. Channel Islands National Park also includes Anacapa Island, Santa Rosa Island, San Miguel Island, and Santa Barbara Island. There are no other parks on Santa Cruz Island.

5.15.2 Checklist Responses

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

The Santa Cruz Island Reserve field station is located at a remote site near the center of Santa Cruz Island. Therefore, the station is not served by the type of fire protection systems available in urban or suburban communities. To minimize potential fire-related impacts, the proposed staff residences and researcher accommodations would include fire sprinkler systems and implement California Building Code standards for new construction in a designated high fire hazard severity zone. The purpose of these construction standards is to protect life and property by increasing the ability of a building to resist the intrusion of flames or burning embers, and to reduce fire-related losses. Water stored in an existing 22,000-gallon storage tank located approximately 0.6 miles to the west of the field station would continue to be available to serve the field station and the proposed new structures. In addition, a new 3,000-gallon water tank to be located south of and adjacent to the southern new staff residence would be installed. By complying with applicable building code and regulatory requirements, the limited amount of new development at the field station would not require the provision of new or altered fire protection-related facilities that have the potential to result in significant environmental impacts. Therefore, the Project would have a **less than significant** impact related to fire protection services.

Police Protection

As described in IS/MND Section 2.5 (Field Station Visitation Characteristics) above, the proposed Project would not increase visitation to the field station. Therefore, the Project would not require the provision of new or altered police protection-related facilities that have the potential to result in significant environmental impacts. The project would have **no impact** related to police protection services.

Schools

The Project would not result in an increased demand for or enrollment in any schools. Therefore, the Project would not require the provision of new or altered school facilities that have the potential to result in significant environmental impacts and would have **no impact** related to school services.

Parks

The Project would not increase visitation to the field station or Channel Islands National Park. Therefore, the Project would not require the provision of new or altered park facilities that have the potential to result in significant environmental impacts and would have **no impact** related to park services.

Other Public Facilities

The Project would not increase visitation to the field station. Therefore, the Project would not require the provision of new or altered public facilities that have the potential to result in significant environmental impacts and would have **no impact** related to public facilities.

5.15.3 Mitigation Measures

The proposed Project would not result in significant public service impacts. No mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.16 RECREATION - Would the project:					
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?	☐	☐	☐	☐	✓

5.16.1 Setting

The eastern portion of Santa Cruz Island is owned by the National Park Service and is managed as part of the larger Channel Islands National Park that was established in 1980. Channel Islands National Park also includes Anacapa Island, Santa Rosa Island, San Miguel Island, and Santa Barbara Island. There are no other park or formal recreation facilities on Santa Cruz Island.

The central and western portions of Santa Cruz Island are owned by The Nature Conservancy (TNC). These portions of the island are managed by TNC primarily for conservation-related purposes. There are no park or formal recreation facilities on the portion of the island that is owned by TNC.

5.16.2 Checklist Responses

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?*

As described in IS/MND Section 2.5 (Field Station Visitation Characteristics) above, the proposed Project would not increase visitation to the field station or to Santa Cruz Island.

Therefore, the Project would not increase the use of Channel Islands National Park and would have **no impact** related to the physical deterioration of park facilities.

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?*

The proposed project does not include the development of any recreation facilities or require the construction or expansion of existing facilities. Therefore, the Project would have **no impact** related to a need to expand or construct recreation facilities.

5.16.3 Mitigation Measures

The Project would have no impact to on- or off-campus recreation facilities. No mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.17 TRANSPORTATION Would the project:					
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 § 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?	☐	☐	☐	✓	☐

5.17.1 Setting

Transportation to Santa Cruz Island is available to the public and is provided by Island Packers, the authorized concessioner for Channel Islands National Park. It is a commercial ferry operation that conducts regularly scheduled trips between the mainland's Ventura Harbor and Scorpion and Prisoners' Harbors on the island. It also provides transportation to the other Park islands. The SCIR field station is in the island's central valley, approximately 3.2 miles from Prisoners' Harbor.

There is a limited network of dirt roads that traverse the entire island, and vehicle access to the field station from Prisoners' Harbor is through Canada del Puerto and then along the island's central valley road. Transportation between Prisoners' Harbor and the field station is provided by field station staff using field station vehicles.

With prior approval from the SCIR Director and The Nature Conservancy, air transportation to the island can be provided by Channel Islands Aviation, which is located at the Camarillo Airport in Ventura County.

5.17.2 Checklist Responses

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

The proposed Project would result in a net increase of one residential dwelling at the field station, and as described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Therefore, the Project would not result in a substantial increase in traffic, or the use of transportation services that provide access to the island. As a result, the Project would have a **less than significant** impact related to this criterion.

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

Senate Bill 743 (Steinberg, 2013) required changes to the CEQA Guidelines regarding the analysis of transportation impacts. The California Office of Planning and Research proposed changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. The California Natural Resources Agency adopted the recommended changes to the CEQA Guidelines and they became effective on December 28, 2018. With the adopted changes, automobile delay as measured by "level of service" and other similar metrics, will generally no longer constitute a significant environmental effect under CEQA. The changes to the way that CEQA evaluations of a project's traffic-related impacts are conducted become mandatory on July 1, 2020.

In December, 2018, the California Office of Planning and Research published a *Technical Advisory on Evaluating Transportation Impacts in CEQA*. The Technical Advisory contains recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Technical Advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing. In regard to screening thresholds for small projects, the Advisory states:

> *"Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."*

As described in response "a" above, the Project would not result in a substantial long-term increase in vehicle use on the island. Therefore, based on the screening criteria described above, the Project would have a **less than significant** impact related to an increase in vehicle traffic miles travelled.

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)?*

There is a limited network of dirt roads that traverse the entire island, and vehicle access to the field station from Prisoners' Harbor is through Canada del Puerto and then along the island's central valley road. Construction activities for the proposed Project would result in a short-term increase in traffic along the field station access road to transport equipment, construction personnel, and building materials. This increase in traffic, however, would be very limited in duration and would not substantially increase the use of the access road. Due to the very low volume of traffic that currently uses the roadway, the temporary increase in use of the dirt road would not result in a significant safety impact.

The Project would result in a net increase of one new residence at the field station, and as described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Due to the very low volume of traffic that uses the roadway and very limited increase in traffic that may result from one additional field station residence, the Project would not result in a significant long-term safety impact related to the use of the dirt roads located on the Island. Therefore, the Project would have **less than significant** potential traffic safety impacts

d. *Result in inadequate emergency access?*

Due to the remote location of the field station on Santa Cruz Island and the limited number of dirt roads that have been constructed on the island, emergency access capabilities to the field station are constrained. The proposed Project, however, would not increase the number of visitors to the station, and would not substantially increase the number of staff located at the station. Therefore, the Project would not substantially increase the potential need for emergency access to the field station and would have **less than significant** impacts related to emergency access.

5.17.4 Mitigation Measures

The Project would result in less than significant transportation and traffic impacts. No mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.18 TRIBAL CULTURAL RESOURCES.					
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in the 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(k), or	☐	☐	✓	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of the Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource	☐	☐	✓	☐	☐

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
to a California Native American tribe.					

5.18.1 Setting

Please refer to IS/MND Section 5.5 (Cultural Resources) for a description of existing conditions that exist at and near the project site.

Assembly Bill 52 (AB 52) created a process for consultation with California Native American Tribes in the CEQA process. Tribal Governments can request consultation with a lead agency and give input into potential impacts to tribal cultural resources before the agency decides what type of environmental assessment is appropriate for a proposed project. No local tribal representatives have contacted UCSB in writing to request that they be formally notified of project proposals under the requirements of AB 52.

5.18.2 Checklist Responses

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in the 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(k),

Please refer to the response provided below.

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

In addition to the preparation of the project-specific Phase 1 and Extended Phase 1 investigations that evaluated the potential for the Project to result in significant impacts to cultural resources, the California Native American Heritage Commission (NAHC) was contacted by UCSB to request a review of their Sacred Lands File to determine if any known sacred or sensitive Native American areas are located within or near the project site. In their reply, the NAHC stated that the Sacred Lands File search was

"negative." The negative result, however, does not indicate the absence of cultural resources in the project area.

As described in IS/MND Section 5.5 (Cultural Resources) above, the proposed Project was evaluated for potential impacts to two known cultural resources sites (CA-SCRI-194 and CA-SCRI-384) located near the proposed researcher accommodations site. The evaluations concluded that the Project's potential impacts to known cultural sites would be less than significant. However, due to the location of recorded archaeological sites at the field station, the Project area is considered to be archaeologically sensitive. Although unlikely, if previously undetected archaeological resources were encountered during construction, the Project would have the potential to result in a significant impact to significant archaeological resources and/or resources that are considered to be tribal cultural resources. This unlikely but potentially significant impact would be **reduced to a less than significant level** with the implementation of previously proposed mitigation measures CUL-1a through 1d. No additional mitigation measures are required.

5.18.3 Mitigation Measures

The Project's potential impacts to tribal cultural resources can be reduced to a less than significant level with the implementation of previously proposed mitigation measures CUL-1a through 1d. No additional mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.19 UTILITIES AND SERVICE SYSTEMS - Would the project:					
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?	☐	☐	☐	✓	☐

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	✓	☐

5.19.1 Setting

Wastewater Treatment and Disposal. Wastewater produced at the field station is treated and disposed by two septic systems. One of the existing systems serves the main cluster of field station buildings, and the other serves the Reserve Director's residence.

Water Supply. Domestic water used at the field station is provided by two wells that are shared with The Nature Conservancy and are located approximately 1,000 feet east of the field station. Water from the wells is distributed through a 1.5-inch pipeline and two storage tanks (22,000 gallon and 3,000 gallons) to the main cluster of field station buildings, the director's residence, and the steward's residence.

Propane. Propane is used at the field station primarily for cooking purposes. Hot water is primarily supplied using solar water heating systems, however, propane is also used to supplement solar heating during the overcast winter months. Propane used at the field station is delivered via the National Park Service boat that travels to the island on a weekly basis.

Solid Waste Disposal. Existing use of the field station does not result in the generation of a substantial amount of solid waste (i.e., trash). Visitors to the field station are asked to separate their trash into recyclable and non-recyclable components and to take that trash with them when they leave the island and to then dispose of it into appropriate containers on the mainland. Field station staff are also required to do the same with their trash.

5.19.2 Checklist Responses

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?*

The proposed Project would require new utility infrastructure to serve the proposed staff residences and researcher accommodations. The proposed infrastructure improvements include: new underground water lines, new photovoltaic solar panels and associated underground electrical lines, six new propane tanks and associated underground gas lines, and two new septic tanks and associated waste water lines. The new infrastructure would be located adjacent to the proposed staff residences and researcher accommodations sites, and underground service lines would generally be located in previously disturbed areas covered with non-native grasses and fennel, or within existing/proposed roadway areas. Potential impacts to native habitat, cultural resources, dust from construction operations necessary to install the proposed utility infrastructure, and potential construction-related fire hazard impacts would be reduced to a less than significant level by previously identified mitigation measures. These measures include:

- AQ-1a (dust control)
- BIO-1a (Santa Cruz Island fox and spotted skunk pre-construction surveys)
- BIO-2a - 2c (nesting bird pre-construction surveys)
- BIO-3a (oak tree and oak woodland protection)
- CUL-1a - 1d (cultural resources monitoring and protection)
- HAZ-1a – 1c (short-term fire hazard reduction)

Therefore, potential impacts that may result from the construction of new Project-serving infrastructure would be **less than significant** with the implementation of the previously identified measures and no additional mitigation is required.

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?*

Water used at the field station is produced by existing wells that are shared with The Nature Conservancy. Modifications were made to the wells in 2010 to increase their production capacity. The water demand of the proposed Project would be primarily to serve the proposed staff residences (a net increase of one residence at the field station) and the researcher accommodations that would serve up to five persons at any given time. As described in Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Therefore, the Project would not substantially increase water use at the field station. Therefore, the proposed Project would have sufficient water supplies and the Project's potential water use impacts would be **less than significant**.

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?*

Wastewater treatment and disposal at the field station is conducted using on-site septic systems, and the proposed project includes the development and use of two new septic systems to serve the proposed staff residences and researcher accommodations. The proposed septic tanks have been designed to comply with County of Santa Barbara standards and have been sized to accommodate the proposed water use characteristics of the proposed new buildings (MNS Engineers Inc., 2020). Therefore, the proposed septic systems would have adequate capacity to serve the Project's waste water disposal demands and the Project would result in **less than significant** wastewater disposal impacts.

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?*

The proposed staff residences and researcher accommodations would be pre-fabricated structures that are transported and assembled at the project site. Therefore, the Project would not result in the generation of a substantial amount of construction waste that requires disposal. Similar to existing solid waste disposal conditions at the field station, occupants of the proposed staff residences and researcher accommodations would be required to take solid waste that they generate while on the island with them when they leave the field station. In general, the amount of solid waste generated by users of the field station is very limited and the amount of solid waste that is produced would have a **less than significant** impact on solid waste reduction goals.

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

As described in response "d" above, the proposed Project would have a **less than significant** effect regarding the implementation of solid waste regulations.

5.19.3 Mitigation Measures

The Project would not result in significant impacts to utilities and service systems. No mitigation measures are required.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.20 WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
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?	☐	☐	☐	✓	☐

5.20.1 Setting

The California State Board of Forestry and Fire Prevention (CalFire) has prepared maps identifying areas of the California where local, state, or federal agencies have the primary financial responsibility for preventing and suppressing fires. The western end of the Santa Cruz Island is designated as a Federal Responsibility Area, while the remainder of the island, including the area occupied by the Santa Cruz Island Reserve field station, is designated as a State Responsibility Area.[1] Fire Hazard Severity Zone mapping prepared by Cal Fire does not include Santa Cruz Island, however, due to the island's remote location, limited access and water supplies, steep terrain, and dense vegetation, it should be considered to be a "Very High" fire hazard severity zone.

Wildfire Hazard Reduction Regulations

A brief summary of existing fire hazard reduction regulations that are applicable to the proposed Project is provided below.

California Building Code. Building standards for high fire hazard areas, including those pertaining to roof coverings, construction materials, and structural components are identified in the California Building Code (CBC). These requirements are intended to protect buildings from wildland fires. The CBC requires the use of ignition-resistant building methods and materials as a measure to reduce structure ignitability.

California Fire Code. The California Fire Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings and to provide safety and assistance to firefighters and emergency responders during emergency operations.

Public Resources Code Section 4290 and 4291. Public Resources Code Section 4291 requires that land covered with flammable material be maintained within 100 feet of each side of a structure. Fuels are required to be maintained so that a wildfire burning under average weather conditions would be unlikely to ignite an adjacent structure.

Recent Wildfires on Santa Cruz Island

A wildfire on the island in 2018 burned approximately 258 acres in the vicinity of The Nature Conservancy Main Ranch. Fire suppression efforts were provided by the National Park Service, U.S. Forest Service, Santa Barbara County and City, Vandenberg Air Force Station, and the Montecito Fire District. A wildfire on the island's east end (NPS property)

[1] https://gis.data.ca.gov/app/789d5286736248f69c4515c04f58f414

in 2020 burned approximately 1,395 acres. Fire suppression efforts were provided by the U.S. Forest Service, NPS, and Santa Barbara County.

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

Emergency response to Santa Cruz Island and the Reserve field station are constrained due to their remote locations. The proposed Project, however, would not result in a substantial increase in new structural development at the field station (a total of 3,270 square feet of new buildings), and as described in IS/MND Section 2.5 above (Field Station Visitation Characteristics), it is not anticipated that the Project would result in a long-term increase in the number of persons using the field station. Therefore, the Project would have a **less than significant** impact related to emergency response or evacuation plans.

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?*

Areas designated as having a high wildfire risk generally have characteristics such as steep slopes, dense native vegetation, limited vehicle access, and limited water supplies. Due to these characteristics, the field station is considered to be located in a high wildfire hazard area. Measures that would be implemented by the Project to reduce the risk of wildfire hazards include the installation of fire sprinklers in new construction, using construction materials and methods required by the California Building Code for structures in high fire hazard areas, providing 3,000 gallons of additional water storage at the field station, and the implementation of fuel reduction activities in areas within 100 feet of the proposed structures. With the implementation of these measures, and based on the limited amount of new development that is proposed, the Project would not substantially exacerbate existing wildfire risks at the field station or on Santa Cruz Island. Therefore, the potential for the project to increase wildfire risk impacts or expose occupants to increased pollutant concentrations is considered to be a **less than significant** impact.

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?*

The proposed Project does not require the construction of new roads on Santa Cruz Island for access to the field station. The minor proposed modifications to existing field station roadways would improve access to the new staff residences and researcher accommodations and would not increase wildfire risks at the field station. Proposed

infrastructure improvements such as proposed propane and electrical lines would be located below grade and would not exacerbate existing fire risk conditions. Potential short-term fire hazard risk impacts resulting from proposed construction activities would be reduced to a less than significant level by proposed mitigation measures HAZ-1a – 1c, which require the implementation of an approved construction fire hazard reduction plan. Therefore, the Project would have **less than significant** impacts related to the installation and maintenance of project-related infrastructure.

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?*

The portions of the field station that would be utilized for Project-related structural development are relatively level and slope gently to the north towards the stream that is adjacent to the station. Slopes on the field station site that are adjacent to proposed structure development site have maximum elevations that are approximately 30 to 50 feet above the development sites and do not present a substantial post-fire slope instability or drainage risk. The proposed staff residences and researcher accommodations are located outside of the 100-year flood zone of the stream located north of the field station. The proposed relocated mobile home that would be used as a storage structure would be located adjacent to but outside of the designated 100-year flood zone. Therefore, the proposed new buildings would not be subject to a significant post-fire downstream flooding impact. The existing field station restroom and shower building is located within the 100-year flood zone of the adjacent stream, however, the proposed interior modifications to that building would not increase the use of the structure or result in an increased post-fire flooding risk. Therefore, the Project would result in **less than significant** post-fire risk impacts.

Issues	Potentially Significant Impact	Project Impact Adequately Addressed in LRDP EIR	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
5.21 MANDATORY FINDINGS OF SIGNIFICANCE.					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	☐	☐	☐	✓	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	✓	☐	☐

a. *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The Santa Cruz Island Reserve Development Plan Project would have the potential to result in significant impacts to Santa Cruz Island fox and island spotted skunk if construction activities were to impact a den being used by one of these animals. The potential impact can be **reduced to a less than significant level** with the implementation of mitigation measure BIO-1a, which requires preconstruction surveys for these animals, and if necessary, the implementation of appropriate avoidance measures.

The project would also have the potential to result in the removal or abandonment of active bird nests if located on or adjacent to proposed development areas. This impact can be **reduced to a less than significant level** with the implementation of proposed mitigation measures, including requirements to conduct pre-construction bird nest surveys and if necessary, implement nest avoidance (mitigation measures BIO-2a through 2c).

Construction of the Project would have the potential to adversely affect the long-term health of native oak trees/oak woodland habitat located adjacent to the proposed staff residence and researcher accommodations project sites. This impact can be **reduced to a less than significant level** with the implementation of proposed mitigation measures, including requirements to implement the tree protection measures specified by mitigation measure BIO-3a.

Construction activities at the project site have the potential to result in significant impacts to cultural resources. This impact can be **reduced to a less than significant level** with the implementation of proposed mitigation measures CUL-1a through 1d, which require the implementation of site monitoring and if necessary other requirements.

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)?*

Due to the remote location of Santa Cruz Island, there is no additional reasonably foreseeable planned development. Therefore, the Santa Cruz Island Reserve Development Plan Project will not result in cumulatively considerable environmental impacts, and the Project's cumulative impacts would be **less than significant**.

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

All of the proposed Project's significant environmental effects can be feasibly reduced to a **less than significant** level with the implementation of proposed mitigation measures.

5.22 FISH AND WILDLIFE DETERMINATION

Based on consultation with the California Dept. of Fish and Wildlife, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends.

___ Yes (No Effect)

✓ No (Pay fee)

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6.2 Contacts

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6.3 Preparers

This Initial Study/Mitigated Negative Declaration was prepared by Rodriguez Consulting, Inc., under contract to U.C. Santa Barbara.

APPENDIX A
BIOLOGICAL RESOURCES REPORT

BIOLOGICAL RESOURCES SURVEY REPORT

For

Proposed Development Site

at

UCSB Santa Cruz Island Reserve

Lyndal Laughrin, PhD.

Santa Cruz Island Reserve

University of California Santa Barbara

January 16, 2021

Biological Resources

Introduction

Santa Cruz Island lies 22 miles off the coast of Santa Barbara County and is the largest island of California's eight Channel Islands (Figure 1). It is 22 miles long, and measures from two to six miles in width, for a total of 61,972 acres (96 square miles) and 77 miles of coastline (Figure 2). Two parallel mountain ranges create a major central valley, with steep canyons that descend off rugged peaks to coastal bluffs. As the largest Channel Island, and consistent with the theory of island biogeography, it supports more terrestrial wildlife species than the other Channel Islands. In correlation with its area, Santa Cruz Island displays the greatest diversity of vegetation and topography of all of the Channel Islands.

It is the most biologically diverse of the California Channel Islands and is home to 12 endemic taxa. Four terrestrial vertebrates are endemic to Santa Cruz Island: the Santa Cruz Island Fox (*Urocyon littoralis santacruzae*); the Santa Cruz Island Scrub Jay (*Aphelcoma coerulescens insularis)*; the Santa Cruz Island Harvest Mouse (*Reithrodontomys megalotis santacruzae*); and the Santa Cruz Island Deer Mouse (*Peromyscus maniculatus santacruzae*). The Island Spotted Skunk (*Spilogale gracilis amphialus*) is endemic to several Channel Islands.
Because the island is so big and its physiography is so diverse, it hosts several vegetation communities, including Bishop pine forest, oak woodland, riparian woodland, chaparral, coastal sage scrub, valley and foothill grassland, coastal bluff, coastal marsh, and beach and dune systems. Santa Cruz Island hosts the largest vascular flora of the Channel Islands: 650 species, 74% of which (480 taxa) are native. Eight plant species are endemic to Santa Cruz Island. Eight plant species found on Santa Cruz Island are federally listed as endangered, and one is listed as threatened.

Most of the structures on Santa Cruz Island date from the historic ranching period. On the 24% of the island owned by the National Park Service (eastern end), improvements include several trails, two public campgrounds, docks at Prisoners' Harbor and Scorpion Harbor, one ranger station and a small U.S. Navy facility. The remaining 76% of the island, owned by TNC, includes the historic main ranch complex (dating from 1864) in the central valley, another set of ranch buildings at the western part of the island known as Christy Ranch, the University of California Field Station in the valley (dating from 1965), researcher cabins and two airstrips. Dirt roads traverse the island.

The habitat for native species on the island, most notably that of the listed plants and animals, has been fundamentally altered by historical land use. For much of the past two centuries, sheep, cattle and pigs grazed the landscape, causing widespread devastation of the island ecosystem causing severe soil erosion and landscape destabilization, and promoted the conversion of shrub-land into non-native annual grasslands. The central valley area, including around the main ranch and the Field Station, were extensively plowed and farmed for vineyards and annual hay crops. Although sheep and cattle were removed in the late 20th century, and pigs were gone by 2007, their impacts on the island are slow to heal in some areas. Non-native invasive plant species are the most current threat on the island today with over 170 species having been recorded for the island.

The proposed development sites for staff and researcher housing are situated on the lower edge of the north-facing slope of the island's central valley adjacent to the UC Field Station (Figure 3) and west of TNC's Main Ranch. The topography consists of small ridges and drainages perpendicular to the east-west trending main central valley. The development sites (Figures 4-7) contain buildings, roadway, gardens, and mowed areas that were previously farmed and are now dominated by fennel and non-native grasses. The predominant soil types are metamorphic schist on the ridges and alluvial soils in the small adjacent drainages.

The proposed first stage development includes two residential units that will be built utilizing re-purposed shipping containers. Delivery of project materials (e.g., shipping container units) to the island staging area will potentially be via air transport. The proposed staging area for the drop-off of the container units is a flat field at the northeastern area of the Field Station site (Figures 8 & 9). This is an area dominated by annual non-native forbs and fennel. It was formerly vineyards, grazing land for cattle, and mowed hay fields. It continues to be mowed at least 2-3 times annually to reduce vegetation fuels for fire hazard concerns. No listed species or species of concern occur in these areas.

Habitat, Vegetation and Wildlife

Owing to its diverse physiography and size, the island contains several vegetation communities, including Bishop pine forest, oak woodland, riparian woodland, island chaparral, coastal sage scrub, valley and foothill grassland, coastal bluff, coastal marsh, and beach and dune systems (Schoenherr et al. 1999, Junak et al. 1995). Santa Cruz Island has the largest vascular flora of the Channel Islands with 650 species (74% of which 480 taxa are native). Of these, forty-six plant taxa are endemic to Santa Cruz and at least one other Channel Island (Junak et al. 1995).

Because of past ranching history, parts of the island have been on a slower recovery trajectory, including coastal terraces, valley floors and steeper volcanic hillsides. The terraces and valley floors are still dominated by annual non-native grasses and fennel, while the steep eroded hillsides are slowly re-building soils and gaining vegetation. The proposed building site is in one of these valley floors of fennel/non-native grassland. No listed plant species occur within the proposed site, however the Federally Endangered and California State Endangered plant species, Santa Cruz Island bush-mallow (*Malacothamnus fasciculatus var. nesioticus*), has been used in landscape out-planting sites around the buildings of the nearby UC Field Station.

Vegetation habitat is shown in Figure 10 for the Field Station and Development sites. Small clusters of coast live oak and island scrub oak occur near the development site but none are within 25 feet or inside of the development site. No sycamores, bay or walnut trees are native to the island and no other native tree species are within 25 feet of the proposed site.

No wetlands have been identified within the project area. The creeks along the northern and western edges of the Field Station site flow intermittently during the winter and spring rain seasons, then slowly disappear during the dry summer months.

No unauthorized development or grading or vegetation removal has occurred in the development site. Degradation of the habitat at this site began in the 1880's during the ranching and vineyard era and continued into the beginning of the 21st century, resulting in the area becoming heavily dominated by non-native vegetation.

Impacts from the development activity and structures placed at this site will be mainly affecting non-native habitat. This will be mitigated by the planting of native island plant species for any landscaping around the site after completion of the project.

Fish

There are no fresh water streams in the survey area, hence no fish species. In fact, there are no freshwater fish anywhere on the island.

Reptiles and Amphibians

Five reptile and three amphibian species occur on Santa Cruz Island. The amphibians are the Channel Islands slender salamander (*Batrachoseps pacificus pacificus*), the Black-vented salamander (*Batrachoseps nigriventris*), and the Baja California treefrog (*Pseudacris hypochondriaca*). None of these are likely to be found in the proposed development areas as all prefer more mesic habitats.

The five reptile species are widespread across the island, not uncommon, and can be found in the proposed development area. These are the island fence lizard (*Sceloporus occidentalis becki*), the side-blotched lizard (*Uta stansburiana*), the southern alligator lizard, (*Elaria multicarinatus*), the island gopher snake (*Pituophis catenifer pumilus*), and the yellow-bellied racer (*Coluber constrictor*).

There will be no significant impact from this project to any of the amphibian or reptile populations.

Landbirds

Being the most topographically and ecologically diverse of California's islands, Santa Cruz Island has a greater diversity of breeding landbirds than the other islands, with about seventy different species recorded to date (Collins 2011). The Santa Cruz Island scrub-jay is endemic to Santa Cruz Island, while eight other sland-breeding birds are subspecies endemic to two or more of the Northern Channel Islands. Many other species are regularly observed migrants but there are also quite a number that are only very sporadically recorded.

Extensive riparian areas, oak woodlands, chaparral, and pine forests provide habitat for acorn woodpeckers (*Melanerpes formicivorus*), red-breasted nuthatches (*Sitta canadensis*), northern flickers (*Colaptes auratus*), and the endemic island scrub-jay, as well as pacific-slope flycatchers (*Empidonax difficilis*), black phoebes (*Sayornis nigricans*), and spotted towhees (*Pipilo maculatus*). Coast live oaks and Bishop pines, as well as, introduced stands of eucalyptus (*Eucalyptus* sp.) also provide breeding habitat for northern saw-whet owls *(Aegolius acadicus).* The primary habitats for the endemic jay are oak woodland, pine woodland, and chaparral. There are estimated to be over 1,500 individuals in the population (Sillett et al. 2012).

Two point count stations (Plots 1 & 2 on Figure 11) were established and observations were made on June 10 and 12, 2020. Following standard breeding bird survey protocols used annually for other surveys on the island, observations were made at each station for 10 minutes. and all bird species seen or heard within a 100-meter radius were recorded. Results are in Table 1.

A separate Raptor and Owl Survey was conducted and is appended to this report (Appendix 1).

Mammals

Four terrestrial mammal species occur on the island. Three are endemic subspecies to Santa Cruz Island (the island deer mouse (*Peromyscus maniculatus santacruzae*), the salt marsh harvest mouse (*Reithrodontomys megalotis santacruzae*) and the Santa Cruz Island fox (*Urocyon littoralis santacruzae*). The fourth species, the Island Spotted skunk (*Spilogale gracilis amphialus*), is a Northern Channel Islands endemic as it is also found on Santa Rosa Island.

Bat surveys conducted on the Channel Islands have detected the presence of at least 12 species of bats on the northern Channel Islands. (Von Bloeker 1967; Brown 1980). Many of them are migratory species but at least 5 or 6 species have breeding populations on the island.

Small mammal monitoring has been conducted on Santa Cruz Island, especially for the fox and skunk, with only sporadic efforts directed at the island deer mice. These efforts indicate that though these species are widespread across the island, their numbers have varied over the years. The salt marsh harvest mouse in usually only found near the island's mesic habitats and none occur in the project area.

Santa Cruz Island Fox. The island fox is the largest of the Channel Islands' native mammals and is distributed as six different subspecies, one on each of the six largest Channel Islands.

Due to its limited range and small population numbers, the subspecies was listed under the California Endangered Species Act as a Rare species in 1970 and as a Threatened species in 1987. In 2004 it was listed as an Endangered Federal species. Recovery efforts resulted in it being federally delisted in 2016.

Island foxes occur in virtually every habitat on the island and forage for a wide variety of prey (Moore and Collins 1995), including mice, ground-nesting birds, arthropods, and fruits. Fox home range size varies by habitat type, season, and gender of the animal (Laughrin 1977; Crooks and Van Vuren 1995). The island fox occurs throughout all habitat types on the island but population

density varies by type. The grasslands and more open areas support fewer foxes than the wooded and more densely covered habitats. During the past couple of years the island's total population estimate has been in the 2500-3000 individuals range (C. Boser, TNC, pers comm.).
No dens were located in the proposed development area but they certainly forage in and pass through the site.

Island Spotted Skunk. The island spotted skunk (*Spilogale gracilis amphiala*) is found only on Santa Cruz and Santa Rosa islands and is listed as a State Threatened species due to its restricted island range, small population size, and habitat degradation due to historic ranching activities. It is primarily nocturnal and carnivorous, consuming mice and insects.

Interestingly, when the fox population is high, the skunk population is depressed; the converse also seems to be that when fox numbers were down, the skunk numbers went up. Currently, with fox numbers rather high, skunk population appear to be low.

Wild Fires

No wildfires are known to have occurred during historical times in the development area. During recorded historical times only two natural, lightning initiated fires have occurred, both in other parts of the island. Several other wild fires have happened but all were human caused events and also in other parts of the island. With more human access via the NPS portion of the island, more fires are likely to occur in the future.

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Figure 1: Southern California coastline and the Channel Islands.

Figure 2: Santa Cruz Island and UC Field Station site (outlined in pink).

Figure 3: UC Field Station Site (pink boundary) and Proposed Development Sites (#1-Staff Housing & #2-Researcher Housing) and Proposed Project Staging Area (#3).

Figure 4: View from south edge of proposed staff housing development site looking north.

Figure 5: View of proposed staff housing development site looking north from middle of site.

Figure 6: View of proposed researcher housing site looking from southwest to northeast.

Figure 7: View of proposed researcher housing site looking from southeast to northwest.

Figure 8: View of proposed project staging site looking from north to south.

Figure 9: View of proposed project staging site looking from east to west.

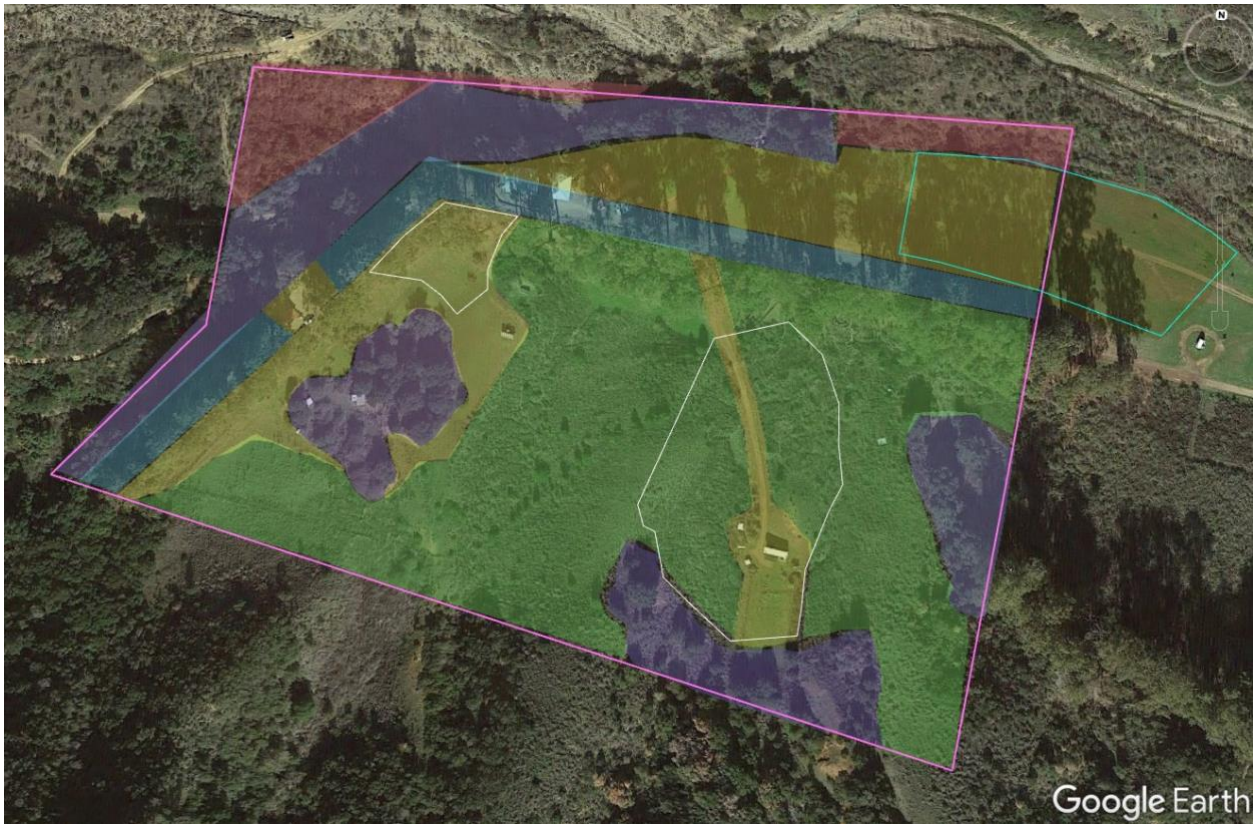

Figure 10: Vegetation Map: UC Field Station site (pink outline), development sites (white outline), project staging site (blue outline), and vegetation habitat types: oak woodland (purple), eucalyptus trees (blue), mulefat riparian scrub (red), fennel and non-native grassland (green), and buildings and mowed areas (yellow).

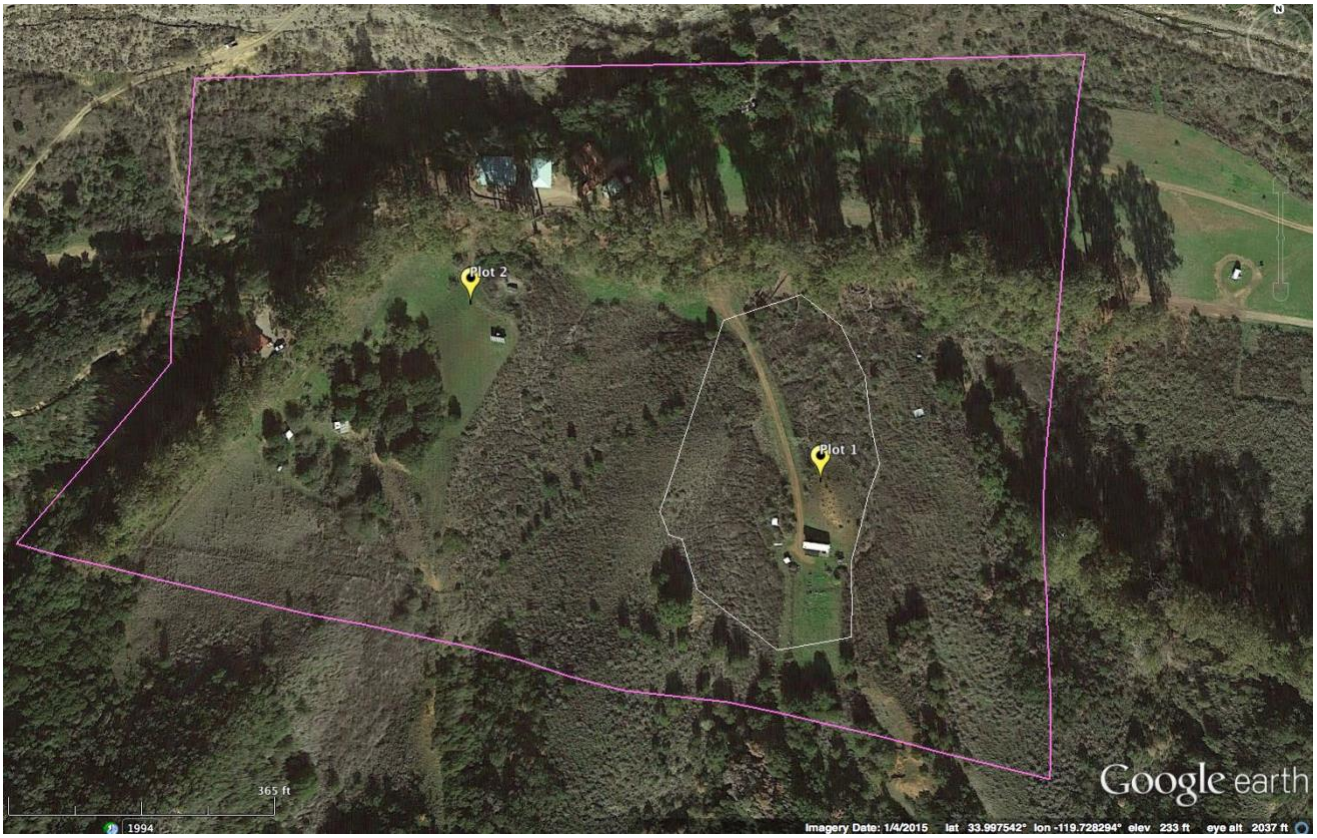

Figure 11: Bird Survey Plot Locations (yellow symbols are center point of 100 meter radius circular plots).

Table 1: Bird species present in Count Plots and Field Station area.

BIRD SPECIES	SEASON PRESENT
Observed in Plot Areas	
Spotted Towhee	All year
Song Sparrow	All year
Island Scrub Jay	All year
House Finch	All year
Mourning Dove	All year
Acorn Woodpecker	All year
Northern Flicker	All year
Ash-throated Flycatcher	Breeding season
Black-headed Grosbeak	Breeding season
Observed in Field Station Ares	
Bewick's Wren	All year
Black Phoebe	All year
Anna's Hummingbird	All year
Allen's Hummingbierd	All year
American Kestrel	All year
Eurasian Collared-Dove	All year - introduced sp.
Pacific-slope Flycatcher	Breeding season

APPENDIX 1

Winter and Breeding Season Raptor & Owl Survey

Update – 2020

Santa Cruz Island Reserve

Lyndal Laughrin, PhD.

Santa Cruz Island Reserve

University of California Santa Barbara

June 22, 2020

Survey Site

Raptor and owl surveys conducted in 2018 preparation for a staff housing development project at the University of California Santa Barbara's Santa Cruz Island Reserve site were updated in 2020. No Winter surveys and only three Breeding surveys were conducted because of the timing for the request. The location is in the central valley portion of Santa Cruz Island (see Figures 1 & 2).

Protocol

Table 1 gives the survey dates, time of day, and numbers of raptors or owls observed.

Surveys were conducted by walking as well as from 3 points using a vehicle as a blind. Observation points were selected due to extent of view available from that location. Binoculars and spotting scopes were used for visual surveys. Each location was occupied for approximately 20 minutes. Walking surveys were conducted for about 1 hour. Owl surveys were conducted by listening for calls, while walking around or driving and parking. A couple of additional observation points were utilized to observe the American Kestrel nest site once it was located.

Results

No raptors or owls were observed within the actual footprint of the development site in this breeding season. One pair of American Kestrels was observed within the survey site but not within the actual footprint of the development site (Fig 3). They used the eucalyptus tree row adjacent to the development area to perch and hunt from, as well as, the nearby open fields. They used a nest hole site in a eucalyptus tree (Fig 3) adjacent to the field station to successfully fledge 2 nestlings. One fledged on June 17 and the second on June 18.

Breeding Season Survey

No breeding raptors or owls were found within the development footprint. As discussed above, one pair of Kestrels was found nesting nearby.

Other breeding raptor/owl species that were or have been observed in the island's central valley outside of development site and/or observation time window: Bald Eagle, Red-tailed Hawk, and Peregrine Falcon.

Summary

No birds of prey or owls were found using any habitat within the potential development footprint. As noted above, there was one successful nesting by a pair of American Kestrels in nearby habitat.

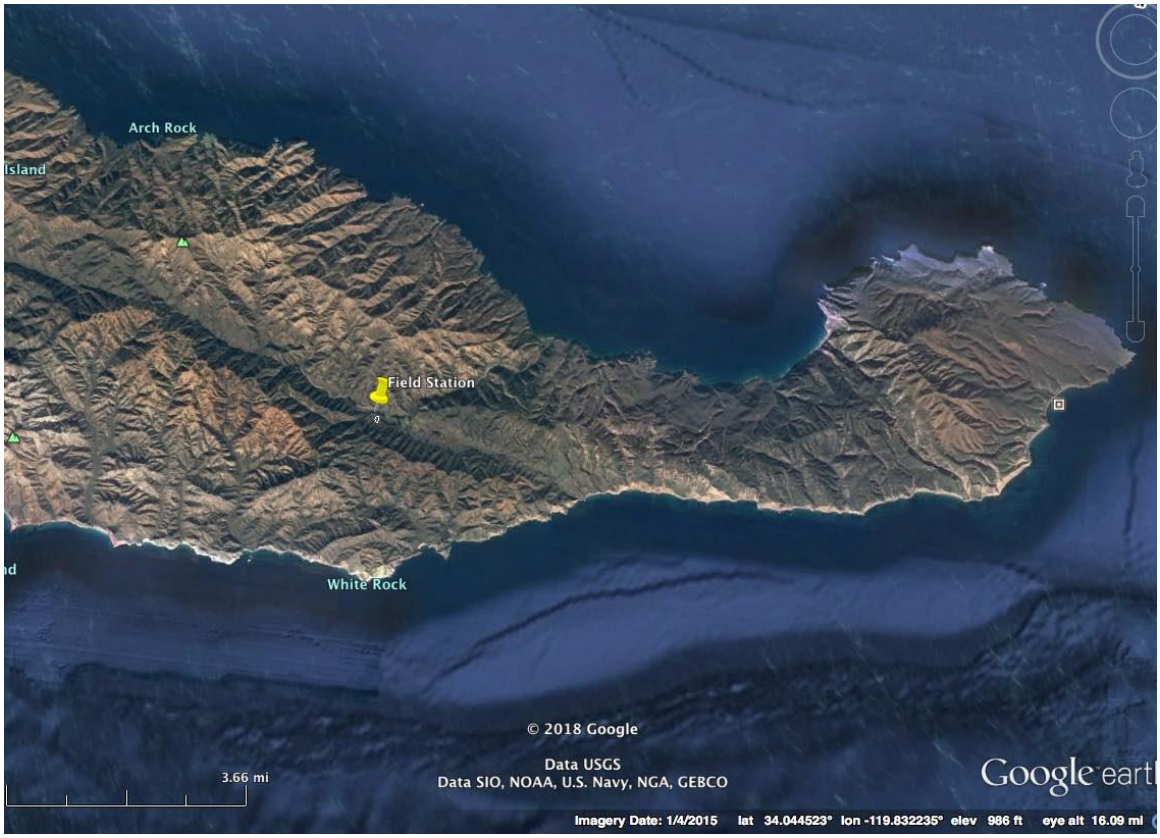

Figure 1: Central to eastern Santa Cruz Island with Field Station location in central valley (yellow pin).

Figure 2: Potential development site (outlined) and Field Station infrastructure.

Figure 3: American Kestrel breeding territory, Spring 2010 (Adult sightings = blue, Nest site = pink).

TABLE 1: Survey dates, times and observations (birdspecies codes are in the text above).

Date	Time	#Raptors/Owls Observed in Site	#Raptors/Owls Observed on Adjacent Sites
NESTING SURVEY			
May 30, 2020	8:00-10:00 am	0	AMKE-2
May 30, 2020	6:30-8:30 pm	0	0
June 7, 2020	7:30-9:30 am	0	AMKE-2 ad; 2 nestlings
June 7, 2020	7:00-9:00 pm	0	0
June 14, 2020	7:30-9:30 am	0	AMKE-2 ad; 2 nestlings
June 14, 2020	7:00-9:00 pm	0	0