

Final Initial Study/ Proposed Mitigated Negative Declaration
University of California Santa Cruz
Landels Hill-Big Creek Natural Reserve Facility Improvement

Prepared By:

Office of Physical Planning & Construction
University of California Santa Cruz
1156 High Street, Barn G
Santa Cruz, CA 95064

FEBRUARY 2015

Contact: Alisa Klaus, Senior Environmental Planner
(831) 459-3732

TABLE OF CONTENTS

1	Project Information.....	4
2	Introduction.....	4
	2.1 Initial Study.....	4
	2.2 Public and Agency Review	5
	2.3 Project Approvals.....	6
	2.4 Organization of the Initial Study.....	6
3	Project Description.....	8
	3.1 Project Location	8
	3.2 Project Overview	12
	3.3 Project Background, Need and Objectives	12
	3.4 Project Discretionary Approvals	19
	3.5 Detailed project Description	20
	3.6 Sustainable Design Elements	21
	3.7 Population	22
	3.8 Construction Schedule and Staging	22
4	Environmental Factors Potentially Affected.....	23
5	Determination	24
6	Evaluation of Environmental Impacts.....	25
	6.1 Introduction.....	25
	6.2 Aesthetics	26
	6.3 Agricultural and Forestry Resources	33
	6.4 Air Quality	34
	6.5 Biological Resources	37
	6.6 Cultural Resources	47
	6.7 Geology, Soils, & Seismicity	49
	6.8 Greenhouse Gas Emissions.....	52
	6.9 Hazards and Hazardous materials.....	55
	6.10 Hydrology & Water Quality.....	57
	6.11 Land Use & Planning.....	60
	6.12 Mineral Resources	65
	6.13 Noise	66
	6.14 Population & Housing.....	67
	6.15 Public Services.....	68
	6.16 Recreation	69
	6.17 Traffic, Circulation and Parking	70
	6.18 Utilities & Service Systems	72
	6.19 Mandatory Findings of Significance.....	74
7	Fish & Game Determination.....	76

8	References	77
9	Agencies & Persons Consulted	77
10	Report Preparers	78

FIGURES

Figure 3-1. Location Map	9
Figure 3-2. Gatehouse Site, Existing Conditions.....	10
Figure 3-3. Coyote Creek Site, Existing Conditions.....	11
Figure 3-4. Gatehouse Site, Proposed Site Plan	13
Figure 3-5. Coyote Creek, Proposed Site Plan	14
Figure 3-6a-d. Elevation Views of Proposed New Buildings	15-18
Figure 6.2-1a-b. Visual Simulations, Gatehouse Site	31-32
Figure 6.5-1. Existing Vegetation Communities, Gatehouse and Coyote Creek Sites	46

APPENDICES

Appendix A. Proposed Mitigated Negative Declaration
Appendix B. Proposed Mitigation Monitoring Plan
<u>Appendix C-1. Applicable Coastal Act Provisions</u>
Appendix C-2. Applicable Big Sur Land Use Plan Policies
Appendix D. Visual Impact Study
Appendix E. Biological Resources Survey Report
<u>Appendix F. Responses to Comments on the Draft Initial Study/Mitigated Negative Declaration</u>

1 PROJECT INFORMATION

Project title:

Landels Hill-Big Creek Natural Reserve Facility Improvement

Project location:

Two locations on the Landels Hill-Big Creek Natural Reserve, east of Highway 1 in Monterey County, 4 miles north of Lucia

Lead agency's name and address:

The Regents of the University of California

1111 Franklin Street

Oakland, CA 94607

Contact person:

Alisa Klaus, Senior Environmental Planner (831) 459-3732

Project sponsor's name and address:

Office of Physical Planning & Construction

University of California Santa Cruz

1156 High Street, Barn G

Santa Cruz, CA 95064

Location of administrative record:

See Project sponsor, above.

Identification of previous documents relied upon for tiering purposes:

None

2 INTRODUCTION

2.1 INITIAL STUDY

Pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq.), an Initial Study is a preliminary environmental analysis that is used by the lead agency as a basis for determining whether an EIR, a Mitigated Negative Declaration, or a Negative Declaration is required for a

project. The CEQA Guidelines require that an Initial Study contain a project description; a description of environmental setting; an identification of environmental effects by checklist or other similar form; an explanation of environmental effects; a discussion of mitigation for significant environmental effects; an evaluation of the project's consistency with existing, applicable land use controls; and the names of persons who prepared the study.

The purpose of this Initial Study is to evaluate the potential environmental impacts of the proposed project to determine what level of additional environmental review, if any, is appropriate. As shown in the Determination form in Section 5 of this document and based on the analysis contained in this Initial Study, it has been determined that the proposed project would not result in any potentially significant impacts that cannot be mitigated to less-than-significant levels through mitigation included in the project.

The analysis contained in this Initial Study concludes that the proposed project would result in the following categories of impacts, depending on the environmental issue involved: no impact; less-than-significant impact; or a less-than-significant impact with the implementation of mitigation measures. Therefore, preparation of a Mitigated Negative Declaration is appropriate. The proposed Mitigated Negative Declaration is presented in Appendix A.

2.2 PUBLIC AND AGENCY REVIEW

This Draft Initial Study was circulated for public and agency review from November 14, 2014 to December 15, 2014. Copies of this document were available for review at the following locations:

UCSC Physical Planning and Construction, Barn G, UC Santa Cruz

McHenry Library and the Science and Engineering Library on the UC Santa Cruz campus

~~Central Branch of the Santa Cruz Public Library in downtown Santa Cruz~~

Big Sur Branch, Monterey County Free Library

The UC Santa Cruz web site, at <http://ppc.ucsc.edu>

Responses to all comments on the Draft Initial Study are presented in Appendix F. The following changes to the Draft Initial Study have been made in response to comments or to present new information:

- On p. 6, the description of approvals required for the proposed Project has been revised to delete the reference to permits from Monterey County under the County's Local Small Water System Program.
- On p. 12, the floor areas of all of the proposed buildings have been revised to reflect modifications to their configurations to address visual impacts.
- The description of the proposed wastewater treatment system on p. 20 has been revised to delete vault toilets as an option.

- In response to a comment by the California Coastal Commission, Mitigation Measure AES-1 (Initial Study, p. 28) has been revised to include adjustment of the siting and configuration of the proposed classroom building, in addition to the selection of building materials, to reduce visibility from Highway 1.
- In response to a comment by the California Coastal Commission, revisions have been made on pp. 26, 40-41, 44, 60-62, and 70, to clarify that the Commission's standard of review for the proposed Project is the Coastal Act rather than the Big Sur Land Use Plan.
- A more detailed description of the trees and shrubs to be removed has been added to the Final IS/MND on p.38.
- Mitigation Measure BIO-7 (Initial Study, p. 41) has been revised to include the requirement that the contractor prepare and implement an Erosion and Sediment Control Plan as specified in Appendix D of the Campus Standards.
- Mitigation Measures CULT-1A and CULT-1B, have been added on pp. 47-48 of the Initial Study to further reduce the less-than-significant impact to archaeological resources and human remains.
- Mitigation Measure HYD-1 has been added (pp. 58-59) to require documentation that the Project storm water management system meets the requirements specified in Campus Standards.
- Three pages of the Visual Impact Study (Appendix D), which present photographs taken from the vantage points shown on the map, which were inadvertently omitted from the Draft Initial Study, have been added.
- The analysis of the adequacy of the water supply for the new development at the Gatehouse site on p. 73 has been revised to take into account the decreased spring flow in summer and fall 2014, as well as refinements to the water demand projections for the classroom building.

2.3 PROJECT APPROVALS

As a public agency principally responsible for approving or carrying out the proposed project, the University of California is the Lead Agency under CEQA and is responsible for certifying the adequacy of the environmental document and approving the proposed project. It is anticipated that the UC decision-maker will consider the Initial Study/Mitigated Negative Declaration and Project design approval in March 2015. After the University has approved the Project design, the University would apply for a Coastal Development Permit from the California Coastal Commission. Construction of the proposed new wastewater disposal systems would require a permit from the Monterey County Department of Health. ~~Permits from Monterey County would also be require to operate the water supply and distribution systems under the County's Local Small Water System program.~~

2.4 ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections:

Section 1 - Project Information: provides summary background information about the proposed project, including project location, lead agency, and contact information.

Section 2 - Introduction: summarizes the scope of the document, the project's review and approval processes, and the document's organization.

Section 3 - Project Description: presents a description of the proposed project, including the need for the project, the project's objectives, and the elements included in the project.

Section 4 - Environmental Factors Potentially Affected: addresses whether this Initial Study identifies any environmental factors that involve a significant or potentially significant impact that cannot be reduced to a less-than-significant level.

Section 5 - Determination: indicates whether impacts associated with the proposed project are significant and what, if any, additional environmental documentation is required.

Section 6 - Evaluation of Environmental Impacts: contains the Environmental Checklist form for each resource area. The checklist is used to assist in evaluating the potential environmental impacts of the proposed project. This section also presents a background summary for each resource area, the standards of significance, and an explanation of all checklist answers.

Section 7 - Fish and Game Determination: indicates whether the project has a potential to impact wildlife or habitat and therefore will require payment of a Fish and Game filing fee.

Section 8 – References

Section 9 - Agencies and Persons Consulted

Section 10 - Report Preparers

Appendix A – Proposed Mitigated Negative Declaration

Appendix B – Proposed Mitigation Monitoring and Reporting Program

Appendix C-1 – Applicable Coastal Act Provisions

Appendix C-2 – Applicable Big Sur Land Use Policies

Appendix D – Visual Impact Study

Appendix E – Biological Resources Survey Report

3 PROJECT DESCRIPTION

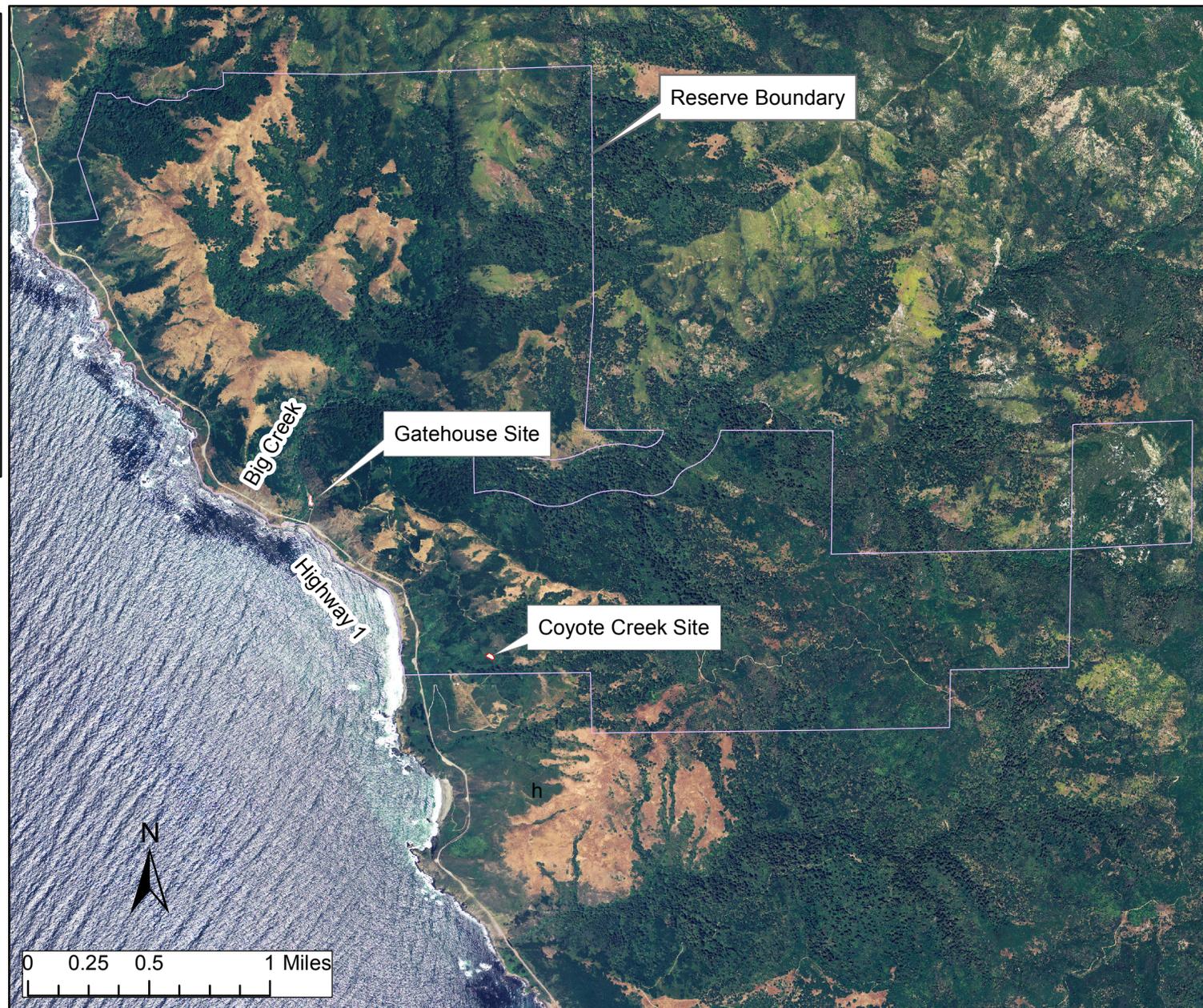
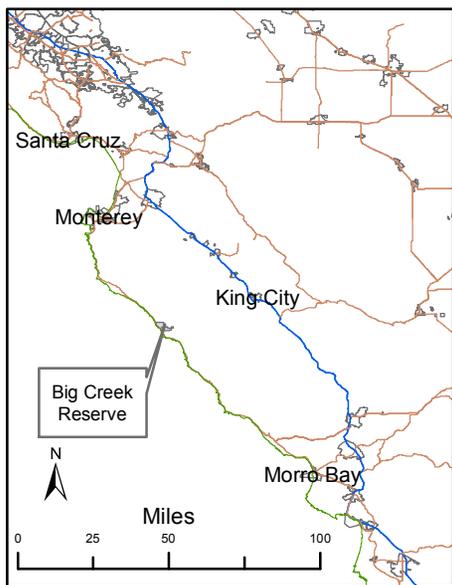
3.1 PROJECT LOCATION

Located on the Big Sur coast 5 miles north of the town of Lucia, the Landels-Hill Big Creek Reserve (the Reserve) is an ecological reserve of 4,585 acres. The Reserve also supports research use on an additional 3,488 acres of neighboring lands (Figure 3-1). The Reserve is administered by the University of California's Natural Reserve System (NRS) and is managed by a resident director and steward working from the office of the Natural Reserves Director within the Division of Physical and Biological Sciences of UC Santa Cruz. It serves the University as a natural laboratory and as an outdoor classroom, in which instruction and research take place and which serves the public through protection of coastal habitats.

The exposed shore-line consists of small beaches interspersed with boulder fields and is bordered by vertical cliffs 200-300 ft. high. Narrow ridges wind from the coastal headlands to the Santa Lucia crest, separating deep V-shaped canyons with walls that rise steeply out from streamside terraces. The landscape, which includes mountains as well as coastal slopes, comprises seven major vegetation communities: riparian, coastal scrub, chamise chaparral, redwood forest, coastal grasslands, oak woodlands, and pine-oak forest. Perennial freshwater creeks in relatively pristine condition support southern steelhead populations and a wide variety of aquatic invertebrates. These creeks flow into a no-take State Marine Reserve and a limited-take State Marine Conservation Area.

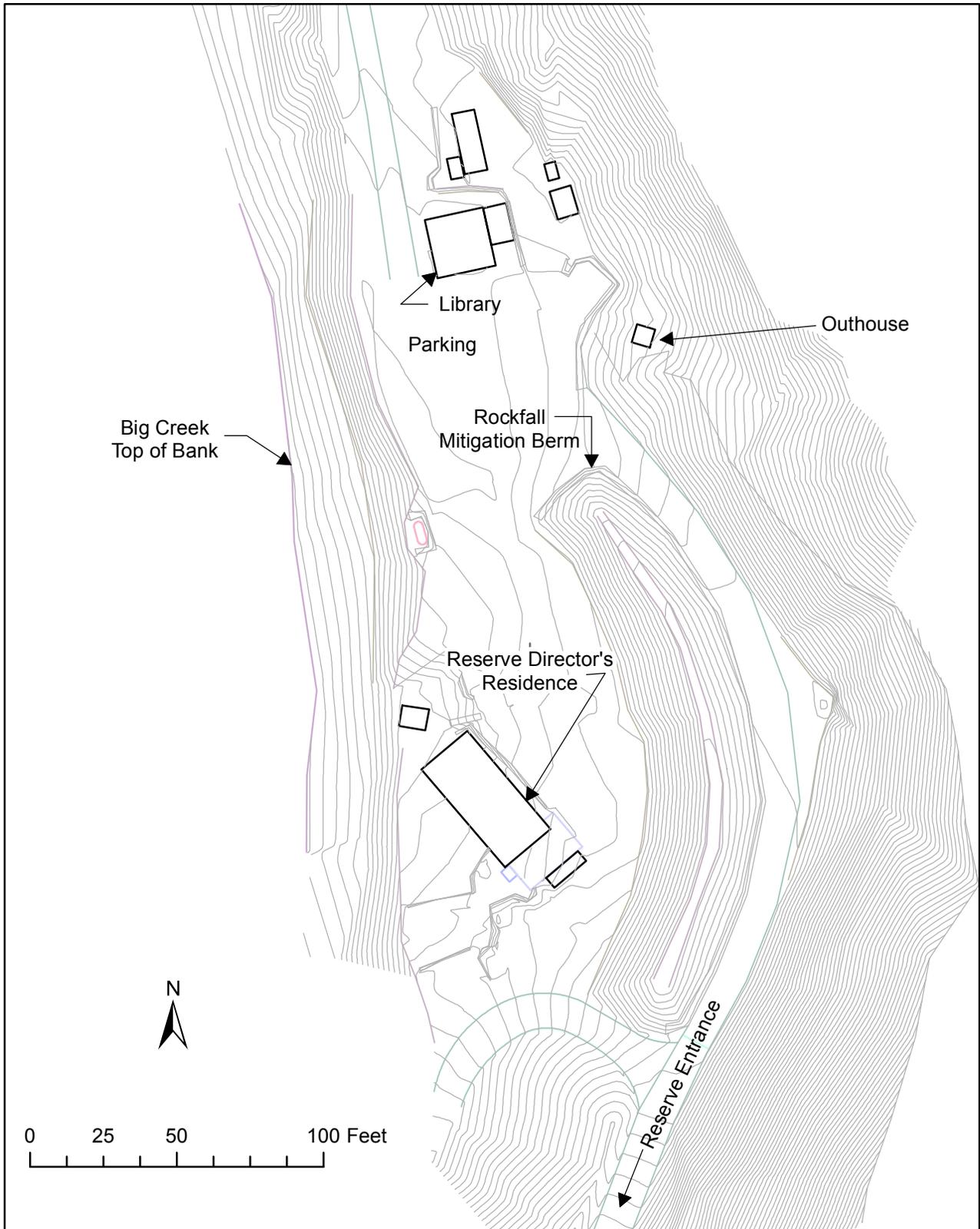
Project construction is proposed at two locations on the Reserve: the Gatehouse area at the mouth of Big Creek canyon just east of Highway 1; and the Coyote Creek area, near the southern boundary of the Reserve. The Gatehouse area is bounded on the north by the steep, rocky canyon wall, which rises to an elevation of about 400 feet, and on the south by Big Creek, which drains to the ocean about 580 feet to the southwest. The main Reserve road runs through the Gatehouse area, along the base of the northern canyon wall, and provides access to the rest of the Reserve. Existing facilities at the Gatehouse Area consist of a 902-sf staff residence; a 412-sf multi-purpose building known as the Library; an outdoor shower and toilet for visitors; and two sheds that house a generator, tool storage, a work bench and fuel. Electricity is supplied by a photovoltaic array and a propane-fueled generator. Wood stoves are the only source of space heating for the existing buildings. Propane is used for cooking and domestic hot water. Potable water is supplied to the Gatehouse facilities from a spring located about 1,500 feet up the road from the Gatehouse area, via an above-ground water line along the road. Wastewater flows to a 1,000 gallon septic tank to the southwest of the Director's residence. An engineered earthen berm was constructed between the road and the Director's residence in 2010 to provide protection from rocks falling from the canyon wall. Figure 3-2 shows existing facilities at the Gatehouse.

The Coyote Creek site is a 1-acre, relatively flat section of undeveloped land at elevation 650 feet above sea level. The Reserve staff use the site for outdoor storage of maintenance materials, vehicles and equipment. The site is occasionally maintained by mowing and clearing brush. An unpaved road provides access to this site from Highway 1 through the privately owned property to the south of the Reserve. This road also provides access, more circuitously, from the Coyote Creek site to other parts of the Reserve, including the Gatehouse area. Figure 3-3 shows existing conditions at the Coyote Creek site.



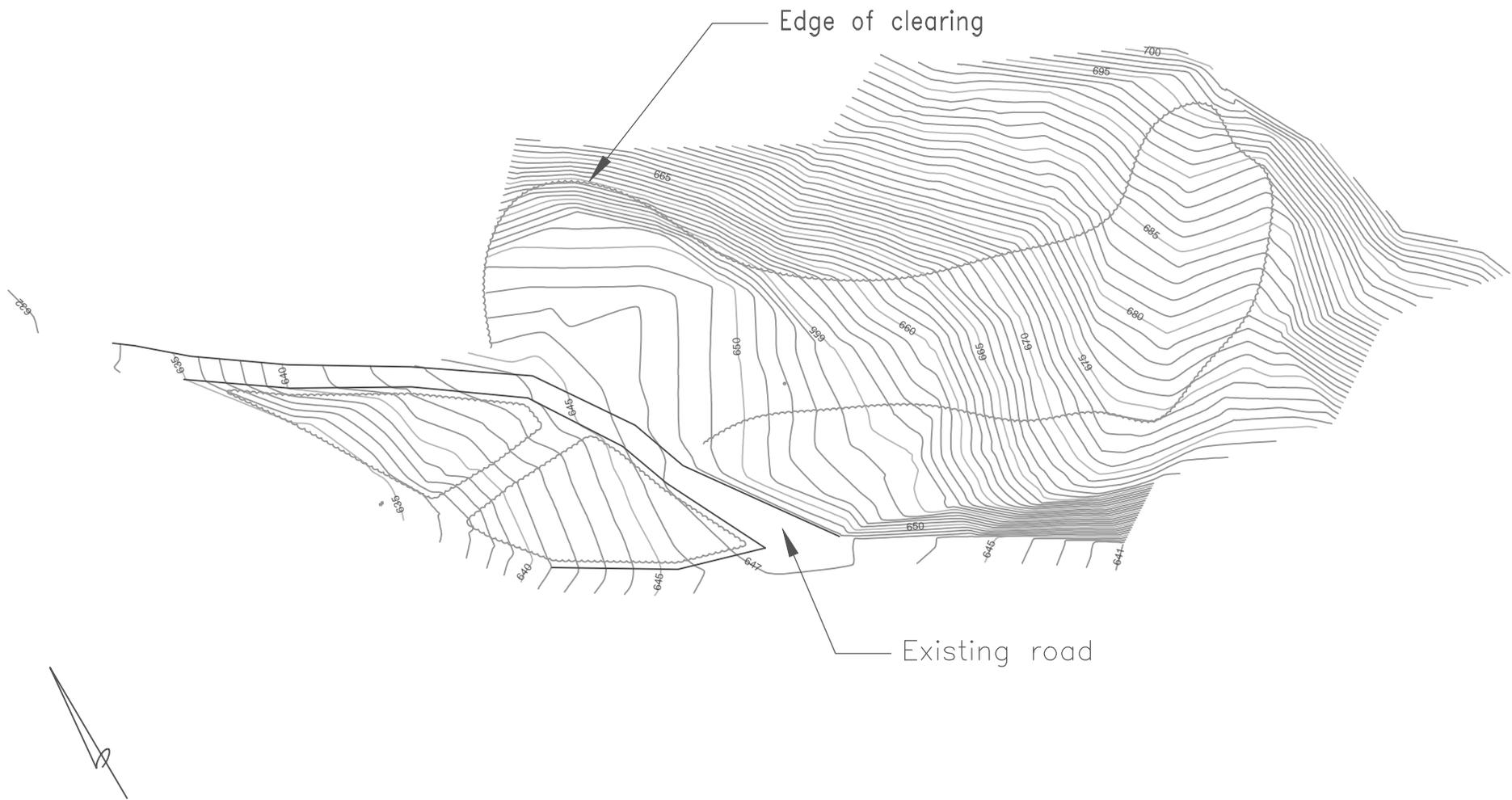
Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

Figure 3-1
Location Map
February 2015



Landels Hill-Big Creek Natural Reserve Facility Improvement
 Final Initial Study/Mitigated Negative Declaration

Figure 3-2
 Gatehouse Site Existing Conditions
 February 2015



Scale: 1" = 60'
Contour interval: 1'

Landels Hill/Big Creek Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

Figure 3-3
Coyote Creek, Existing
Conditions
February 2015

3.2 PROJECT OVERVIEW

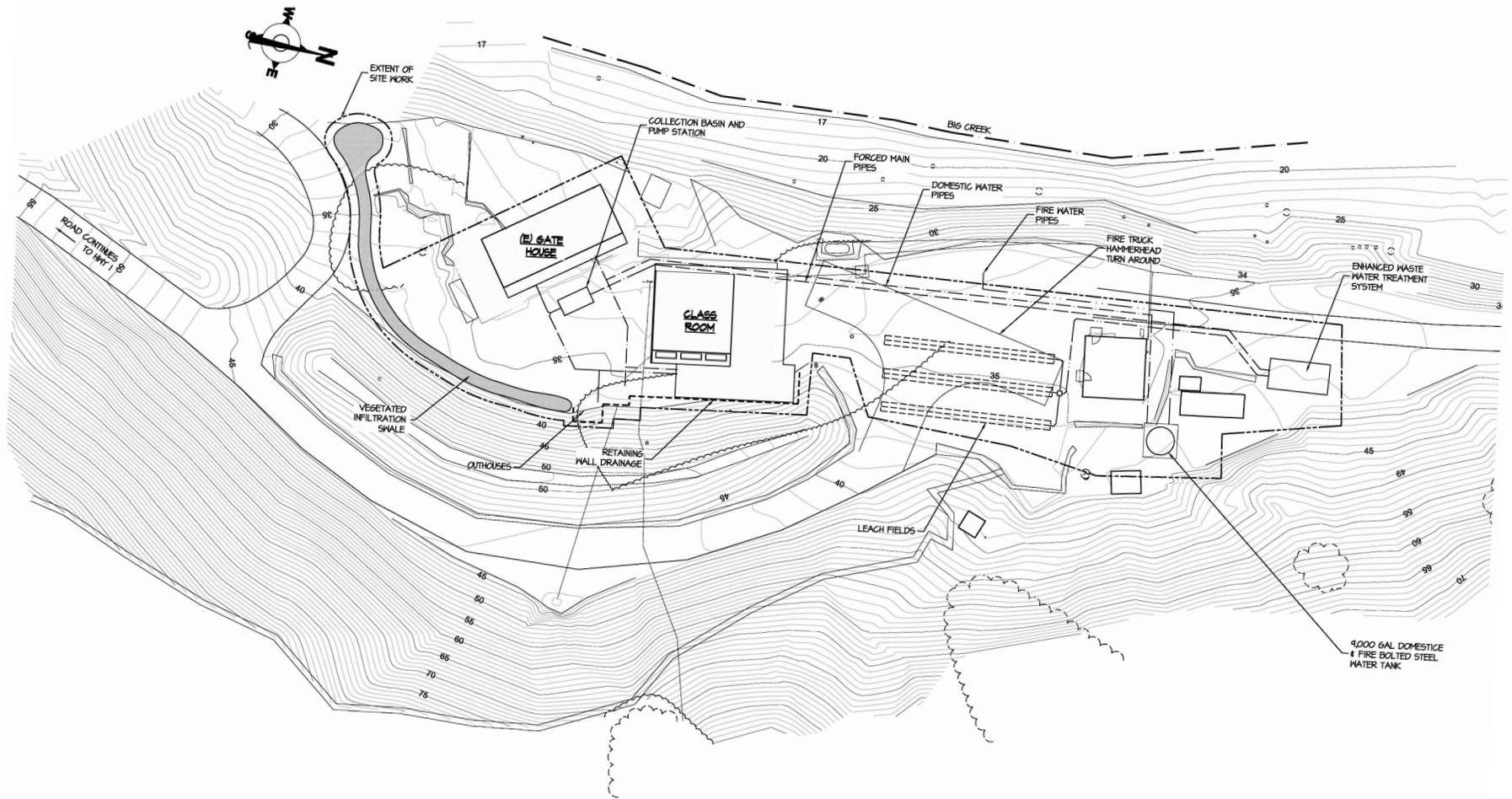
In the Gatehouse area, the Project would remodel the existing staff residence to create living space for up to five visiting researchers. A new ~~1,500~~ 1,538-sf building would be constructed adjacent to the existing building to create a 40-seat classroom, an office for the Reserve Manager, and outhouses. At the Coyote Creek site, the Project would construct three new buildings: a ~~1,332~~ 1,158-sf residence for full-time staff, a ~~493~~ 437-sf studio for part-time staff and researchers, and a ~~1,048~~ 662-sf garage/workshop. At both sites, the Project would construct new septic systems and infrastructure to supply domestic and fire protection water from springs that are already used for water supply at existing facilities. Electricity would be provided by existing and new solar arrays and backup generators. Figures 3-4 and 3-5 show the proposed site plans at the Gatehouse and Coyote Creek sites. Figures 3-6a-d show elevation views of the proposed buildings.

3.3 PROJECT BACKGROUND, NEED AND OBJECTIVES

Landels-Hill Big Creek Reserve is one of the 39 reserves within the University of California's Natural Reserve System (NRS), which function as living laboratories and outdoor classrooms. They also support a significant amount of non-UC research, teaching, and outreach activities through controlled access policies that allow for use while protecting important resources and research sites and equipment. In addition to scientific research, Big Creek Reserve supports university-level classes across a broad range of topics and from various institutions. Classes can spend a day, a weekend, or from one to several weeks at the reserve learning about topics such as natural history, geology, and freshwater ecology as well as conducting field based research. In addition to the land-based classes, the Reserve hosts marine-studies classes from several institutions that focus on topics such as marine and coastal conservation as well as training scientific divers. Big Creek Reserve is also used by K-12 schools from Big Sur to Monterey, Santa Cruz and the San Francisco Bay Area. The Reserve currently supports an average of close to 5,000 user-days each year.

Because the Reserve is located in an off-the-grid wilderness area with no significant population center nearby there are unique logistical constraints to research, teaching, and stewardship. The existing facilities at the Reserve consist of staff and visitor residences, research support, and maintenance facilities in the Gatehouse area and at Whale Point, which is located on a 3-acre knob 800 feet above the Gatehouse area; and three campgrounds. The Gatehouse area serves as the main gate through which all visitors arrive from Highway 1, sign in, and receive assistance. Facilities at Whale Point include a Reserve Steward's residence, a 1,043-sf researcher cabin that sleeps up to six people, and a 348-sf workshop. Other facilities include three campgrounds and associated roads, trails and utilities.

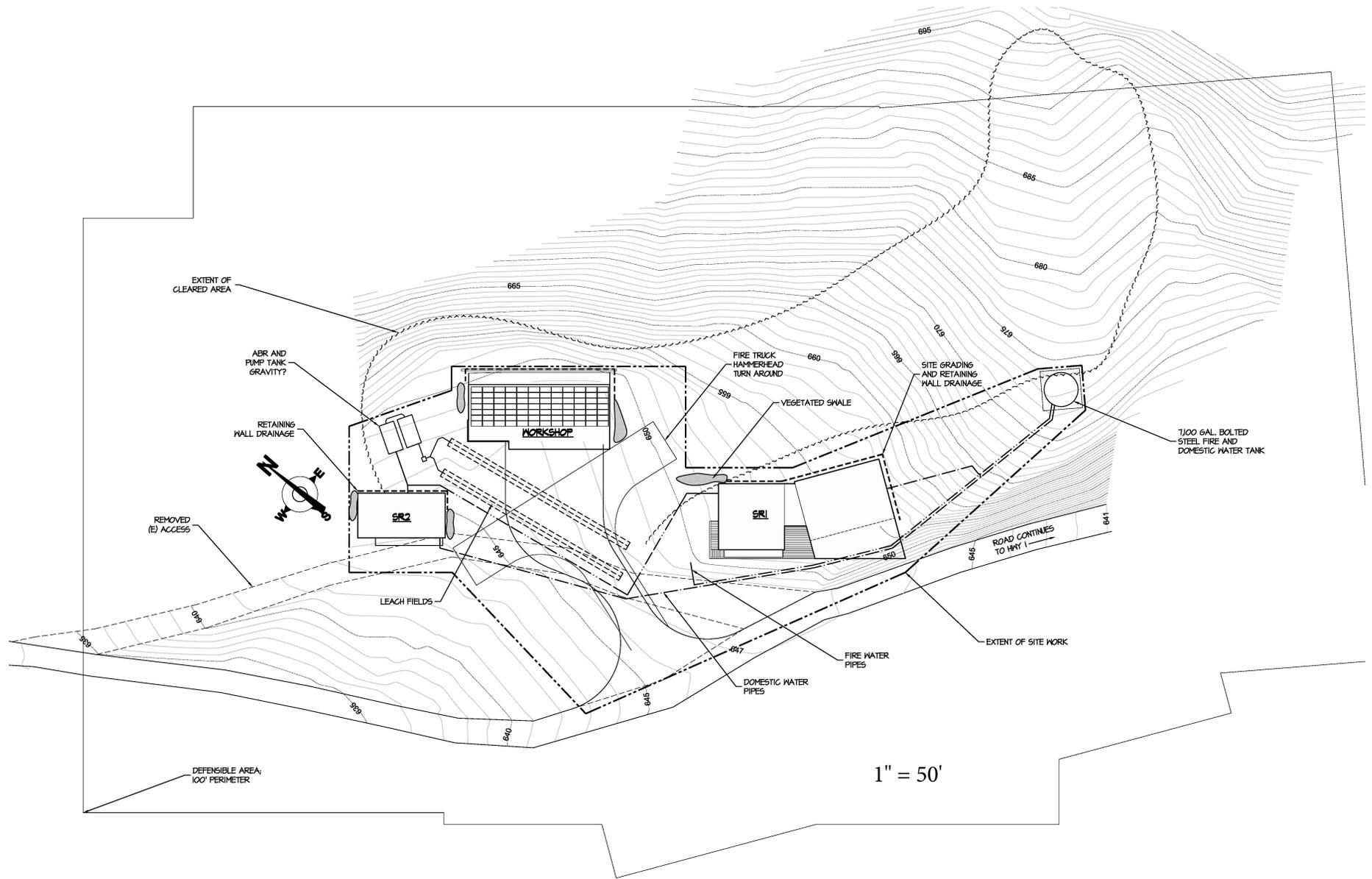
The existing facilities at Big Creek Reserve, which are 20-30 years old, are inadequate to support sustainable research and education programs as well as sound stewardship of natural resources. Big Creek does not have a dedicated building for teaching, meetings, and scientific workshops. The Reserve also lacks comfortable housing for researchers staying for more than just a few days especially at the Gatehouse area. The researcher cabin at Whale Point provides living space for up to 10 visiting researchers or small classes. However, the dirt road that provides access to Whale Point is impassible during rain events, which reduces its utility severely during the winter.



1" = 50'

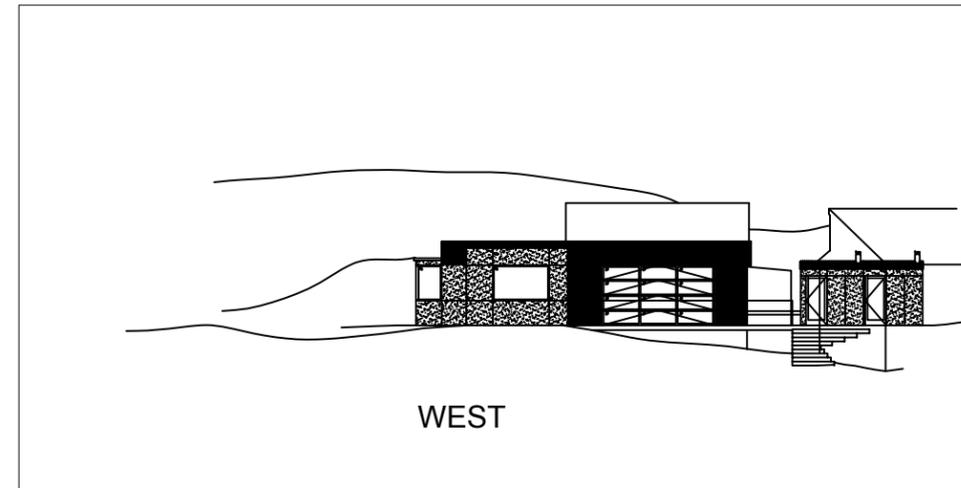
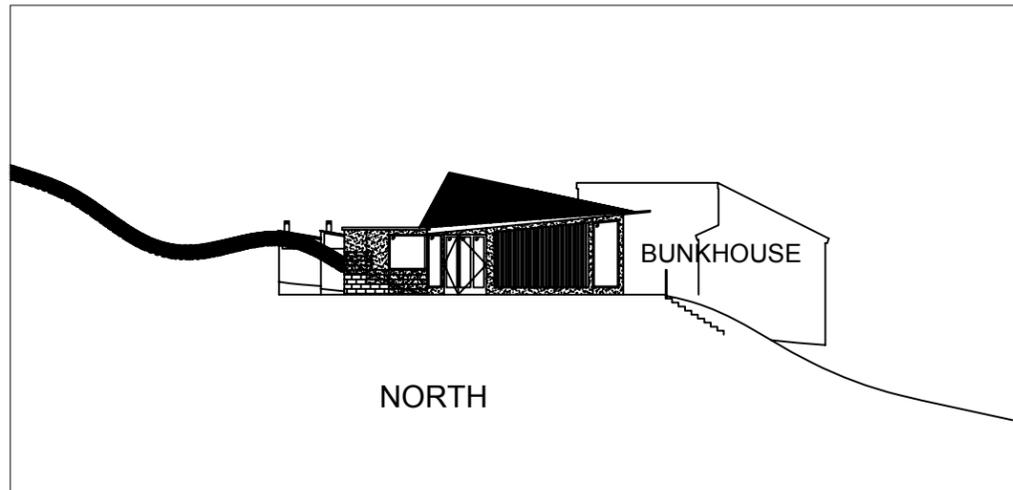
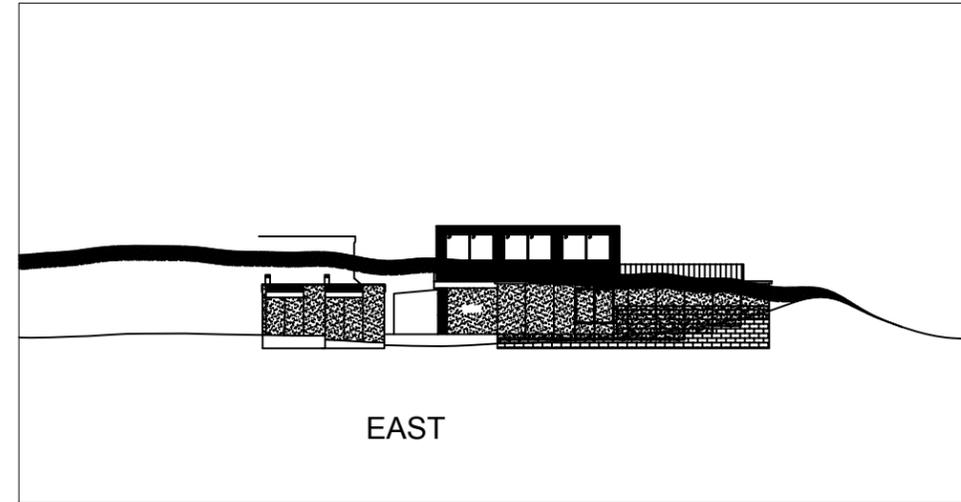
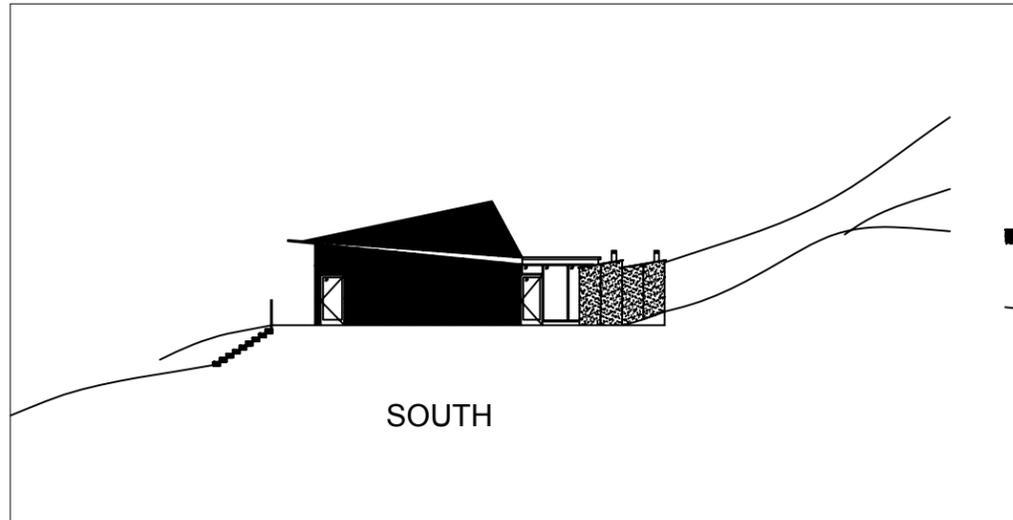
Landels Hill-Big Creek Natural Reserve Facility Improvement
 Final Initial Study/Mitigated Negative Declaration

Figure 3-4
 Gatehouse Site
 Proposed Site Plan
 February 2015



Landels Hill-Big Creek Natural Reserve Facility Improvement
 Final Initial Study/Mitigated Negative Declaration

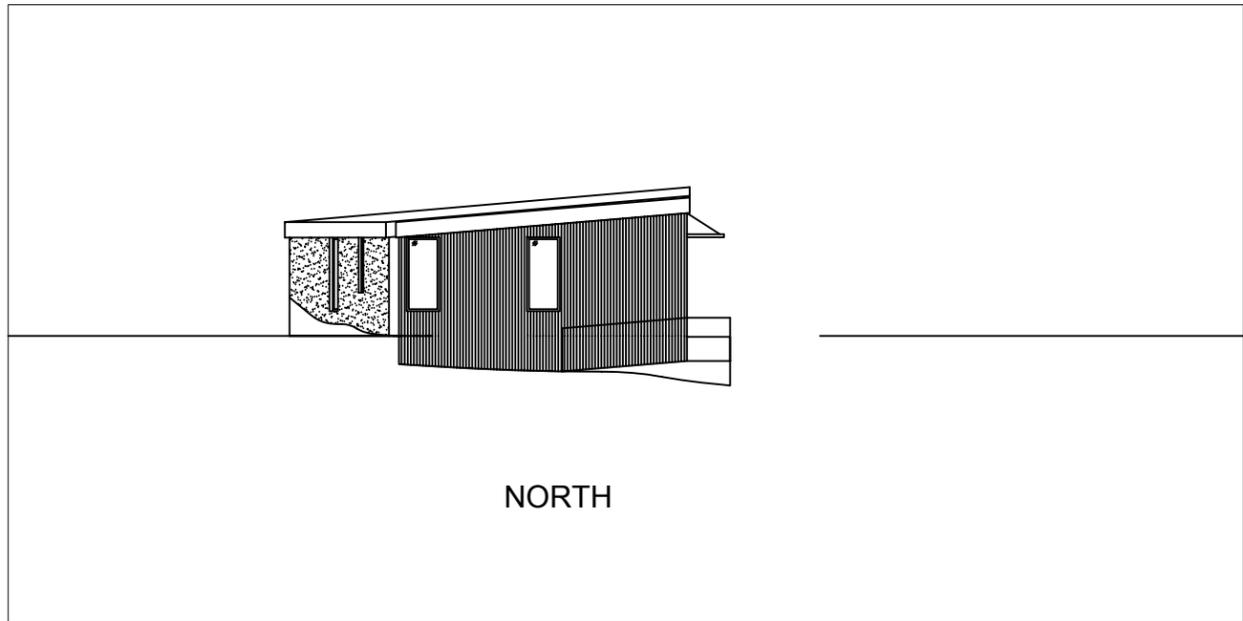
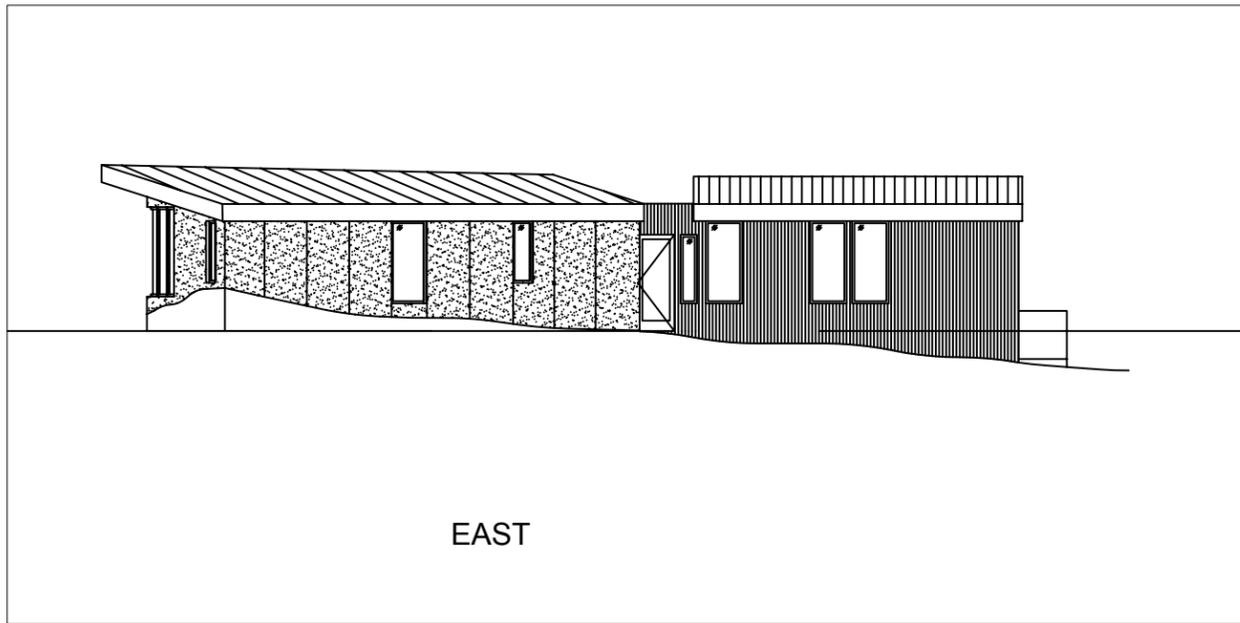
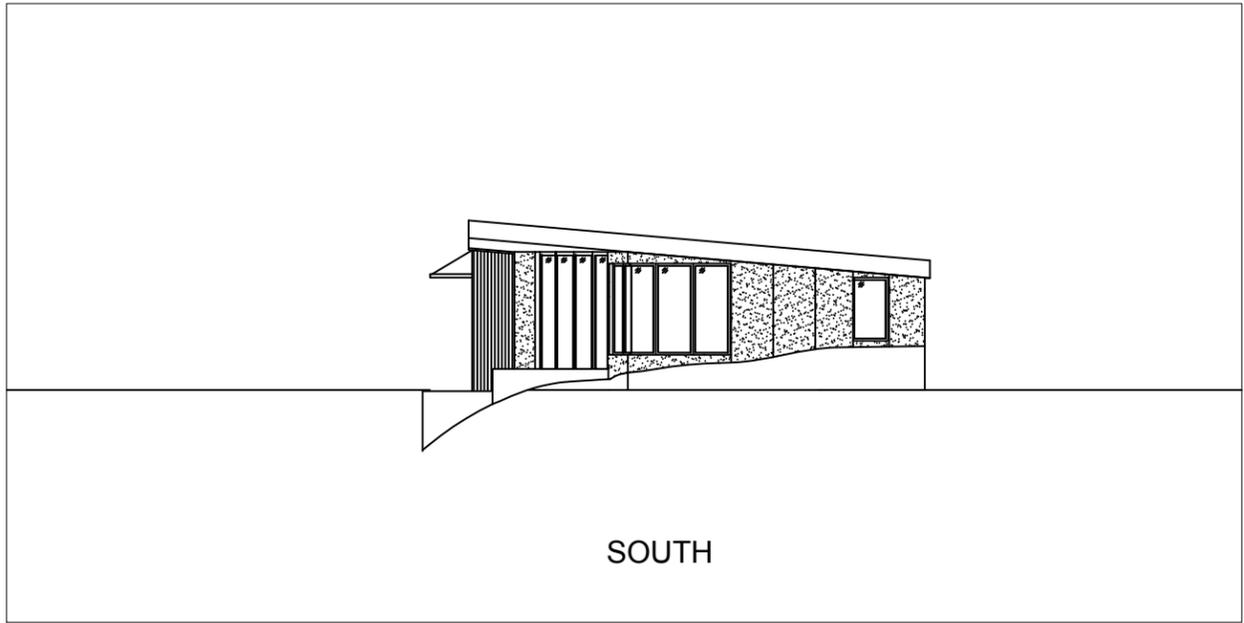
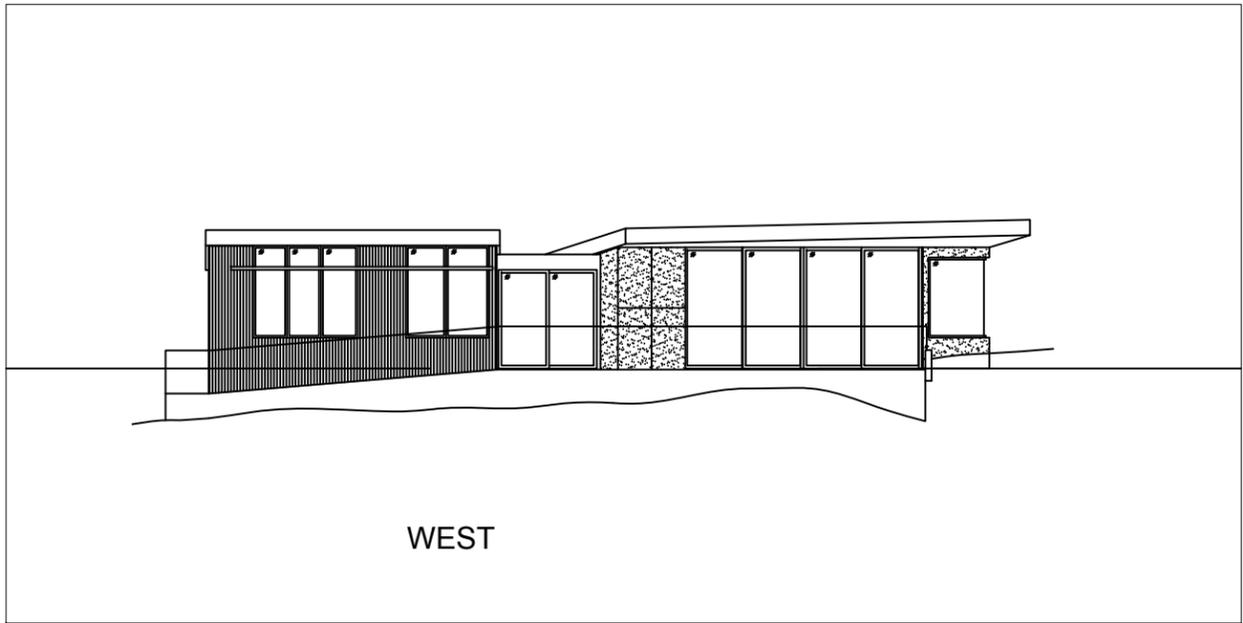
Figure 3-5
 Coyote Creek Site
 Proposed Site Plan
 February 2015



APPROXIMATE SCALE: 1' = 25'

Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

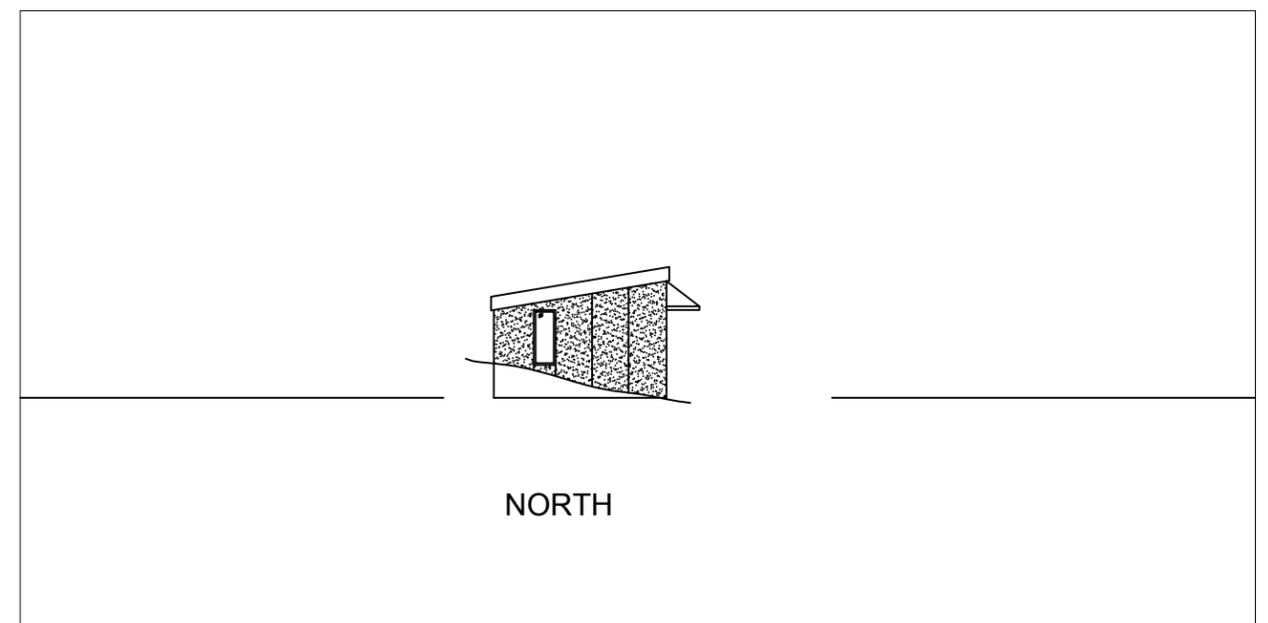
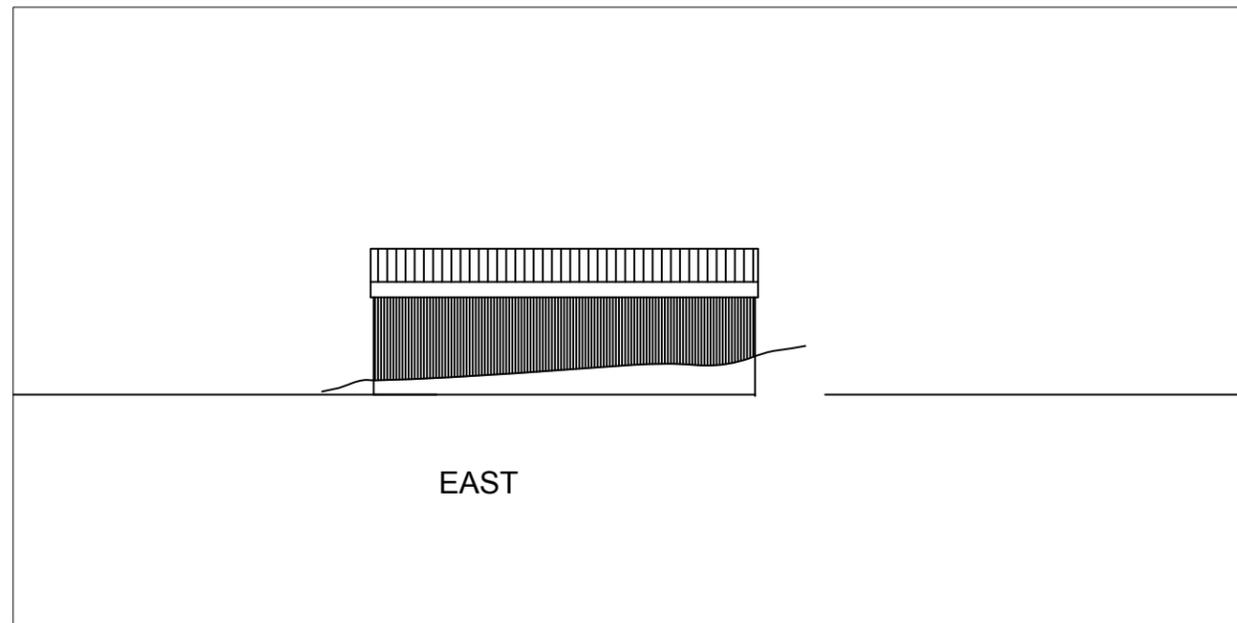
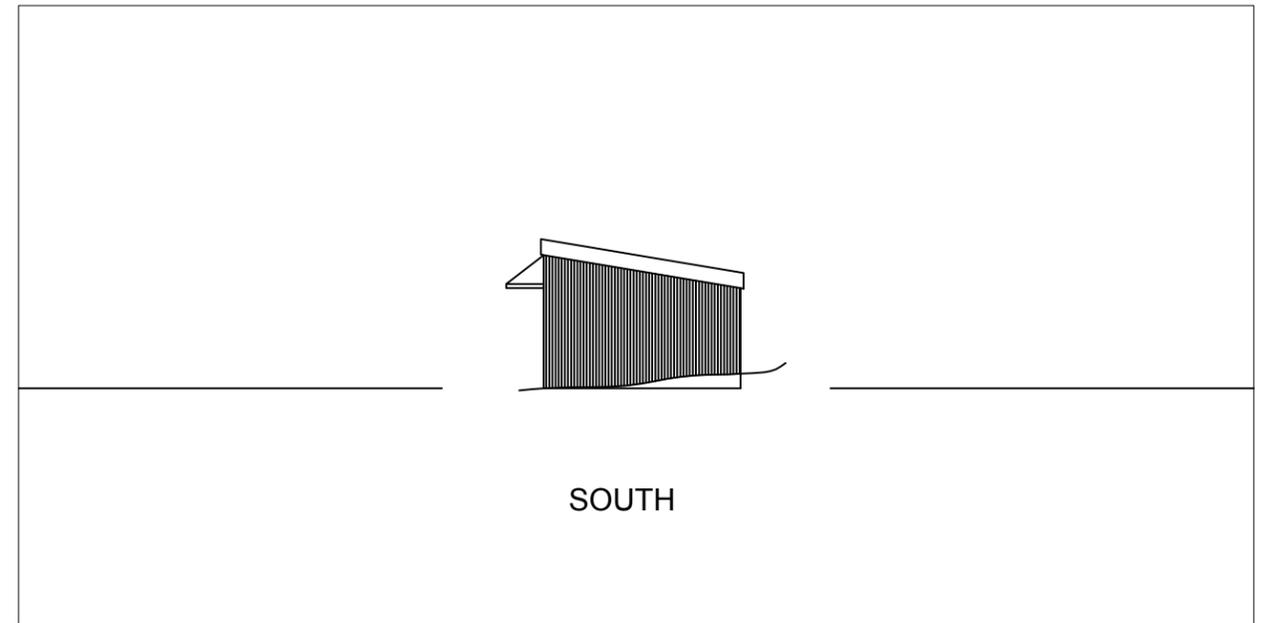
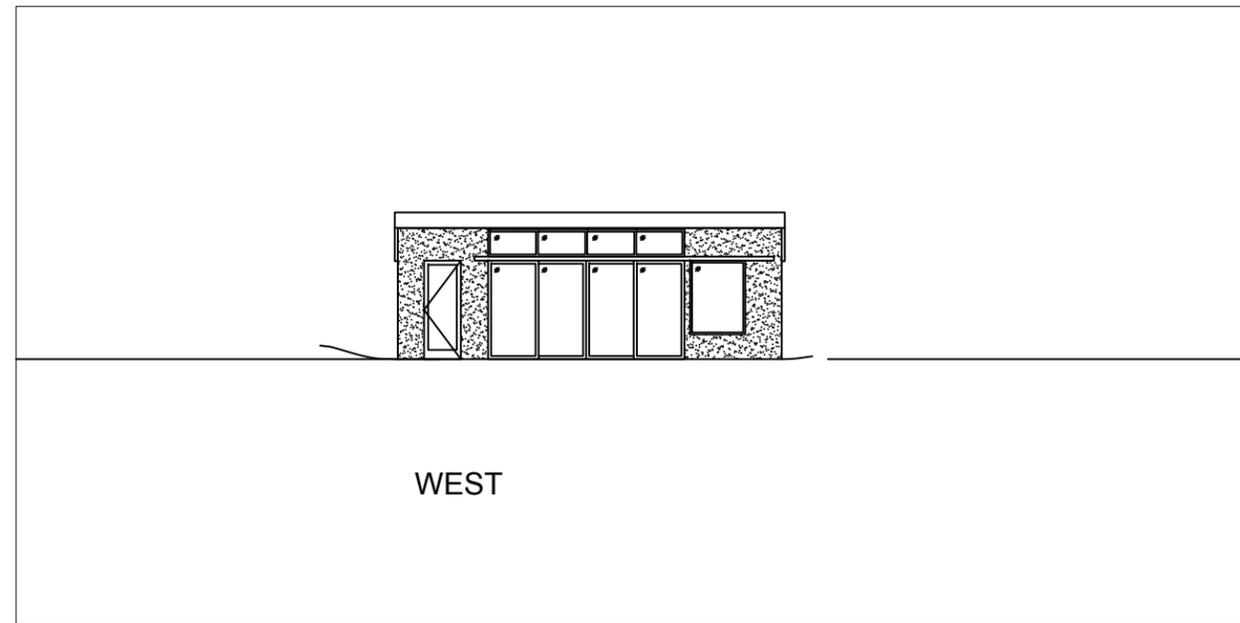
Figure 3-6a
Elevations: Proposed
Classroom Building
February 2015



Approximate Scale: 1" = 15'

Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

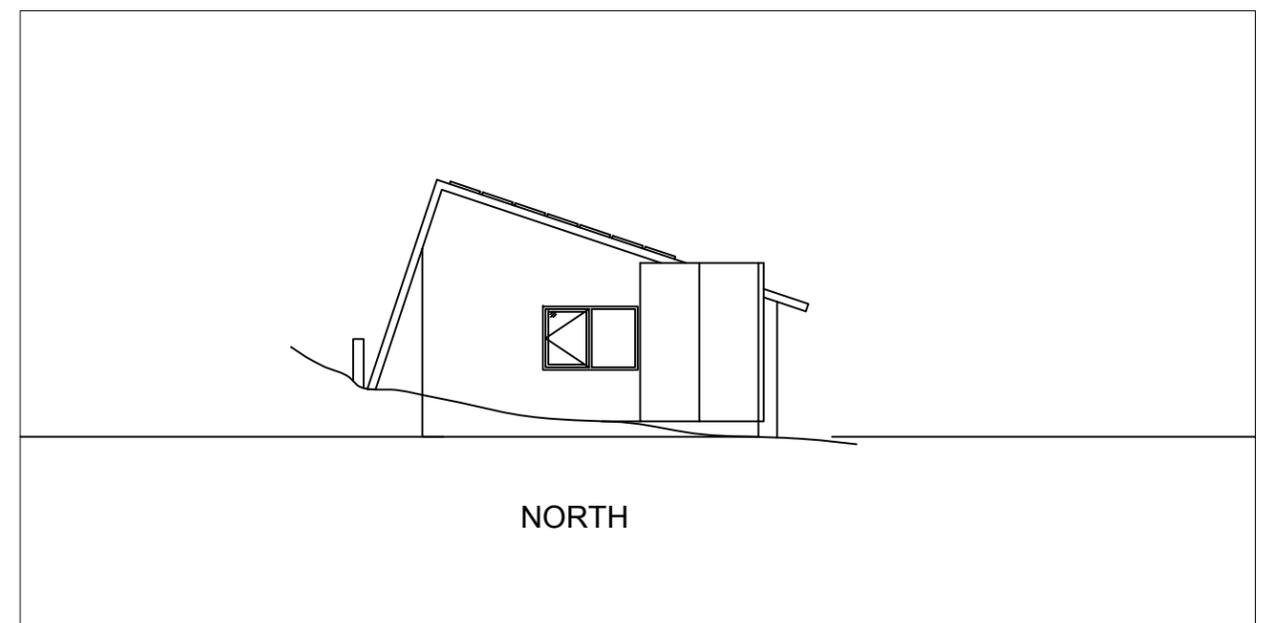
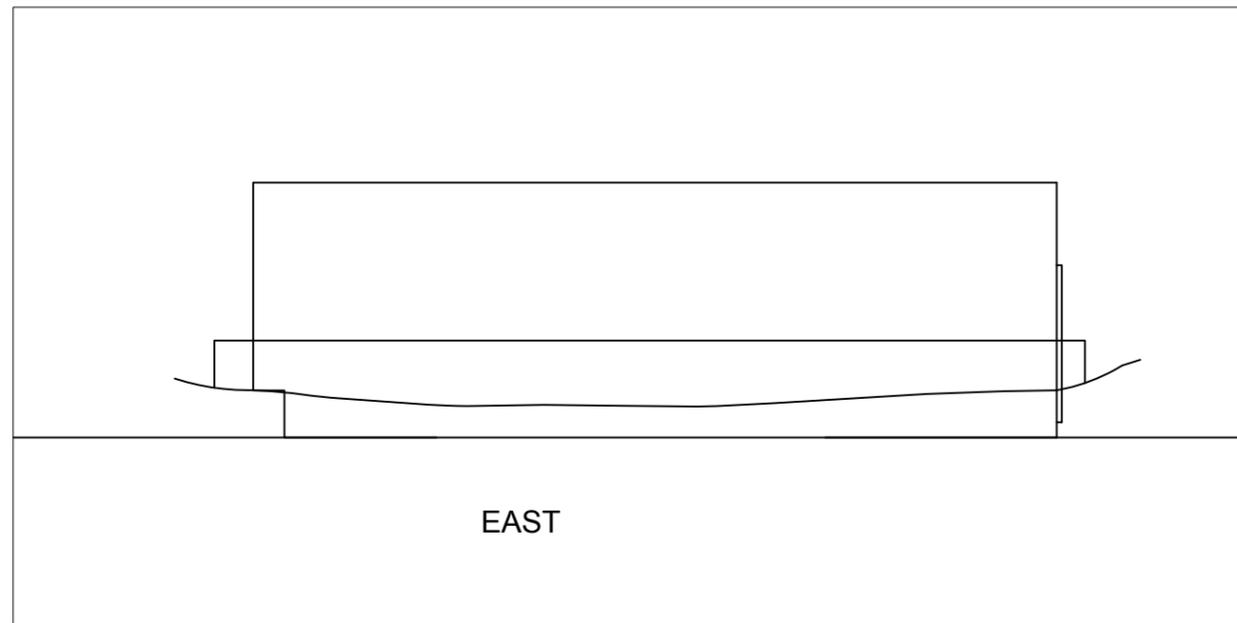
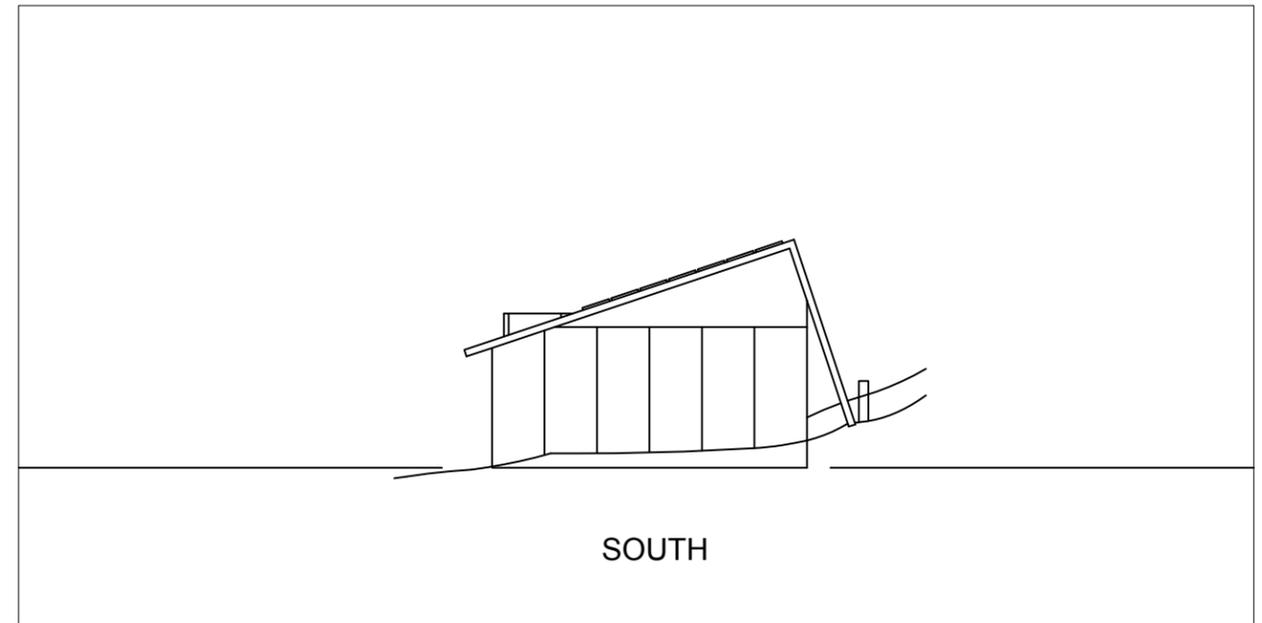
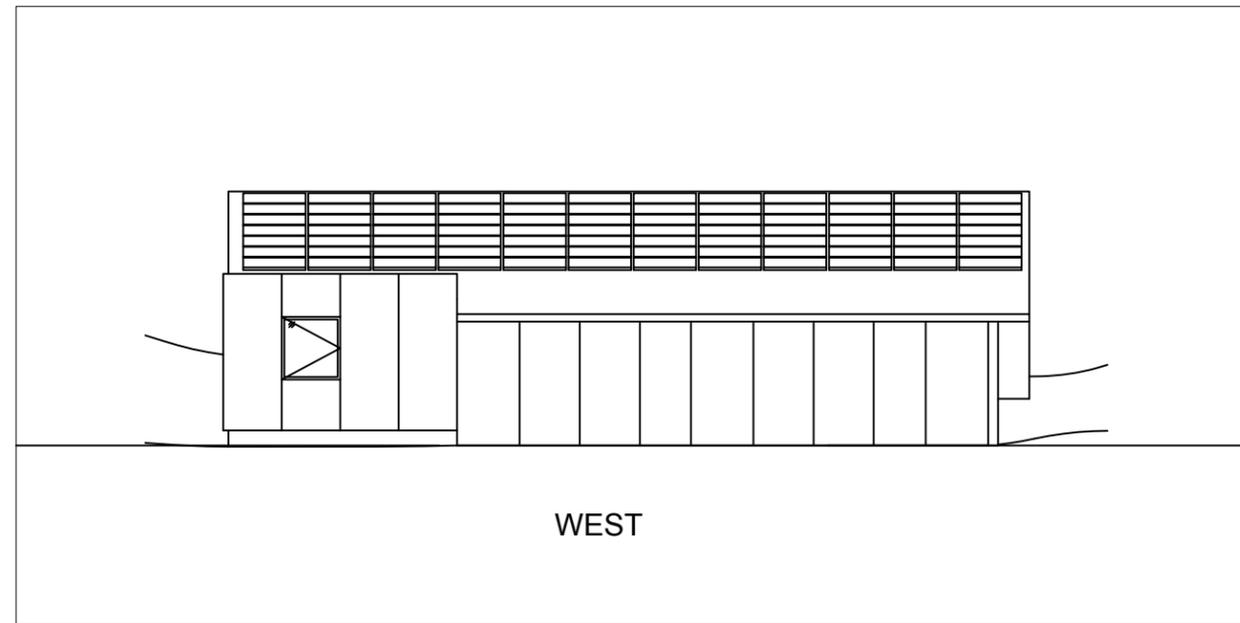
Figure 3-6b
Elevations: Staff Residence
February 2015



APPROXIMATE SCALE: 1" = 14'

Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

Figure 3-6c
Elevations: Studio
February 2015



APPROXIMATE SCALE: 1" = 12'

Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

Figure 3-6d
Elevations: Workshop
February 2015

There is no other indoor researcher housing on the reserve, and researchers need to use existing camps for research accommodations.

In addition, the Reserve lacks researcher workspace that is distinct from living space. While many scientific tasks, such as writing field notes, can be accomplished in the multi-use areas included in the current researcher living quarters at Whale Point and in the Library at the Gatehouse, some tasks require specialized equipment and workspace separate from high-traffic areas in shared living quarters.

Finally, the existing staff housing is also inadequate to accommodate the number of resident staff required for sound management and stewardship. The Reserve Director is currently living off the reserve property, but the Reserve is planning to hire an additional full-time staff member and additional part-time staff who will also require housing. The Gatehouse, with its proximity to the ocean access, would be better used to support marine researchers using the Big Creek State Marine Reserve.

The objectives of the Project are to:

- meet the Reserve's programmatic goals by providing adequate facilities for researchers and students needing to access the marine and terrestrial habitats of the reserve for research and education;
- develop facilities that are adequate to support rigorous teaching and developing cutting edge research programs;
- create facilities and infrastructure for equipment and staff that will help support stewardship, research, and education activities;
- provide support facilities for terrestrial and marine based research;
- develop higher quality workspace and comfortable and supportive accommodations for overnight stays on the Reserve;
- create workspace for visiting researchers that is separate from living space;
- provide housing for visiting researchers that is accessible year-round;
- provide adequate housing for resident staff;
- provide indoor space for teaching, meetings, and scientific workshops.

3.4 PROJECT DISCRETIONARY APPROVALS

Following the close of the public and agency comment period on this Draft Initial Study on December 8, 2014, the University will prepare responses to all written comments that raise CEQA-related environmental issues regarding the project. In reviewing the comments, the University will consider whether they provide substantial evidence of a potentially significant

environmental impact not adequately addressed in the Initial Study. If the comments do not present information that would require the preparation of an environmental impact report, the University's responses to comments will be published in the Final Initial Study/Mitigated Negative Declaration (IS/MND). The Final IS/MND and approval of design of the Big Creek Facility Improvement Project is expected to be considered by the Chancellor of UC Santa Cruz. If the IS/MND is adopted, the Chancellor will consider approval of design for the Project. The Campus anticipates that the project will be considered for approval in January 2015.

3.5 DETAILED PROJECT DESCRIPTION

3.5.1 Gatehouse Area

Project construction in the Gatehouse area would consist of two components: 1) seismic retrofit and remodeling of the existing Director's residence to create living space for visiting scientists; and 2) construction of a new classroom and office space for the Director adjacent to the remodeled Director's residence. The Project also includes landscape and civil improvements to support these two facilities (Figure 3-4).

Work on the existing residence would consist of construction of a new perimeter foundation and the addition of shear walls to meet seismic safety standards, while improving thermal performance and excluding rodents; and reconfiguration of the interior space to meet ADA standards.

The classroom would be oriented parallel to the creek bank on one side and the earth berm on the other. This new 4,504-1,538-sf structure would be partially hidden in the "view shadow" of the existing structure and vegetation to minimize visibility from Highway 1. Restrooms will be provided as outhouses. Outdoor space between and adjacent to the two structures would remain open. The classroom would accommodate lecture space for classes up to 40 students, and would also allow for small-group work at tables. The classroom structure would also include a small lobby, the Reserve Manager's office, restrooms, and mechanical space. A massive south-facing wall and atrium, potentially constructed of rammed earth would act as a passive solar energy collector.

~~The University is considering two options for wastewater treatment for the new restrooms serving the classroom. Under the first option, a A new 1,500-gallon septic tank and leach field would be installed to the north of the new classroom building. Because of the proximity of the new leach field to the creek, the septic system would include an enhanced on-site wastewater treatment system to meet County standards. The second option would be to construct vault toilets, with tanks that would pumped out periodically. Installation of the leach field would require re-locating an existing water line within the Gatehouse area. Wastewater from the bunkhouse would flow to the new septic system, or, if acceptable to the Monterey County Department of Health, would continue to flow to the existing septic system. To meet fire flow requirements, a new 5,000-gallon water tank would be installed near the Library. An additional 3,870 gallons of water storage would be provided as part of the domestic supply system, either in the same tank as the fire water or a second tank. Propane would be used for cooking and domestic hot water and as fuel for the new generator. The inclusion of a passive solar collector would largely minimize the need for mechanical heating, but the new classroom would include a wood stove and a mechanical system for backup heating during cold weather.~~

Landscaping would be minimal, and would consist of native plants grown from seed collected on the Reserve. Pavement would be provided only as necessary to provide accessible paths of travel within the site.

3.5.2 Coyote Creek

At the Coyote Creek site, the Project would develop a complex of three new structures (Figure 3-5). The largest of these would be an approximately ~~4,330~~ 1,158-sf, one-story, three-bedroom, single-family residence designed to house the Resident Director of or other full-time staff, and his/her family. A second, separate building would provide housing for part-time staff and visiting researchers. The third structure would be a barn-type structure of approximately ~~4,050~~ 662 sf that would serve as a garage and workshop. The Director's residence would be located on the southern section of the slope, aligned with the slope contours. The garage/workshop would be located in the largest flat area of the site. The part-time staff residence would be a one-story, approximately ~~500~~ 437-sf studio structure, with a living and kitchen space and a small bedroom.

Water would be supplied to the Coyote Creek site from an existing spring box and water line that currently serve a caretaker's house on an adjacent property, under an existing agreement. A new, above-grade water line serving the Coyote Creek site would be connected to the existing water line at a point approximately 500 feet east, and a 5,000-gallon water tank would be installed to meet requirements for fire protection. Wastewater treatment would be provided by two 1,500-gallon septic tanks and a leachfield northeast of the new Director's residence. A solar array on the roof of the garage/barn would be the primary source of power, and a propane-fueled generator would provide backup power. Propane would also be used for cooking and domestic hot water. A new telephone line would be installed in the road from Highway 1. The new residential buildings would be designed to minimize the need for mechanical heating, employing principals of "passive design" including proper window size and orientation, enhanced building envelope design, and thermal mass for passive energy collection and re-radiation. Wood stoves would be included in both buildings for added comfort during cold weather.

Landscaping would be minimal, and would consist of native plants grown from seed collected on the Reserves. Pavement would be limited to that needed to provide accessible paths of travel within the site.

3.6 SUSTAINABLE DESIGN ELEMENTS

Sustainability refers to principles of physical development, institutional operation, and organizational efficiency that meet the needs of present users without compromising the ability of future users to meet their needs—particularly with regard to the use of natural resources. Accordingly, the University of California has adopted the UC Policy on Sustainable Practices (formerly the Policy on Green Building, Clean Energy, and Sustainable Transportation).

The Sustainable Practices Policy (updated August 2013) recommends that university operations incorporate the principles of energy efficiency and sustainability in capital projects; minimize the use of non-renewable energy; incorporate alternative means of transportation to and from and within the campus; and continue to provide affordable on-campus housing to reduce commute volumes. To comply with the Sustainable Practices Policy, the Project must achieve a US Green

Building Council LEED-NC certification of at least “Silver.”¹. The proposed Project includes the following sustainable design elements:

- The primary source of power for the new and remodeled facilities would be solar;
- The proposed classroom building includes a massive wall that would act as a passive solar energy collector.
- Landscape planting would be minimal, and would consist of native plants
- To the extent feasible, the structures would be energy self-sufficient by virtue of their natural ability to collect and store heat, and to provide necessary light, power and hot water.
- Pre-fabrication and simplified construction techniques would limit site disturbance;
- Paths would be surfaced with permeable paving or would be unpaved

3.7 POPULATION

The new housing for visiting researchers at the Gatehouse site would accommodate up to five people at a time; however, the occupancy of this building would be variable. Based on past and current research use of the Reserve, the Campus estimates that the average occupancy would be about four user-days per week. The new staff residence at the Coyote Creek site would replace the function of the existing residence at the Gatehouse. The part-time researcher/staff studio at the Coyote Creek site would accommodate one to two part-time staff or researchers who might spend one to two nights at a time at the Reserve. The new classroom is intended to accommodate existing classes using the Reserve campgrounds. The classroom is not expected to result in an increase in the number of classes using the Reserve, as the overnight accommodation for classes would not increase. Overall, the Project could increase the weekly population at the Reserve by about five people, including part-time staff and visiting researchers.

3.8 CONSTRUCTION SCHEDULE AND STAGING

Construction is proposed to begin in summer 2015 and would take approximately 14 months.

1

LEED-NC applies to new building and major renovations of existing buildings.

4 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agricultural Resources	<input type="checkbox"/>	Air Quality
<input type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology, Soils & Seismicity
<input type="checkbox"/>	Hazards & Hazardous Materials	<input type="checkbox"/>	Hydrology & Water Quality	<input type="checkbox"/>	Land Use & Planning
<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise	<input type="checkbox"/>	Population & Housing
<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation	<input type="checkbox"/>	Transportation, Circulation & Parking
<input type="checkbox"/>	Utilities/Service Systems	<input type="checkbox"/>	Mandatory Findings of Significance		

Based on the analysis presented in this Initial Study, it has been determined that for all resource areas, the proposed project would not result in any significant impacts that cannot be mitigated to a less-than-significant level. Please see the analyses below and refer to the Mitigated Negative Declaration (Appendix A to the Initial Study).

5 DETERMINATION

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made that will avoid or reduce any potential significant effects to a less than significant level. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Sarah C. Latham

4/21/2015

Sarah C. Latham
Vice Chancellor - Business and Administrative Services

Date

6 EVALUATION OF ENVIRONMENTAL IMPACTS

6.1 INTRODUCTION

The following Environmental Checklist form is based on Appendix G of the CEQA Guidelines. The Environmental Checklist identifies potential project effects as corresponding to the following categories of impacts:

Potentially Significant Impact: There is substantial evidence that the effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

Less than Significant with Project-Level Mitigation Incorporated: The incorporation of project-specific mitigation measures has reduced 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.

Less-than-Significant Impact: An effect for which no significant impacts, only less than significant impacts, would result. The project impact is less than significant without the incorporation of mitigation.

No Impact: The project would not create an 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).

6.2 AESTHETICS

AESTHETICS	Potentially Significant Impact	Less than Significant with Project Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a,b) The Big Creek Reserve is situated on the Big Sur coast, which is known internationally for its spectacular scenery. This has led to the designation of Highway 1 along this coastline as a State Scenic Highway and an All-American Road. Section 30251 of the Coastal Act states:

“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 complete text of specific policies of the Coastal Act regarding the visual impacts of development that may be applicable to the Project is provided in Appendix C-1, along with comments regarding the Project’s consistency with each policy.

In considering the Project’s consistency with the Coastal Act, the Campus anticipates that the Coastal Commission will take into account the consistency of the Project with the Big Sur Land Use Plan, which is Local Coastal Program (LCP) adopted by the County of Monterey for the Big Sur coast. The Big Sur Land Use Plan, which is the Local Coastal Program adopted by the County of Monterey for the Big Sur area, identifies sightseeing and scenic driving as the major recreational activities for visitors to the region. Preservation of the region’s scenic resources and, wherever possible, the restoration of the natural beauty of visually degraded areas, is among the five basic objectives of the Big Sur Land Use Plan. The County’s basic policy with respect to scenic resources is to prohibit all future public or private development visible from Highway 1 and major public viewing areas (the “critical viewshed”). The Land Use Plan also includes siting and design criteria for new development in areas that are not within the critical viewshed. The complete text of specific policies of the Big Sur Land Use Plan regarding the visual impacts of development that may be applicable to the Project is provided in Appendix C-2, along with comments regarding the Project’s consistency with each policy.

For parcels partially within the critical viewshed, the policy of the Land Use Plan is to apply the “best available planning techniques” to permit development on portions of the parcels that are outside the critical viewshed. These techniques may include clustering of structures, sensitive site design, and design control. Building site selection must take into consideration visual effects upon public views as well as the views and privacy of neighbors. New structures should not be sited on open hillsides or silhouetted ridges, but rather where existing topography or trees provide natural screening.

In addition, the Land Use Plan requires that new roads and grading not damage or intrude upon the critical viewshed, that new development sites be selected to avoid the construction of visible access roads and minimize the extent of environmental and engineering problems resulting from road construction. Utilities are to be installed underground except where overriding natural or physical constraints exist. Exterior lighting requires shielding to reduce its long-range visibility, minimize light pollution, and to ensure that the light source is not visible from Highway 1 or public viewing areas. Water lines or underground conduits should be buried or otherwise obscured by vegetation.

The Big Sur Land Use Plan specifies procedures to be used by the County to determine whether new development would intrude on the critical viewshed. These include on-site studies, involving the indication of building dimensions, height, and rooflines by poles, which are recorded photographically with superimposed representation of the proposed project. The standard for review is *“the objective determination of whether any portion of the proposed development is visible from Highway 1 or the major public viewing areas identified in the definition of the critical viewshed. Visibility will be considered in terms of normal, unaided vision in any direction for any amount of time at any season...Distant development, although in the technical line of sight, will not be considered visible if sited and designed so as not to be seen from Highway 1 and other major public viewing areas.”*

Section 3.2.4 of the Big Sur Land Use Plan includes requirements for development on parcels outside of the critical viewshed, “[s]o that the visual continuity may remain undisturbed, the design and siting of structures, whether residential, commercial, agricultural, or public, and access thereto, shall not detract from the natural beauty of the undeveloped skylines, ridgelines, and the shoreline.” This analysis uses these policies to determine whether the proposed development at the Coyote Creek site would degrade the visual character and quality of the site. The following policies are applicable to the Project:

“New applicants, when selecting a building site, must consider the visual effects upon public views as well as the views and privacy of neighbors. The portion of a parcel least visible from public viewpoints will be considered the appropriate site for the location of new structures. New structures shall be located where existing topography or trees provide natural screening and shall not be sited on open hillsides or silhouetted ridges. Sites shall not leave excavation scars or slope disturbance. Structures and access roads shall be designed to minimize alterations of the natural landform and to avoid, insofar as feasible, removal of healthy tree cover...New development should be subordinate and blend with its environment, using materials or colors that will achieve that effect. Where necessary, appropriate modifications will be required for siting, structural design, size, shape, color, textures, building materials, access, and screening.”

The Land Use Plan also includes policies requiring that overhead power or telephone lines be considered only where overriding natural or physical constraints exist; that exterior lighting be designed to reduce its long-range visibility, cause the light source to not be visible, and to minimize light pollution. Water lines must be buried or obscured by vegetation. New development should be sited to avoid construction of visible access roads and that new roads, grading or excavations will not be allowed to damage or intrude upon the critical viewshed.

Portions of the Reserve are within the critical viewshed. The existing development in the Gatehouse area is partially visible from the adjacent section of Highway 1, including the Big Creek bridge. It is not visible from any other public vantage point.

The University anticipates that a formal on-site study will be carried out ~~according to the Big Sur Land Use Plan~~ guidelines during Coastal Commission review of the Project. The University has carried out a test of the visibility of the proposed development as part of its design process. A memorandum describing the test methodology and results, including a map showing the project locations and the public vantage points where visibility was tested, and photos taken from those vantage points, is included in Appendix D.

To test the visibility of the proposed buildings, story poles with orange flagging at the top were erected at each site, and photographs were taken at each public viewing point with sight lines to one of the sites. At the Gatehouse site, poles were erected to represent the four perimeter corners and the highest elevation of the proposed clerestory window. Photos were taken from several points on the east side of the bridge.

The visibility test showed that the new classroom building would be visible from portions of the bridge. It is most visible at the east end of the bridge where a small portion of the south façade and the main roof will be seen behind the existing Director's Residence. At the middle of the bridge, the existing building and vegetation obscure any view of the proposed structure. At the west end of the Bridge, a portion of the clerestory roof may be visible, but there is less visibility here than at the east side. It should be noted that, for people sitting in cars, the site would be hidden by the guard rail.

A portion of the new classroom building would be visible from the Highway 1 bridge. The impact on the scenic vista and other scenic resources would be minor because the new building would only slightly increase the visible mass of the existing development; it would be visible only from a short stretch of Highway 1 and then only by people in vehicles that allow them to see over the guardrails; and it would not obstruct views of any scenic features within the view shed (i.e., the views of the forested mountainsides and canyon). However, because of the visual sensitivity of the coastline, this would be a potentially significant impact. Implementation of Mitigation Measure AES-1 would reduce this to a less-than-significant level. Figures 6.2-1a and 6.2-1b illustrate two possible material choices that would minimize the building's visibility.

Mitigation Measure AES-1: Building materials for the proposed classroom building shall be selected and the siting and configuration of the building adjusted to reduce the visibility of the structure from Highway 1 to the extent feasible. Additional visual simulations shall be prepared to demonstrate the reduction in visibility.

At the Coyote Creek site, story poles were erected to represent the downslope (ocean-facing) sides of the two proposed staff residences. There are no lines of sight from Highway 1 to the proposed location of the garage. Three poles were erected to represent the proposed staff residence and two to represent the part-time staff and researcher studio. Visibility of the poles was examined at several locations along Highway 1 (see Appendix D). None of the poles at the Coyote Creek site was visible with the naked eye. The tops of poles were visible through binoculars from three of the four viewing points. One pole was visible from the Big Creek entrance, four from the “North Curve” (probably two marking the staff residence and two marking the part-time staff/researcher studio), and the top of one pole was barely visible with difficulty from the Vista Point. After the visual study was completed, the layout of the proposed new buildings at the Coyote Creek site was revised, eliminating the potential visibility of all of the structures. Therefore, the development at that site would not result in an impact to scenic vistas or scenic resources.

c) The Gatehouse site lies within a narrow, steep-sided canyon. The modest development is dwarfed by its surroundings, including the mountainous terrain and the imposing presence of the concrete-double-arched Highway 1 Big Creek bridge. The existing facilities—the Manager’s Residence, the Library, outhouse, and two sheds—are arranged informally around an open area that includes an unpaved parking area, a small lawn, and small garden areas. The area is bounded on the south by the steep, rocky canyon wall and to the north by the riparian vegetation along the creek, with views of the ridge beyond. To the east, the views from the Gatehouse area are entirely of forested canyon walls and the surrounding mountains. The Gatehouse site is not visible from any neighboring properties.

The proposed classroom building would not add new paving or outdoor lighting, and landscaping would be limited to native vegetation grown from seeds collected on the Reserve. The new building would be oriented parallel to the creek bank, which takes it off the grid of the existing structure. The new development at the Gatehouse site would maintain the informal arrangement and character of the existing buildings and landscaping. Therefore, the Project would not significantly degrade the existing visual character or quality of the Gatehouse site.

The Coyote Creek site is situated on a west-facing bench on the steep slope above Highway 1, at about 650 feet above sea level. To the east, the land rises steeply. Views of Highway 1 and the ocean are obscured by the dense chaparral surrounding the site, but there are limited views up and down the coast. An unpaved road runs through the site, and most of the site is periodically mowed to accommodate storage of maintenance equipment.

The Coyote Creek site is visible from a leasehold within the Reserve and from one neighboring property. The Project does not include new access roads and would not significantly alter any natural land forms. All utilities would be buried or laid on the ground and obscured by vegetation. One small coast live oak tree may be removed. The Project would rely primarily upon the natural topography and existing vegetation for screening. The proposed Project would not add new paving or outdoor lighting, and landscaping would be limited to native vegetation grown from seeds collected on the Reserve. Although the Project would alter the visual character of the site itself by constructing buildings on undeveloped land, the Project would not have visual effects beyond the immediate vicinity of the development area itself, and the development would limit disturbance of the natural landscape. Therefore, the Project’s impact on the natural

visual character and quality of the site and the surrounding area would be a less than significant impact.

d) The Project would not add new outdoor lighting at either the Gatehouse or Coyote Creek site. Although the development at the Coyote Creek site would not be visible with the naked eye from public vantage points, interior light could be visible from one or more public vantage points. With this in mind, it has been re-sited upslope to mitigate any potential highway exposure even with magnification. The clerestory window in the classroom building at the Gatehouse sites faces Highway 1, so light from this building would not be visible from Highway 1 and the impact would be less than significant. ~~This would result in inconsistency with the Big Sur Land Use Plan.~~

Summary

With implementation of mitigation measures AES-1, all aesthetic impacts of the Project would be less than significant.



VIEW FROM BIG CREEK BRIDGE

Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

Figure 6.2-1a
Visual Simulation, Gatehouse
February 2015



VIEW FROM BIG CREEK BRIDGE

Landels Hill-Big Creek Natural Reserve Facility Improvement
Final Initial Study/Mitigated Negative Declaration

Figure 6.2-1b
Visual Simulation, Gatehouse
February 2015

6.3 AGRICULTURAL AND FORESTRY RESOURCES

AGRICULTURAL AND FORESTRY RESOURCES	Potentially Significant Impact	Less Than Significant with Project-Level Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined in Public Resources Code 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) As State lands, campus lands are not eligible for Williamson Act agreements, nor are they subject to local zoning controls. Therefore, projects on campus lands have no potential conflict with existing zoning for agricultural use or a Williamson Act contract. Based on the Important Farmland map produced by the California Department of Conservation, Division of Land Resource Protection under the FMMP, the proposed project site is not designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. Furthermore, the project would not alter the land use of the site. Therefore, the project would not convert farmland to a nonagricultural use.

c,d) The project sites are not forest land as defined in Public Resources Code Section 12220(g), it is not zoned Timberland Production. Three commercial-species trees (Monterey pine and Monterey cypress) would be removed to accommodate the new facilities at the Gatehouse site. These trees were planted as part of the landscaping of a residential site and their removal would not result in the loss of potentially productive forest land. The impact would be less than significant.

e) There are no lands within 1-mile radius of the project sites that are designated Important Farmland. The lands on the Reserve and adjacent properties are designated either Grazing Land

or Other Lands by the California Department of Conservation/Division of Land Resource Protection Farmland Mapping and Monitoring Program. There are no ongoing agricultural or timber operations on any of the lands that adjoin the property. The project would result in the addition of one additional resident staff member and about five additional weekly visiting researchers. This increase in population would not contribute to the demand for housing and associated development in the region. Therefore, the project would not result in the conversion of farmland to non-agricultural uses or conversion of forest land to non-forest use.

Summary

All potential impacts of the Project on agricultural or forestry resources would be less than significant. No mitigation is required.

6.4 AIR QUALITY

AIR QUALITY	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a-d) **Air Quality Management Plan Consistency**

According to the Monterey Bay Unified Air Pollution Control District (MBUAPCD) CEQA Air Quality Guidelines (MBUAPCD 2008), a project that is consistent with the Air Quality Management Plan (AQMP) is considered to be accommodated in the AQMP and therefore would not have a significant impact on regional air quality. The AQMP for the North Central Coast Air Basin, which includes Monterey County, is based on population and housing forecasts prepared by the Association of Monterey Bay Area Governments (AMBAG). The proposed Project could increase the population at the Reserve by an average of about five visiting researchers and existing part-time staff staying/researchers on site in any one week. The provision of housing for part-time staff would eliminate a few existing weekly trips, as these staff must currently

commute to the Reserve. The additional researcher visits to the Reserve would add an average of one trip per day. The number of vehicle miles traveled (VMT) associated with the proposed project is anticipated to be similar to existing conditions. Therefore, the proposed project would be consistent with MBUAPCD's Air Quality Management Plan.

Construction Emissions

Criteria Pollutants

The MBUAPCD does not require specific consideration and estimation of emissions from construction activities using typical construction equipment, except for PM₁₀. Construction related VOC and NO_x emissions are accommodated in the emissions inventories of State- and federally-required air quality plans and therefore are not considered significant. The MBUAPCD's CEQA Guidelines establish a threshold of significance for PM₁₀ related construction emissions of 82 pounds per day, and provide the following screening level thresholds: projects with less than 2.2 acres per day of major earth moving such as grading or excavation, or 8.1 acres per day with minimal earth moving are assumed to be below the significance threshold of 82 pounds per day (MBUAPCD 2008).

The total area that would be graded for the Project would be about 0.88, including about 0.30 acre at the Gatehouse site and for the associated water tank, and 0.58 acre at Coyote Creek. Therefore, Project construction would not result in PM₁₀ emissions exceeding the MBUAPCD threshold. In addition, as required by the Campus' standard construction contract conditions, the contractor would implement dust control measures recommended by the MBUAPCD, which would further reduce construction PM₁₀. The impact would be less than significant.

Operational Emissions

The Project would add the following new onsite sources of air pollutant emissions: propane combustion for cooking and domestic hot water, the use of wood stoves periodically during cold weather, and operation of the backup generators. If over 50 hp, the generators would require a permit from the MBUAPCD. The generators that serve the existing facilities at the Gatehouse run only a total of about 30 to 50 hours per year, while the generator serving the existing Whale Point facilities has not been required at all since the solar array at that site was upgraded about four years ago. Therefore, the Campus anticipates that the new generator at Coyote Creek, which is similar in elevation and exposure to Whale Point, would not be required for more than about 50 hours per year. As explained in Section 6.17, on average, the Project would generate less than ten additional vehicle trips to the Reserve per week.

According to the MBUAPCD CEQA Guidelines, project operations would result in a significant air quality impact if they would:

- 1) Result in emissions of 137 or more of VOC or NO_x or be inconsistent with the applicable AQMP
- 2) Violate any air quality standard or contribute substantially to an existing or project air quality violation (specifically, emit 137 lbs/day or more of VOC or NO_x, directly emit 550 lb/day or more of CO, generate traffic that significantly affects levels of service, generate traffic on unpaved roads that results in emissions of 82 lb/day or more of PM₁₀, or directly emit 150 lb/day or more of SO_x);

- 3) Result in a cumulatively considerable net increase of any criteria pollutant for which the North Central Coast Air Basin (NCCAB) is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- 4) Expose sensitive receptors to substantial pollutant concentrations (specifically, cause a violation of any CO, PM₁₀ or toxic air contaminant standards at an existing or reasonably foreseeable sensitive receptor)

Table 5-4 in the MBUAPCD CEQA Guidelines lists examples of projects which could potentially emit 137 lb/day or more of VOC or NO_x from indirect sources (light duty cars and trucks). One example is a project that constructs 810 single-family dwellings; another example is a hotel with 880 rooms. The scale of the proposed Project, which would construct one single-family dwelling, guest rooms for up to about seven visiting researchers and part-time staff, and classroom that would serve the existing student visitor population, is much smaller than these examples. Therefore, quantitative analysis of the Project's emissions of operational criteria pollutants is not necessary and the impact would be less than significant.

e) The project would not generate any objectionable odors and no impact would occur.

Summary

All air quality impacts of the proposed Project would be less than significant. No mitigation is required.

6.5 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES	Potentially Significant Impact	Less than Significant with Project- Level Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) A biological resources assessment was prepared for the Project in August 2014 (Biotic Resources Group 2014). These surveys were timed to include the blooming seasons of special-status plants with the potential to occur in the area. A California Natural Diversity Database (CNDDDB) online search for special status wildlife and plant species was performed on the Lopez Point quadrangle, which contains the Project sites, as well as all adjacent quadrangles (Cone Peak, Cape San Martin, Junipero Serra Peak, Tassajara Hot Springs, Partington Ridge). Plant and wildlife species found in the database search were compiled and assessed with regard to their presence, or potential to occur, within the Project areas. The assessment of the potential for each species to occur in the Project areas was based on ongoing institutional species lists maintained by research biologists, continuous observations by resident staff biologists over the past several decades, and biological surveys conducted in preparation for the proposed Project. The

assessment incorporated data from botanical surveys of the Project sites that were conducted by Reserve staff in January and May 2014.

Special-Status Plants

Vegetation at proposed construction site in the Gatehouse area consists of planted Monterey pine and Monterey cypress trees, coastal scrub along the existing access road and on the rockfall protection berm, and ruderal vegetation (weeds). Portions of the site, including the existing parking area and access road, are bare ground. Riparian woodland is found adjacent to the site, along Big Creek. The Coastal scrub is dominated by lizard tail, poison oak, blackberry, morning glory, bee plant, hedge nettle, yarrow, coyote bush, and California sage. Some planted dune buckwheat are present along the road and on the rockfall mitigation berm. Vegetation in the riparian area consists primarily of willow, alder, California bay laurel, redwood, hedge nettle, thimbleberry, and seasonal creek-associated species.

The vegetation that would be removed at the Gatehouse site consists of:

- One planted Monterey cypress tree (one other Monterey cypress tree and three planted Monterey pines would be limbed);
- Non-native, weedy (ruderal) vegetation and is dominated by non-native herbaceous species common to disturbed areas, such as wild oat, barley, fiddle dock, wild mustard, mallow and common knotweed.

Vegetation at the Coyote Creek site consists of coastal scrub, including some areas that have been mowed. Plant species observed during field surveys of the Coyote Creek site consist of common coastal scrub species (e.g. ceanothus, beeplant, lizard tail, poison oak, coffee berry, California sage, coyote bush, and stinging nettle).

The vegetation that would be removed within the development area at Coyote Creek consists of:

- Four to five shrubs (Ceanothus thyrsiflorus)
- Herbaceous plant species, such as poison hemlock, wild mustard, and California bee plant intermixed with re-sprouting California blackberry and poison oak.

In addition, at Coyote Creek, vegetation subject to modification for fuel reduction up to 100 feet from the buildings (Figure 3-4) consists of dense thickets co-dominated by lizard tail, coyote brush, coffee berry, and poison oak.

Table 6.6-1 in Appendix E lists the special-status plant species found in CNDDDB searches within all quadrangles, with an assessment of the potential for each species to occur on the Project sites.

With the exception of the Monterey pine (CNPS List 1B species) and Monterey cypress (CNPS List 1B species), no special status plant species were detected within the proposed disturbance areas during the survey. The individuals of Monterey pine and Monterey cypress are planted or naturalized specimens located outside their native stands and are therefore not considered to be sensitive. Removal of three of these trees and limbing of others therefore would not have the

potential to have a significant impact on this species on a statewide or regional basis. The closest documented occurrence of a special status plant species is Hutchinson's larkspur, which grows in the coastal scrub upslope of the driveway/access road to the Gatehouse Area; no plants of this species occur in the proposed disturbance area.

Special-Status Wildlife

Special status wildlife species include those listed, proposed or candidate species by the Federal or the State resource agencies, as well as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Wildlife Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Table 6.6-2 in Appendix E lists the special-status wildlife species found in CNDDDB searches within all quadrangles, with an assessment of the potential for each species to occur on the Project sites.

Of the special status species known from the general vicinity, only three may occur within or immediately adjacent to the proposed project sites: purple martin, Smith's blue butterfly, and coast range newt. In addition, other migratory birds may nest in some trees and shrubs adjacent to the project work areas.

Impacts to Nesting Birds Including Purple Martin. Purple martin, a California Species of Special Concern, is known to occur on the Reserve. The local population is one of the last few known breeding colonies in Monterey County of this bird. No cavities or holes suitable for purple martin nests were observed in the trees that will be removed for the classroom building at the Gatehouse, but the species may nest in trees in the adjacent riparian corridor. There is no purple martin habitat at the Coyote Creek site. Migratory birds may nest in some trees and shrubs adjacent to both project work areas. Removal of the pines for the classroom construction, removal of coastal scrub for the projects at the Coyote Creek segment, and limbing of trees has the potential to kill bird eggs or chicks if any are present. Noise and dust from construction has the potential to cause adult birds to abandon their eggs or chicks if any are nesting nearby. This is a potentially significant impact, which would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-1.

Mitigation Measure BIO-1. To avoid impacts to nesting birds vegetation removal, grading, and ground disturbing construction activities will be scheduled between September 1 and February 1, which is outside the bird nesting season for the central coast. If this is not possible, a qualified biologist shall conduct a preconstruction survey for nesting birds no more than two weeks prior to start of construction. If any bird nests are observed within or immediately adjacent to the work area, a buffer of 50 feet for migratory birds, or 250 feet for raptors, will be established where no construction will take place until the biologist has determined that all young have fledged the nest.

Impacts to Smith's Blue Butterfly The Smith's blue butterfly, federally listed as Endangered, is known to occur on its host plant, dune buckwheat, within the Reserve. Restoration plantings of buckwheat along the entrance road to the Gatehouse provide potential habitat for Smith's blue butterfly. There is no buckwheat within the project footprint. Buckwheat plants are also present along the western portion of the access road to the Coyote Creek Area. Heavy equipment using the access/entry roads for the proposed projects at the Gatehouse Area and Coyote Creek Area

(lower area closest to Highway 1) has the potential to damage or crush dune buckwheat, the host plant for Smith's blue butterfly, growing adjacent to the road. No buckwheat plants will be removed for any portions of the project. Dust from equipment has the potential to impact buckwheat plants nearby, and indirectly impact Smith's blue butterfly if any are present on the plants. Dust can accumulate on the buckwheat plants, reducing food available to butterflies, and possibly cause the plants to die. Dust can also clog the spiracles of butterflies in all life stages; the spiracle allows the butterfly to breathe. The project will not result in the permanent removal of any Smith's blue butterfly habitat.

Mitigation Measure BIO-2. To avoid potential impacts to the Smith's blue butterfly's host plant (dune buckwheat), place silt fence or other suitable barrier between the access road and adjacent buckwheat plants. This should occur along the access road to the Gatehouse site and along the lowermost portion of the access road to the Coyote Creek Area (near Highway 1). This will prevent excess dust from settling on the plants (or on the butterfly adults if present) and provide a visual screen to alert the heavy equipment operators to avoid driving too close to the plants.

Mitigation Measure BIO-3. To minimize potential impacts of dust to the Smith's blue butterfly or its host plant, dune buckwheat, implement dust control measures along the access roads and all construction sites at the Gatehouse Area project site. Dust control may include use of a water truck or for smaller areas, a back-pack water tank may be sufficient.

Mitigation Measure BIO-4. To minimize potential impacts to the Smith's blue butterfly, limit the speed of construction vehicles to 5 mph on the access roads.

Mitigation Measure BIO-5. To minimize potential impacts to the Smith's blue butterfly or its host plant, in addition to the dust-barrier fencing along the access roads, place highly visible flagging or orange construction fencing along the access road and edges of parking areas. Place clearly visible signs along the access road with the following warning: SENSITIVE HABITAT – DO NOT ENTER (or similar text). The Reserve Director shall also be responsible for informing the construction contractor and their employees of the importance of parking or placing materials only in designated areas, to avoid any impacts to buckwheat plants and any Smith's blue butterflies that may be present on the plants.

Impacts to Coast Range Newt Coast range newt, a California Species of Special Concern, may breed and live in the riparian habitat of Big Creek near the Gatehouse. Although none of the proposed facilities will impact newt habitat, individuals may be encountered during construction of the new classroom building adjacent to the riparian corridor.

Mitigation Measure BIO-6. To avoid impacts to individual coast range newts, the Reserve Manager or other qualified monitor will check the Gatehouse construction site during rainy periods in the morning before the onset of activities. The monitor will relocate any coast newts to a forested area along Big Creek that is outside of the construction area.

b) Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity. California Department of Fish and Wildlife (CDFW) ranks the State's natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. Vegetation types ranked as S4 or S5 are generally considered common enough to not be imperiled; however, certain associations contained within them may be rare. The riparian woodland adjacent to the Gatehouse area site is ranked S3 and therefore is considered imperiled. While native stands of Monterey pines and Monterey cypress are ranked S1, the trees within the project area (Gatehouse Area) are planted trees; planted trees are not considered to be native stands and are not considered sensitive natural communities.

The Coastal Act, Section 30240, requires that environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, that only uses dependent on those resources shall be allowed within those areas, and that development in areas adjacent to environmentally sensitive habitat areas be sited and designed to prevent impacts which would significantly degrade those areas. The Coastal Act, Section 30231 requires that the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes 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.

~~Monterey County's Big Sur Coast Land Use Plan and Local Coastal Program (LUP/LCP) identifies environmentally sensitive habitats (ESHA), which are areas in which plant or animal life or their habitats are rare or particularly valuable because of their special nature or role in an ecosystem. Within the Project areas, riparian woodland along Big Creek is considered ESHA. In addition, the coastal scrub at the Gatehouse Area meets the definition of ESHA due to the presence of dune buckwheat, which is the host plant for Smith's blue butterfly. The coastal scrub within the Coyote Creek area does not support dune buckwheat or other rare plants or animals and therefore is not considered ESHA. However, dune buckwheat is present along the western portion of the access road to the Coyote Creek area.~~

Figure 6.5-1a shows the location of the proposed new development and relative to the riparian woodland. The work area would be limited to the existing cleared and graded area, which extends to the top of the bank of Big Creek, adjacent to the riparian woodland habitat. As shown on Figure 6.5-1, the proposed deck of the Classroom Building would be adjacent to the top of the bank. The Project would not directly affect riparian woodland or coastal scrub ESHA. However, in the Gatehouse Area, use of the existing driveway/access road for construction access may result in inadvertent impacts to riparian woodland and coastal scrub, including dune buckwheat plants growing alongside the roadway. Construction of the classroom and septic leach field is also proposed in close proximity to Big Creek and its associated riparian woodland. Construction has the potential to adversely impact the riparian woodland if construction activities inadvertently enter the woodland or construction material is placed below the top-of-bank. Use of the access road to the Coyote Creek area for construction equipment may result in inadvertent

impacts to coastal scrub ESHA. Implementation of Mitigation Measures BIO-2 through BIO-5, above, would reduce impacts to dune buckwheat to a less-than-significant level. Implementation of Mitigation Measure BIO-7, below, would reduce the potentially significant impact to riparian woodland along Big Creek to a less-than-significant level.

Mitigation Measure BIO-7: The contractor shall be required to prepare and implement an Erosion and Sediment Control Plan as specified in Appendix D of the Campus Standards. To avoid impacts to the riparian woodland and water environment of Big Creek, implement riparian habitat protection measures prior to and during construction. Measures should include:

- Install plastic mesh fencing at the perimeter of the work area to prevent impacts to the adjacent riparian woodland and in-stream habitat, and injury to adjacent native trees. Protective fencing shall be in place prior to ground disturbance and removed once all construction is complete. During construction, no grading, construction or other work shall occur outside the designated limits of work.
- No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored outside the designated limits of work.
- Implement standard erosion control BMP's to prevent construction materials from entering the creek and riparian woodland, such as perimeter silt fencing, straw wattles, and similar erosion control measures.
- All staging of equipment and materials, and refueling of equipment, shall be located in existing roadways, driveways, and parking areas. The contractor shall prepare and implement a fuel spill prevention and clean-up plan.

c) Big Creek is a federally protected wetland as defined by Section 404 of the Clean Water Act. All construction would be beyond the top of the bank and therefore would not directly affect the wetland. All work would be outside the top of the bank and beyond the edge of riparian habitat and therefore is not subject to regulation by CDFW under Sections 1600-1603 of the California Fish and Game Code. For the same reasons, the Project would not directly affect waters of the State, which are subject to regulation by the Regional Water Quality Control Board (RWQCB). The potential for indirect effects on the hydrology of the creek and on water quality is analyzed in Section 6.10, *Hydrology and Water Quality*.

d) Big Creek supports a healthy population of anadromous southern steelhead (*Oncorhynchus mykiss*). Most years there is a run of large adult fish entering Big Creek from the ocean to spawn, and some fish may also remain in the creek and reproduce without going out to sea. As described above, the proposed Project would not directly affect habitat conditions in Big Creek. Ground disturbance from construction activities could result in deposition of sediment in the creek, which would be a potentially significant impact to habitat. Implementation of Mitigation Measure BIO-7 would ensure that construction activities do not result in indirect impacts to habitat. With implementation of this mitigation measure, the impact would be less than significant.

e) The University is not subject to local policies or ordinances protecting biological resources. However, the University must obtain a Coastal Development Permit from the Coastal Commission. In considering the Project's consistency with the Coastal Act, the Coastal Commission will take into account the consistency of the Project with the Big Sur Land Use

Plan, which is Local Coastal Program (LCP) adopted by the County of Monterey for the Big Sur coast. A list of Big Sur Land Use Plan policies protecting biological resources that are applicable to the Project, with comments on the Project's consistency with each policy is included in Appendix C. In summary, these policies:

- prohibit development in environmentally sensitive habitat areas that results in potential disruption of habitat value;
- require field surveys where development is proposed in documented or expected locations of environmentally sensitive habitat;
- for development in environmentally sensitive habitats, limit ground disturbance and maximize the maintenance of the natural topography;
- cluster development in sensitive habitat areas in the least environmentally sensitive areas;
- require that land uses adjacent to environmentally sensitive habitats be compatible with the long-term maintenance of the resource and are at densities compatible with the protection and maintenance of the adjoining resource;
- require the use of appropriate native species in landscaping; site development to protect riparian habitat values; require setbacks of 150' on each side of the streambank unless a narrower corridor can be demonstrated to be sufficient to protect existing vegetation and provide for restoration of previously disturbed vegetation;
- require design and site residential development to have minimum impacts on redwood trees from soil compaction and other disturbances to tree roots.

The proposed Project sites were selected in part to minimize disturbance of environmentally sensitive habitat. Field surveys by qualified biologists have been performed to identify and map all sensitive biological resources in and adjacent to the sites.

The new classroom would be constructed adjacent to existing development, in an area that is used for parking, and gathering and staging for classes and research groups. Virtually all visitors to the Reserve stop in this area when they arrive and depart. The land has been disturbed in the past for construction of the existing facilities, gardening, and landscaping. The proposed building site is adjacent to the top of the bank of Big Creek but outside of the riparian corridor. Construction would not disturb riparian vegetation or redwood trees. The vegetation that would be removed consists primarily of annual grasses, with a small amount of coastal scrub and trees that were planted by the Reserve. The Project would not increase the overall level of human activity in the adjacent riparian corridor.

Coyote Creek is used for equipment storage and parking and has been mowed periodically over the past several decades. As described above, the vegetation at the site consists of common coastal scrub species (e.g. ceonothus, beebush, lizard tail, poison oak, coffee berry, California sage, coyote bush, and stinging nettle). The Project would not remove any special-status plant species or redwood trees, or affect a sensitive natural community.

At both sites, the proposed development would be limited to the structures themselves, circulation elements required for code-compliant user and emergency access, and vegetation removal to provide defensible space. By improving the quality of the accommodations for visiting researchers the Project may result in a small increase in the number of researchers using the Reserve. However, all use of the Reserve is managed to minimize impacts to sensitive resources. The Reserve Use Guidelines, which are used by Reserve Managers when reviewing research requests, state:

“Activities that will or are highly likely to irrevocably harm the natural values, ecosystem functions and native biodiversity of the reserve, or preclude its possible future use for University-level research or instruction, will not be allowed. Thus, the number and duration of stay by visiting researchers, classes, and members of the public will necessarily be limited at each reserve. Similarly, facility development at each reserve may be allowed only in designated areas, and may be limited in size so that natural and cultural values are not adversely affected.”

With implementation of the proposed Project, use will continue to be managed to ensure fragile coastal resources are not impacted. The proposed project is consistent with policies contained in the County’s LUP/LCP in that the project will not affect any riparian woodland or coastal scrub in the Gatehouse Area. In addition, measures have been identified in this Initial Study to avoid inadvertent impacts to ESHA habitat (riparian woodland and coastal scrub, including dune buckwheat) during construction. UC Santa Cruz’s adherence to avoidance and minimization measures, as outlined in this Biotic Study, would avoid disturbances to these two habitats and protect these environmentally sensitive habitat areas from damage.

The California Coastal Act limits uses within ESHA to those which are dependent on such resources; examples include nature education and research, hunting and fishing, as well as essential ranching and agricultural uses, and repair and rehabilitation of existing structures. To approve development within any of these habitats the ~~County~~ Coastal Commission must find that disruption of a habitat caused by the development is not significant. The proposed project is consistent with policies contained in the County’s LUP/LCP in that the project will not affect any riparian woodland or coastal scrub in the Gatehouse Area. In addition, with implementation of mitigation measures BIO-2 through BIO-5 and BIO-7, the Project would avoid inadvertent impacts to ESHA habitat (riparian woodland and coastal scrub, including dune buckwheat) during construction. UC Santa Cruz’s adherence to avoidance and minimization measures, as outlined in this Biotic Study, would avoid disturbances to these two habitats and protect these environmentally sensitive habitat areas from damage.

With the implementation of the mitigation measures identified in this Initial Study, the Project would be consistent with the Coastal Act ~~Big Sur Land Use Plan~~. The impact would be less than significant.

f) There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan that is applicable to the Reserve. No impact would occur.

Summary

With implementation of mitigation measures BIO-1 through BIO-7, all biotic resources impacts of the Project would be less than significant.

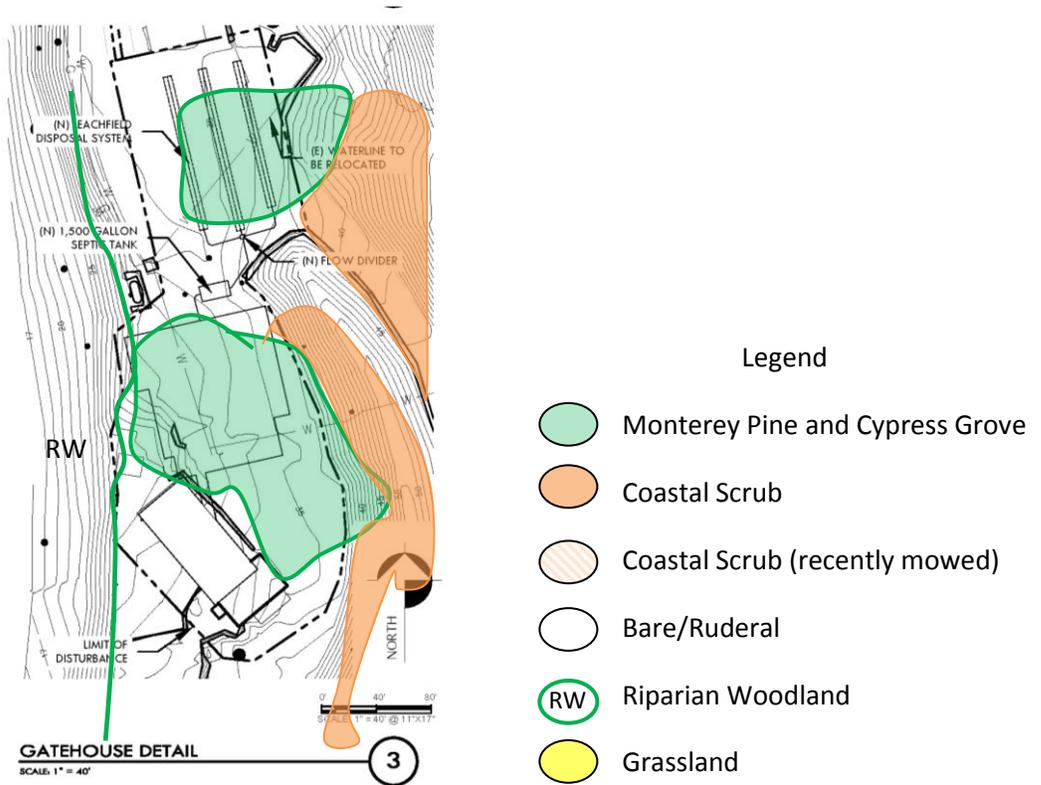


Figure 6.5-1a. Existing Vegetation at Gatehouse Area



Figure 6.5-1b. Existing Vegetation at Coyote Creek Area

6.6 CULTURAL RESOURCES

CULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a,b,d) The existing structures in the Gatehouse area were constructed after 1972 and there are no existing structures at the Coyote Creek site. Therefore, the Project does not have the potential to affect historic structures.

An archaeological investigation was performed to evaluate whether the Project has the potential to adversely affect archaeological resources that qualify as “historical resources” as defined in Section 15064.5 of the CEQA Guidelines, or to cause a substantial adverse change in the significance of an archaeological resource (Condor Country Consulting 2014). The investigation included a records review to identify and map known resources; a pedestrian reconnaissance survey of the Gatehouse and Coyote Creek project sites; and subsurface testing of a previously identified prehistoric site in the vicinity of the Gatehouse (CA-MNT_1361).

The records review consisted of a search of records housed at UC Santa Cruz, which includes all of the archaeological and historical resource site records for the Reserve; a review of cultural resource studies and other documentation; and Native American Heritage Commission and tribal consultations. Record search data indicate that archaeologists and/or historians have previously surveyed the entire Project area. The records search identified two previously recorded cultural resources located within a 1/4-mile radius of the Area of Potential Effects (APE) for the Project. They include one prehistoric Native American habitation (CA-MNT-479), and a possible prehistoric site (CA-MNT-1361). The later was recorded within the APE. In addition, archaeologists have excavated a Native American skeleton within 1/4-mile of the APE.

An archaeologist conducted a pedestrian reconnaissance survey of the APE in June 2014. No indicators of cultural resources were identified in the Coyote Creek portion of the APE. In the Gatehouse site APE, the pedestrian survey identified minimal indicators (fragments of shell and

bone) of the possible prehistoric cultural resource that was previously recorded as CA-MNT-1361.

Previous archaeological investigations of this site were limited to surface surveys. Therefore, a site testing program and evaluation of CA-MNT-1361 was performed in August 2014. The testing program included excavation of five backhoe trenches to a depth of 8 feet to test for the presence of any deeply buried deposits and to construct a soil profile of the area; three controlled excavation units to assess whether the site contains an intact stratigraphic context and sufficient data to address the proposed research questions; and five shovel test units to assess if the site contains an intact stratigraphic context and sufficient data to address the proposed research questions. A representative from the Ohlone/Costanoan-Esselen Nation, Mr. George Martinez, was present during all testing activities. All activities of the archaeological team were noted and reported to Ms. Louise J. Miranda Ramires, Tribal Chair of the Ohlone/Costanoan-Esselen Nation.

The archaeological testing did not reveal any evidence of cultural resources. The archaeological survey report concludes that the site CA-MNT-1361 appears ineligible for listing to the California and National Registers of Historic Places, as it does not possess data that may yield information relevant to any research questions. The “site” appears to consist of soil with dark staining that was imported for a garden and (a) does not contain any lithics or sufficient archaeological material to yield important data, and (b) the stratigraphic context was determined to be completely lacking. No resources defined by CEQA as “historic resources” or “unique archaeological resources” were found during the testing program.

Based on the results of the archaeological investigation of the site, the Project does not have the potential to adversely affect archaeological resources that qualify as “historical resources” as defined in Section 15064.5 of the CEQA Guidelines, to cause a substantial adverse change in the significance of an archaeological resource, or to disturb human remains. The impact would be less than significant. However, as there is the potential of encountering previously unrecorded cultural resources, the archaeological survey report recommends that construction halt within a 100 foot radius if workers encounter potential cultural resources until a qualified archaeologist assesses the find and follows the proper protocols for the specific type of cultural material discovered. This requirement is included in UC Santa Cruz’ standard construction contract template. The construction contract template also includes the requirement that workers halt construction within a 100-foot radius if human remains are recovered, to allow the University to notify the Monterey County Sheriff-Coroner in compliance with State laws and regulations regarding the finding of human remains. To further reduce the potential for adverse impacts to archaeological resources or human remains, these requirements are included in the proposed Mitigation Monitoring and Reporting Program (Appendix B) as Mitigation Measures CULT-1A and CULT-1B:

Mitigation Measure CULT-1A: If an archaeological resource is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. The Campus shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the extent of the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project.

Mitigation Measure CULT-1B: In the event of a discovery of human bone, suspected human bone, or a burial, the Campus shall ensure that all excavation in the vicinity halts immediately and the area of the find is protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bone is human, or if a qualified archaeologist is not present, the Campus will notify the Santa Cruz County Coroner of the find and protect the find without further disturbance until the Coroner has made a finding relative to PRC 5097 procedures. If it is determined that the find is of Native American origin, the Campus will comply with the provisions of PRC §5097.98 regarding identification and involvement of the Native American Most Likely Descendant (MLD).

c) Bedrock at both the Gatehouse and Coyote Creek sites is mapped as metavolcanics of the Franciscan Complex (Wills, 2001). Metavolcanic rocks have no potential for significant paleontological resources. At the Gatehouse site, the bedrock is overlain by rockfall deposits originating from the metavolcanic rocks that crop out on the eastern canyon wall, and fluvial terrace deposits from the adjacent Big Creek. The Coyote Creek site is located on soil developed on bedrock and colluvial deposits similar to the Gatehouse site, but it lacks the alluvial deposits observed at the latter.

Previous geologic investigations at the site concluded that the last major rockfall event at the Gatehouse site was more than 11,000 years ago, although smaller rockfalls continue to occur roughly on a semi-annual basis. Zinn (2009) estimates that the fluvial terrace was formed up to 5,000 years ago. The rockfall and fluvial deposits overlying the bedrock at the Gatehouse site are Holocene (i.e., deposited since the last ice age), and therefore are too young to contain true fossil remains or traces. Therefore, the potential for the project to encounter a significant paleontological resource is very low and the impact would be less than significant.

Summary

All cultural resources impacts of the Project would be less than significant. No mitigation is required.

6.7 GEOLOGY, SOILS, & SEISMICITY

GEOLOGY, SOILS, & SEISMICITY

Would the project...	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
----------------------	--------------------------------	--	------------------------------	-----------

a) Expose people or structures to 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.

GEOLOGY, SOILS, & SEISMICITY

Would the project...	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
ii.Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a,i) The Reserve and the surrounding area are not located within an Alquist-Priolo Earthquake Fault Zone and no active faults are mapped on the Reserve (<http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm>). No impact would occur.

a,ii) The proposed project site, like much of California, could experience significant seismic shaking. The new building and the modifications to the existing buildings would be designed and constructed in conformance with the California Building Code (CBC) and would follow the recommendations of the geotechnical study performed for the Project. Consistent with the University of California Seismic Safety Policy, nonstructural building elements such as furnishings, fixtures, cabinets, and utilities that could create a hazard if dislodged during an earthquake would be anchored for seismic resistance. These measures would ensure that the Project would not result in significant hazard related to seismic shaking.

a,iii) Soils susceptible to liquefaction are loose, saturated, poorly graded sands and silts. The Gatehouse Site is located on rockfall deposits and fluvial terrace deposits from the adjacent creek (Kane 2014). These soils consists of well-graded cobbles, sand, and silt. Soils at the Coyote

Creek site consists of clayey sands with gravel, clayey gravels, and silt with sand and gravel. Based on the nature of the soils, the potential for liquefaction in this area is low. The impact would be less than significant and no mitigation is required.

a,iv) The Project sites are underlain by a geologic formation known as Franciscan Melange, which consists of intensely fractured and sheared metasandstone and metavolcanic rock. Some units within the Franciscan Melange are highly susceptible to landsliding, and landslides have shaped large sections of the topography in and near the Reserve. In 2000, a large landslide onto Highway 1 just south of the Gatehouse entrance caused the closure of the highway until clean-up was completed. According to the Project geotechnical report, the slope adjacent to the Gatehouse site entrance road is composed of outcropping metamorphic rock and was not part of the 2000 landslide (Kane 2014). A slope stability analysis performed for the Coyote Creek site as part of the Project geotechnical analysis indicates that the safety factor under both static and seismic conditions exceed the recommended threshold (Kane 2014).

The 500-foot-high cliff that bounds the Big Creek drainage on the south creates a rockfall hazard for the Gatehouse area. In 2010, the University constructed an earth berm between the staff residence and the Reserve entrance road, which runs along the base of the cliff. This berm replaced an older, smaller berm. Before the new berm was constructed, falling rocks and boulders occasionally overtopped the older berm during winter storm events. The new berm was designed by a licensed civil engineer based on conservative modeling of the rockfall hazard using the Colorado Rockfall Simulation Program (CRSP) (Kane 2008). The new classroom building is also sited behind the berm.

Rockfall originating at the ridge line above the Coyote Creek site poses a potential hazard to the development at that site. A rockfall hazard analysis was conducted for the Coyote Creek site as part of the Project geotechnical study. The geotechnical report for the Project recommends a minimum 3-foot-high berm or fence with an offset of 10 feet from the toe of the slope to mitigate this hazard. Alternatively, the University may decide to avoid the hazard by moving the structure further from the base of the slope. Under any of these alternatives, the rockfall hazard at the Coyote Creek site would be less than significant. No mitigation is required.

b) The potential for erosion related to construction activities and new impervious surface is addressed in Section 6.10, below.

c) Liquefaction, lateral spreading and landslides are discussed under item (a,ii-iv) above.

d) Expansive soils shrink and swell as a result of moisture changes. This can cause heaving and cracking of concrete slabs, pavements, and structures founded on shallow foundations if they are inadequately designed for these conditions. Potential risk to life and property can result if buildings were constructed on expansive soils without appropriate design. These risks can be avoided through the use of engineering solutions such as replacement of expansive soils with fill, lime treatment of soils, or deepening of foundations. Based on the results of testing of the soils at the two Project sites, the geotechnical study for the Project determined that the soils at both sites have no shrink-swell potential. No impact would occur.

e) Potential impacts associated with septic tanks are analyzed in Section 6.10, *Hydrology and Water Quality*.

Summary

The Project would not result in significant environmental impacts related to soils and geology. No mitigation is required.

6.8 GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS

Would the project...	Potentially Significant Impact	Less Than Significant with Project-level Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Standards of Significance

The proposed project is located in the Monterey Bay Unified Air Pollution Control District (MBUAPCD). The MBUAPCD has not adopted thresholds for assessing climate change impacts. In a white paper published in January 2008, examining approaches that local governments might take to assess GHG emissions under CEQA, the California Air Pollution Control Officers Association (CAPCOA) examined a non-zero threshold of 900 metric tons of carbon dioxide equivalent (MT CO₂e) per year, which would capture approximately 90 percent of residential projects in the state (CAPCOA 2008). Several air quality management and air pollution control districts, including the Sacramento Metropolitan Air Quality Management District (SMAQMD), the San Joaquin Valley Air Pollution Control District, and the Bay Area Air Quality Management District (BAAQMD), have adopted guidance documents for evaluating the significance of GHG emissions under CEQA. Other districts have published draft guidance documents that have not yet been formally adopted, or have adopted thresholds for stationary source emission but not for residential and commercial projects. For residential projects, the BAAQMD adopted a threshold for total emissions of 1,100 MTCO₂e per year and a efficiency-based threshold of 4.6 MTCO₂e per service population (employees plus residents) per year (BAAQMD 2010). These thresholds are based on projected increases in GHG emissions using growth data related to residential and commercial development specific to the Bay Area. The South Coast Air Quality Management District (SCAQMD) has evaluated, but not adopted, a screening threshold of 3,000 MT CO₂e per year, which would capture 90 percent of GHG emissions from development projects in that region. The San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted performance-based standards to assess the significance of project specific greenhouse gas emissions on global climate. Projects implementing the District’s “best performance standards” would be determined to have a less than cumulatively significant impact. Otherwise, the SJVAPCD standards require that a project demonstrate a 29 percent reduction in GHG emissions from business-as-usual to determine that a project would have not have a cumulatively significant impact. The SMAQMD guidance does not provide a quantitative threshold, but recommends that the project be analyzed with respect to AB 32 goals, specifically a reduction in GHG emissions to 1990 levels by 2020, or approximately a 30 percent reduction from business as usual.

This analysis uses CAPCOA's threshold of 900 MT CO₂e per year for to determine whether the Project would make a cumulatively considerable contribution to global climate change. CAPCOA estimated that this threshold would capture 90 percent of commercial and residential projects, and is the most stringent of the non-zero thresholds that have been proposed for these types of projects.

The second Appendix G criterion, requiring a determination of whether the project will conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, may be evaluated by demonstrating compliance with plans, policies, or regulations adopted by local governments to curb GHG emissions. The only applicable plan, policy or regulation is the state's AB 32 Scoping Plan (California Air Resources Board, 2008). AB 32, the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006, was the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. The Scoping Plan contains an outline of the proposed State strategies to achieve the 2020 GHG limits required by AB 32. The following AB 32 Scoping Plan measures are relevant to the proposed project:

Energy Efficiency: Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).

Green Buildings: Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.

Project Greenhouse Gas Emissions

The Project would add the following new onsite sources of greenhouse gas emissions: propane combustion for cooking and domestic hot water, periodic use of wood stoves for heating during cold weather, and operation of generators as backup for the solar photovoltaics that would be the primary source of power for the new facilities. The new resident staff house would generate fewer vehicle trips than a typical single-family unit because the resident staff would not have to commute to work. The new part-time staff and researcher studio would provide overnight accommodations for part-time staff who now commute to the Reserve daily, which would reduce the number of trips by existing staff.

Impact Significance

a) According to CAPCOA (2008), the significance threshold of 900 MT CO₂e/year would be met by a typical 50-unit residential development, based on data from four diverse California cities. The proposed Project would construct one single-family dwelling and part-time staff and researchers studio for up to about five people per week and therefore clearly would not result in GHG emissions exceeding the threshold, and the impact would be less than significant.

b) As discussed in Section 6.8.1, above, the proposed Project would be considered to make a significant contribution to global climate change if it would conflict with the AB 32 Scoping Plan, specifically the applicable plan energy efficiency and green building measures. The Project includes on-site housing for staff, thereby reducing commute trips, solar arrays as the primary

source of power for all facilities, and passive solar collection elements to reduce the need for energy use for heating. In compliance with the UC Policy on Sustainable Practices, the University would seek LEED Silver certification. The Project incorporates feasible energy efficiency and green building elements and therefore would not conflict with the AB 32 Scoping Plan. The impact would be less than significant.

Summary

GHG emissions associated with the proposed project would not make a cumulatively considerable contribution to climate change. Mitigation is not required.

6.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS & HAZARDOUS MATERIALS

Would the project...	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Like any other construction activities, construction of the proposed project could involve use of hazardous chemicals, such as petroleum products and solvents associated with the use of heavy construction equipment. Any such materials would be handled and disposed of in compliance with state and federal laws regulating hazardous waste. The Campus' standard construction contract provisions include specific requirements for hazardous materials spill prevention, reporting and response. These requirements would minimize the potential for hazards to the public or to the environment as a result of a release of hazardous materials.

Consistent with Campus procedures, the building components that will be demolished or remodeled will be or have been surveyed for the presence of potential hazardous materials as part of project design. The Campus would develop procedures and work plans for abatement of these materials during construction that will be incorporated into the contract documents. These documents include qualification requirements for contractors, workers, and hazardous materials haulers; identify relevant regulatory requirements; specific procedures for removal of each type of material, for waste disposal and manifesting procedures, and for final clean-up and criteria for clearing the buildings for re-occupancy. Inclusion of these requirements in the construction contract documents would ensure that hazardous materials encountered during construction are managed in compliance with federal and state regulations, campus policies, and current procedures of UC Santa Cruz Environmental Health and Safety. This would minimize the potential for exposure of workers to contaminated building materials or other contamination inside structures. Therefore, the project's potential to expose people or the environment to hazardous materials would be less than significant.

b,c) With the exception of household hazardous materials used in cleaning and maintenance and propane fuel for domestic water heating, cooking, and backup generators, hazardous materials would not be used in the new or renovated structures. These materials would be managed in compliance with federal and state regulations, campus policies, and current procedures of UC Santa Cruz Environmental Health and Safety, which would ensure that the impact would be less than significant.

d) There are no sites on the Reserve that are listed as hazardous-materials sites pursuant to Government Code Section 65962.5.

e,f) There are no public airports or private airstrips in the vicinity of the Reserve. No impact would occur.

g) The Project would not obstruct or alter any emergency access routes or otherwise interfere with an adopted emergency response plan. No impact would occur.

h) According to CalFire's 2007 Fire Hazard Severity Zone maps, Big Creek Reserve is in an area where the risk of wildland fire is very high.

(http://www.fire.ca.gov/fire_prevention/fhsz_maps_monterey.php). The Reserve is in a State Responsibility Area (SRA), where the State of California is financially responsible for the prevention and suppression of wildfires, and CalFire provides basic fire prevention and protection services. The Big Sur Fire Brigade, a volunteer organization, provides structure and wildland fire protection for the Big Sur area.

Under the California Building Code (CBC), all new buildings in an SRA must comply with the California Wildland-Urban Interface Code. This section of the CBC establishes standards for building materials and construction methods and defensible space within Fire Hazard Severity Zones. Development within the SRA must also comply with the California Fire Safe regulations (Title 14 Code of California Regulations: Division 1.5, Chapter 7, Subchapter 2, Articles 1-5), which include standards for emergency access, signage and addressing, emergency water supply, and fuel modification and defensible space.

The Campus has consulted with the Campus Fire Marshal and Big Sur Fire Brigade Chief regarding requirements for the proposed Project. These requirements include a 5,000-gallon emergency water tank at each site, and 100 feet of defensible space around the buildings. The proposed building envelope materials, which include concrete panels, steel siding and steel roofing, would comply with the CBC requirements for construction in very high fire hazard severity zones. In compliance with University policy, Fire Marshal approval of the detailed Project design will be required before the Project goes out to bid. This process would ensure that Project would be constructed to provide protection from ignition by flying embers and to create a defensible space for firefighters and for wildfire protection. Therefore, the Project would not expose people or structures to a significant risk, and the impact would be less than significant.

Summary

All impacts of the Project related to hazards and hazardous materials would be less than significant. No mitigation is required.

6.10 HYDROLOGY & WATER QUALITY

HYDROLOGY & WATER QUALITY	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

HYDROLOGY & WATER QUALITY

Would the project...	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Under a 1979 agreement between the County of Monterey and the Regional Water Quality Control Board, the Monterey County Health Department administers sewage disposal regulations under the California Water Code. Construction of the new septic systems would require a permit from the Monterey County Health Department. The Project would install a new septic system at the Coyote Creek site. Based on the results of soil and percolation testing at that site, the site is suitable for a leach field that meets the standards of the Monterey County Health Department. At the Gatehouse site, because the proposed leach fields would be within 100 feet of Big Creek, the Project would include an on-site treatment system to reduce biochemical oxygen demand (BOD) and total suspended solids (TSS) to County standards. The footprint of the system would be small (approximately 300 sf). Alternatively, the University may construct vault toilets with tanks that would be pumped out periodically. The wastewater from any outdoor feature such as a shower or sink can be managed in a graywater system installed 100-feet from Big Creek. The Project would not violate waste discharge standards and no impact would occur.

b) The new and remodeled facilities would use water from springs and would not extract groundwater. The development would increase the area of impervious surface at both sites; however, all runoff from the new development would be directed to vegetated swales and infiltration trenches, where most of it would infiltrate to the subsurface as under natural conditions. Furthermore, there are no known groundwater resources beneath the site and no existing wells or planned use of groundwater. The impact would be less than significant and no mitigation is required.

c-e) The Project would not alter the course of a stream or river or otherwise substantially alter the existing drainage pattern of either site. There is an existing culvert under the driveway and berm at the Gatehouse site that collects run-off from the road and discharges it to the site to the west of the berm. Runoff from impermeable surfaces at the Gatehouse site percolates into the ground or, in large storm events, flows overland to Big Creek. The Coyote Creek site slopes toward the southwest, toward an unnamed drainage channel that flows to the ocean.

The Project would be required to meet the following requirements of the UC Santa Cruz Campus Standards (Section 2720) for post-construction management of storm water runoff, as applicable:

- 1) For projects that add or replace >2,500 sf of impervious surface: Site Design and Runoff Performance Requirements: design strategies such as directing runoff from roofs, sidewalks, walkways, and/or patios onto vegetated areas safely away from building foundations and footings; directing roof runoff into cisterns or rain barrels for reuse; constructing driveways, uncovered parking lots, walkways, and patios with permeable surfaces. These strategies must be documented in a Post-Construction Storm Water Management Checklist.
- 2) For projects that add or replace >5,000 sf of impervious surfaces: Water Quality Treatment: Runoff is to be treated using the following onsite measures, listed in order of preference: a) Low Impact Development (LID) systems (harvesting and use, infiltration, and evapotranspiration Storm Water Control Measures); b) biofiltration treatment systems that meet specified design parameters; or 3) non-retention-based treatment systems. The treatment measures are to be documented in a Stormwater Control Plan that includes calculations demonstrating compliance with the applicable Water Quality Treatment Performance Requirements detailed in the Campus Standards.
- 3) For projects that add or replace >15,000 sf: Runoff retention: Prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event, using storage, rainwater harvesting, infiltration, and/or evapotranspiration.

Although the storm water management systems have not been designed, there is adequate open space on both Project sites for successful implementation of these measures. These existing Campus' requirements, including the requirement for documentation that the design meets the performance requirements will ensure that the Project does not result in an increase in runoff that would cause erosion and discharge of sediment to Big Creek or the unnamed drainage southwest of the Coyote Creek site, and the impact would be less than significant and mitigation is not required. However, because of the proximity of the site to Big Creek, to ensure that the Project meets the appropriate standards, the Campus would implement Mitigation Measure HYD-1:

Mitigation Measure HYD-1: The final Project plans and specifications shall include documentation that the Project design meets the requirements of Campus Standards Section 2720, including, as applicable:

- Site Design and Performance Requirements: design strategies such as directing runoff from roofs, sidewalks, walkways, and/or patios onto vegetated areas safely away from building foundations and footings; directing roof runoff into cisterns or rain barrels for reuse; constructing driveways, uncovered parking lots, walkways, and patios with permeable surfaces
- Water Quality Treatment: Treatment of runoff using the following onsite measures, listed in order of preference: a) Low Impact Development (LID) systems (harvesting and use, infiltration, and evapotranspiration Storm Water Control Measures); b) biofiltration treatment systems that meet specified design parameters; or 3) non-retention-based treatment systems.

- 4) Runoff Retention: Prevention of offsite discharge from events up to the 85th percentile 24-hour rainfall event, using storage, rainwater harvesting, infiltration, and/or evapotranspiration.

Grading and other ground disturbance have the potential to result in water quality impacts during construction. The Project would disturb a total of approximately 0.8 acre. As required for all UCSC projects with less than 1 acre of ground disturbance, and required by Mitigation Measure BIO-7, project construction contract documents would require the contractor to implement erosion and sediment control measures specified in Appendix D of the Campus Standards (<http://ppc.ucsc.edu>), and to prepare and implement an Erosion and Sediment Control Plan (ESCP). This would ensure that Project construction would not have a significant adverse effect on water quality.

f) The Project would not result in new sources of water pollutants and therefore would not otherwise substantially degrade water quality. No impact would occur

g-i) Neither the Gatehouse site nor the Coyote Creek site is within a 100-year flood hazard area (Kane GeoTech 2014) and there are no levees or dams above either site. No impact would occur.

j) Both sites are outside the tsunami hazard planning zones identified by the California Geological Survey. No impact would occur.
(http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Pages/Index.aspx)

Summary

All impacts of the Project related to hydrology and water quality would be less than significant. No mitigation is required.

6.11 LAND USE & PLANNING

LAND USE & PLANNING	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

d) Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses?

a) The only full-time residents of the Reserve are the two full-time resident staff members and their families. The two staff residences are in different areas of the Reserve (the Gatehouse and Whale Point). There is no established community on the Reserve and no impact would occur.

b) The University of California is constitutionally exempt from local land use regulation including general plans and zoning, but seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible. In addition, the Project will require a Coastal Development Permit (CDP) from the California Coastal Commission. Pursuant to the California Coastal Act of 1976, the Coastal Commission is responsible for:

- 1) protecting and, where feasible, enhancing the overall quality of the Coastal Zone environment and its resources, and
- 2) ensuring orderly, balanced use of resources, taking into account social and economic needs.

The Commission's primary tool for accomplishing these objectives is the Local Coastal Plan (LCP), which sets forth policies and a land use plan for protecting and guiding development within Local Coastal Zones. Monterey County's Big Sur Land Use Plan (LUP), which was adopted by the Monterey County Board of Supervisors in 1985 and certified by the Coastal Commission in 1986, is the County's Land Use Plan for the Big Sur Coast segment of the County's Local Coastal Program. The Big Sur LUP covers the area in which the Reserve is located. The Big Sur LUP provides development standards to guide the actions of all State and local agencies. At UC campuses, under a special process, the Coastal Commission reviews and approves the Long Range Development Plan, which in effect serves as the equivalent of an LCP. However, the University has not prepared a Long Range Development Plan for the Big Creek Reserve. Therefore, the University anticipates that, in considering the CDP application for the proposed Project, the Coastal Commission will take into account the consistency of the Project with the Big Sur LUP.

Appendix C-1 of this Initial Study is a table that lists the relevant development policies of the Big Sur LUP, with a brief discussion of the Project's compliance with each policy. Appendix C-2 of this Initial Study is a table that lists the relevant development policies of the Big Sur LUP, with a brief discussion of the Project's compliance with each policy.

Coastal Act

Provisions of Coastal Act Chapter 3, *Resources Planning and Management Policies*, which apply to the Project are found in Article 2, *Public Access*, Article 4, *Marine Environment*, Article 5, *Land Resources*, and Article 6, *Development*.

Public Access. Under *Public Access*, the Coastal Act requires that development not interfere with the public's access to the sea, and that public access be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Access to the Big Creek Reserve is by application only and is limited to those whose use is consistent with the Reserve's mission of teaching, research, and public service. The Project would not affect visual access to the shoreline, and would not alter the existing policy of managing all use of the Reserve to minimize impacts to sensitive resources. Therefore, the Project would not reduce existing public access to the shoreline, and would not increase use in a way that could jeopardize the fragile resources.

Marine Environment. Under *Marine Environment*, the Coastal Act requires that "the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes...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." As discussed in the Biological Resources section of this Initial Study, with implementation of Mitigation Measure BIO-7, the Project would not result in significant impacts to riparian habitat. As analyzed in the *Hydrology and Water Quality* section of this Initial Study, the Project would not result in significant hydrology impacts that could affect the biological productivity or quality of Big Creek or coastal waters.

Land Resources. Under *Land Resources*, the Coastal Act includes policies to protect environmentally sensitive habitat areas and archaeological and paleontological resources. As discussed in the *Biological Resources* section of this Initial Study, with implementation of Mitigation Measure BIO-7, the Project would not result in significant impacts on environmentally sensitive habitat areas. The Project's As discussed in the *Cultural Resources* section of this Initial Study, the Project would not result in significant impacts to archaeological and paleontological resources.

Development. Under *Development*, the Coastal Act includes policies stipulating that, where it can be accommodated, new development shall be located within or near existing developed areas where it can be accommodated; requiring protection of scenic and visual qualities of coastal areas, minimizing geologic, flood, and fire risks and alteration of natural coastal landforms, consistency with air pollution regulations, minimizing energy consumption and vehicle miles traveled, and protection of special communities and neighborhoods. As discussed in the *Geology and Soils* and *Hazards and Hazardous Materials* sections of this Initial Study, the Project would not result in significant risks to life and property and would not contribute to erosion, geologic instability or destruction of the site or surrounding area. As discussed in the *Air Quality* section of the Initial Study, the Project would be consistent with requirements of the Monterey Bay Area Unified Air Pollution Control District. The Reserve is off the grid, and photovoltaics are the

primary source of power for all Reserve facilities. As described in Section 3.6 of this Initial Study, the proposed new facilities would be designed to minimize the need for mechanical heating and cooling. The Project would reduce existing commute trips by part-time staff by providing on-site housing. The Project would not affect communities or neighborhoods outside the boundaries of the Reserve.

Big Sur Land Use Plan

The Big Sur LUP contains policies that may be applicable to the proposed Project under four major headings: Resource Management, Highway 1 and County Roads, Land Use and Development, and Public Access.

Resource Management. Under the *Resource Management* heading, the LUP includes policies in the following areas: scenic resources; environmentally sensitive habitats; water resources; forest resources; agriculture; hazardous areas; mineral resources; dredging, filling and shoreline structures; historical resources; and archaeological resources. Project consistency with the LUP policies on scenic resources, environmentally sensitive habitats, and water resources, are analyzed in the *Aesthetics, Biological Resources, and Hydrology/Water Quality* sections of this Initial Study. As discussed in those sections, with implementation of mitigation measures AES-1 and BIO-2 through BIO-7, the Project would be consistent with the relevant Big Sur LUP policies. As discussed in the *Agricultural and Forestry Resources* and *Mineral Resources* section of this Initial Study, the Project would not have impacts on agricultural, forest, or mineral resources. As discussed in the *Cultural Resources* section of this Initial Study, the Project would not affect historical resources and would be consistent with the Big Sur LUP policies on archaeological resources. The requirements of the Big Sur LUP related to hazardous areas are addressed in the geotechnical study that has been prepared for the Project, and through consultation with the UCSC Fire Marshal and Chief of the Big Sur Fire Brigade.

Highway 1 and County Roads. As discussed in the *Traffic, Circulation, and Parking* section of this Initial Study, the Project would not conflict with Big Sur LUP policies related to Highway 1 and County roads.

Land Use and Development. The Big Sur LUP designates the Reserve lands as Resource Conservation: Forest and Upland Habitat. This land use designation applies to public or private reserves or open space areas set aside for resource preservation or research, as well as specific environmentally sensitive areas. Under the *Land Use and Development* policies of the LUP (5.3.1.3), in lands with this designation, the protection of sensitive resources, plant communities, and animal habitats and important archaeological sites is emphasized. Only very low intensity uses and supporting facilities compatible with protection of the resource are allowed. Appropriate uses can include carefully controlled low intensity day use recreation, education, and research. The proposed Project, which would develop facilities to support controlled education and research uses of the Reserve, is consistent with this policy.

The LUP (5.4.2.8) also specifies maximum development densities for residential use. These range from one unit per 40 acres, to one unit per 320 acres, depending on the average slope. The Project would construct one residence, which would increase the number of residential units on the 4,500-acre Reserve to three (a ratio of one in 1,500 acres). Therefore, the Project is consistent with development density limits in the LUP.

Public Access. The “Key Policy” of the Big Sur LUP states:

“The rights of access to the shoreline, public lands, and along the coast, and opportunities for recreational hiking access, shall be protected, encouraged and enhanced... Yet because preservation of the natural environment is the highest priority, all future access must be consistent with this objective. Care must be taken that while providing public access, the beauty of the coast, its tranquility and the health of its environment are not marred by public overuse or carelessness. The protection of visual access should be emphasized throughout Big Sur as an appropriate response to the needs of recreationists. Visual access shall be maintained by directing all future development out of the viewshed. The protection of private property rights must always be of concern.”

Specific policies include discouraging access as inappropriate where it would be inconsistent with public safety, military security or the protection of fragile resources (6.1.4.3); and protecting visual access and the development of scenic viewpoints in conjunction with accessways or where physical access is not appropriate or encouraged (6.1.4.4).

The Big Sur LUP identifies the following shoreline access priorities: 1) major access areas presently in active use, which should be retained for long term public use; 2) areas that have ample beaches, minimal public safety hazards, and either absence of sensitive habitats or habitats that can be protected from adverse impacts; 3) areas that have attractive destinations where safety hazards or resource conflicts can be mitigated, and with potential for improved parking; and 4) areas that are not appropriate for public access because it would be inconsistent with public safety, military security or the protection of fragile coastal resources.

~~As described above, access to the Big Creek Reserve is by application only and is limited to those whose use is consistent with the Reserve’s mission of teaching, research, and public service. Big Creek beach is listed in the LUP’s third priority group for public shoreline access. The Project would not affect visual access to the shoreline, and would not alter the existing policy of managing all use of the Reserve to minimize impacts to sensitive resources. Therefore, the Project would not reduce existing public access to the shoreline, and would not increase use in a way that could jeopardize the fragile resources.~~

For the reasons described above, the Project would be consistent with the Coastal Act Big Sur LUP.

c) There is no habitat conservation plan or natural community conservation plan that covers the Reserve. No impact would occur.

d) The Gatehouse area is surrounded by Reserve land, except where Highway 1 crosses the Reserve. As discussed above in Section 6.1, *Aesthetics*, the project would not have significant adverse effects on the views from Highway 1. The closest neighboring property to the Gatehouse site is more than 1 mile away to the north. The Coyote Creek site is located approximately 300 feet north of the neighboring property to the south, which is the subject of a Conservation Easement which is held by the Big Sur Land Trust and allows UC access for research and teaching. The development of the Coyote Creek site for Reserve staff housing and a workshop would be consistent with the current and planned uses on the adjacent properties.

Summary

With implementation of mitigation measures AES-1, AES-2, and BIO-2 through BIO-7, the Project would be consistent with the relevant Coastal Act Big Sur LUP policies and the proposed project would not result in significant impacts related to land use.

6.12 MINERAL RESOURCES

MINERAL RESOURCES

Would the project...	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) No part of the Reserve is in a Mineral Resource Zone as classified by the State Geologist (Monterey County General Plan EIR, Exhibit 4.5-1). Therefore, the proposed project would not result in any mineral resources impacts.

6.13 NOISE

NOISE	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in...				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Existing sensitive receptors in the Gatehouse area include residents of the Reserve Manager's residence and any visitors camping at the Terrace Camp on the west side of Big Creek. The Reserve Manager's residence would not be occupied during construction. Reserve staff control the use of Terrace Camp and can limit its use during construction if excessive noise is anticipated. There are no existing sensitive receptors in the vicinity of the Coyote Creek site.

a-d) **Operational Noise.** Project operations would not introduce new, on-site sources of ambient noise, with the exception of new generators that would be used occasionally as backup to the solar arrays. On average, the existing generators are required no more than about 30 to 50 hours each year. At this level of use, the noise impacts experienced by residents and visitors would not be significant.

Construction Noise.

As explained above, there are no sensitive receptors in the vicinity of the Coyote Creek site and the use of the Gatehouse area is under the control of Reserve staff who can curtail its use as needed during construction. No impact would occur.

Summary

All noise impacts of the Project would be less than significant. No mitigation measures are required.

6.14 POPULATION & HOUSING

POPULATION & HOUSING	Potentially Significant Impact	Less than Significant with Project- Level Mitigation Incorporat ed	Less than Significant Impact	No Impact
Would the project...				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a demand for housing that cannot be accommodated by local jurisdictions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) The new housing and infrastructure included in the Project would accommodate the existing staff and visitor population to the Reserve, with the addition of one full-time resident staff member and possibly his/her family members, and an average of about five visitors and part-time staff per week. No new roads would be constructed and the utility infrastructure would be designed and sized to serve only the existing and proposed buildings. No impact would occur.

b,c) The Project would convert the existing Resident Director’s house to a bunkhouse for visiting researcher; replacement housing for resident staff would be constructed as part of the Project. No impact would occur.

d) The Project would not attract new permanent population to the area, and visitors using the Reserve would continue to be accommodated on the site. No impact would occur.

Summary

The proposed project would not result in impacts related to population and housing.

6.15 PUBLIC SERVICES

PUBLIC SERVICES	Potentially Significant Impact	Less than Significant with Project- Level Mitigation Incorporate d	Less than Significant Impact	No Impact
Would the project...				
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:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) The new housing and infrastructure included in the Project would accommodate the existing staff and visitor population to the Reserve, one additional full-time resident staff member and his/her family members, and an average of about five additional visitors and part-time staff per week. The new resident staff member and family members may utilize local schools and other public facilities. The addition of one family would not result in the need for new or physically altered schools, parks, libraries or police or fire protection. The construction of the proposed Project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts. No mitigation is required.

Summary

The proposed project would not create any significant impacts related to public services. No mitigation is required.

6.16 RECREATION

RECREATION	Potentially Significant Impact	Less than Significant with Project-Level Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Coastal public access is analyzed in Section 6.11, *Land Use and Planning*.

a,b) The proposed Project does not accommodate an increase in permanent residents or visitors to the area and therefore would not increase the use of recreational facilities. The Project would not construct new recreational facilities. No impact would occur.

Summary

The proposed project would not create adverse environmental impacts associated with recreational facilities.

6.17 TRAFFIC, CIRCULATION AND PARKING

TRAFFIC, CIRCULATION, & PARKING	Potentially Significant Impact	Less than Significant with Project- Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with applicable adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) Access to the Reserve is from Highway 1 at two locations: the main entrance at the Gatehouse, and via private property to the south. Visitors must enter the Reserve through the main entrance. The proposed Project could increase the population at the Reserve by an average of about five visiting researchers and existing part-time staff /researchers on site in any one week. The provision of housing for part-time staff would eliminate a few existing weekly trips, as these staff must currently commute to the Reserve. The additional researcher visits to the Reserve would add an average of one less trip per day and would not necessarily take place during peak hours. The new full-time Reserve staff also would not make commute trips as s/he would live on the Reserve. Peak hour trips generated by the Project would therefore generally be limited to those made by members of the family of the new resident staff member, which would be in the range of one to four.

The Caltrans Guide for the Preparation of Traffic Impact Studies (2002) advises that, for projects that add less than 50 peak hour trips to a State highway, a traffic impact study is only required if the facility is operating at LOS E or F, if the risk of a traffic accident is significantly increased, or there is a change in circulation networks that could affect a State highway. The Project would not make any changes to circulation networks or other changes that could increase the risk of a traffic accident. In 2009, Caltrans calculated the peak hour level of service on the segment of Highway 1 between the San Luis Obispo County Line and Castro Canyon Bridge at C/E. Caltrans' goal for this segment is LOS D (Caltrans, Transportation Planning Fact Sheet, State Route 1 in Monterey County, 2009). The low level of service in this segment is related to steep grades and tight curves, as traffic volumes are relatively low. Congestion on this segment is common in Big Sur, where visitor services are concentrated, but not in the vicinity of the Reserve, where there are no visitor services or attractions other than the scenery. The potential addition of less than ten peak hour trips clearly would not have the potential to adversely affect the level of service and the impact would be less than significant.

Although the University is not subject to local land use plans, including the Big Sur LUP, the Campus anticipates that the Coastal Commission review will take into account relevant provisions of the Big Sur LUP. The Big Sur LUP (4.1.3.C.1) has a goal of limiting future residential development in order to preserve 85 percent of the capacity of Highway 1 for the capacity of Highway 1 recreational travel, service trips to public and private recreation and visitor-serving facilities, use by military vehicles, and coastal-dependent agriculture. As discussed above ~~below~~, under *Land Use*, the development of a new residential unit as part of the Project is consistent with the density standards of the Big Sur LUP. Therefore, the Project would not conflict with the traffic-related provisions of the LUP.

- c) The Reserve is not within an air safety zone that would require restrictions on development and there are no airports in the vicinity. The proposed project has no potential to affect air traffic patterns.
- d) The proposed Project would not modify existing roads or trails. No impact would occur.
- e) The Project would not obstruct any existing roads or other emergency access routes. No impact would occur.
- f) The proposed Project would not modify existing roads or paths or result in a permanent increase in vehicle or pedestrian traffic. There is no public transit service on Highway 1 in the vicinity of the Reserve. No impact would occur.

Summary

The Project would not result in significant or potentially significant transportation impacts. No mitigation is required.

6.18 UTILITIES & SERVICE SYSTEMS

UTILITIES & SERVICE SYSTEMS	Potentially Significant Impact	Less than Significant with Project- Level Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project...				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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 providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) By agreement with the Regional Water Quality Control Board, Central Coast Region, the County of Monterey administers individual sewage disposal regulations. The proposed Project would be required a septic system permit from the Monterey County Department of Health. As described above, in Section 6.10, *Hydrology and Water Quality*, the proposed septic system location and design are consistent with the Monterey County standards.

b) Water to the Project facilities would be supplied from springs, by way of existing spring boxes. At the Gatehouse, a water line to the new classroom building would be extended from the existing water line that serves the area. To meet fire flow requirements, a new 5,000-gallon water

tank would be installed in the Gatehouse area (Figure 3-4). Water would be supplied to the Coyote Creek site from an existing spring box and water line that currently serves the adjacent property. A new, above-grade water line would be connected to the existing water line at a point approximately 500 feet east and a 5,000-gallon water tank would be installed to meet requirements for fire protection (Figure 3-5). At the Gatehouse area, a 4,000 gallon tank will be installed provide domestic water storage for the buildings. At the Coyote Creek site, the domestic water supply may be combined with the fire suppression storage tank, with the domestic water supply outlet above the 5,000 gallon storage volume. A new septic system with a leach field would be constructed at the Coyote Creek site. At the Gatehouse, the classroom building would be served by either a new septic system with leach field or vault toilets . All of the new water and wastewater facilities would be constructed within the Project areas shown on Figures 3-4 and 3-5, and impacts of their construction and operation are incorporated into the impact analysis in Sections on, *Air Quality*, *Biological Resources*, *Cultural Resources*, and *Climate Change*. As discussed in those sections, all footprint impacts of the Project would be less than significant with implementation of mitigation measures BIO-1 through BIO-7.

c) As discussed in Section 6.9, above, the proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

d) The existing spring water supplies on the Reserve are adequate to serve the new development. Measured flow at the spring serving the Gatehouse area varied from 1.8 to 2.8 gpm (approximately 2,600 to 4,000 gallons per day) between September 2011 and ~~June 2014~~ December 2013, but decreased to about 0.75 gpm (about 1,080 gpm) between February and October 2014. Flow at the spring serving Coyote Creek was measured at 4 gpm (about 5,800 gallons per day) year-round during the same period. Flow from this spring will continue to serve the neighboring house in addition to the new facilities at Coyote Creek. Water demand associated with the ~~Project bunkhouse at the Gatehouse site and with the new development at the Coyote Creek site~~ has been conservatively estimated using standard demand factors for residential, institutional, and commercial establishments (Fall Creek Engineering 2014-2015). Demand associated with the classroom building has been estimated based on records of the number and size of the classes using the Reserve. Since classes spend most of their time at the Reserve in the field, the analysis assumes that each class using the Reserve has 40 students and would use the classroom for three hours during each day of their stay. Average Maximum daily demand at the Gatehouse site when classes are using the Reserve is estimated at 1,720 845 gallons. This is conservative, as class size typically varies from 16 to 32. maximum daily demand is estimated at 3,870 gallons.² ~~These estimates assume that 40 students are present at the classroom building each day for the entire day. Since classes generally spend most of their time in the field, actual use of the site would be much less intensive. Furthermore, if vault toilets are installed to serve the classroom building, the demand would be substantially lower.~~ The maximum daily demand at the Coyote Creek site when the buildings are fully occupied is estimated to be 710 gpf; when only the full-time staff residence and the residence on the neighboring are occupied, Estimated daily demand on the spring serving Coyote Creek, including the existing neighboring residence, is 568 gallons; maximum daily demand is estimated at 1,278 gallons. No new entitlements are needed and no impact would occur. ~~The Campus will be seeking water system permits from~~

~~the County, which may impose storage and flow requirements; however, the Campus does not anticipate that any such requirements would change the CEQA impacts analysis.~~

e) The Reserve is served by on-site waste water treatment systems. No impact would occur.

f,g) The addition of one household and a weekly average of about five visitors and part-time staff staying at the Reserve may result in a small increase in solid waste generation. Big Sur is served by the Monterey Regional Waste Management District (MRWMD). The MRWMD has over 150 years of remaining disposal capacity at the Monterey Peninsula Landfill (<http://www.calrecycle.ca.gov/SWFacilities/Directory/27-AA-0010/Detail/>). The MRWMD has sufficient capacity to accommodate the additional waste that could be generated as a result of the Project. The impact would be less than significant and mitigation is not required.

The additional waste that may be generated as a result of the Project would be typical residential waste and would comply with federal, state, and local statutes and regulations related to solid waste. Waste Management provides garbage and recycling collection services to the Reserve.

h) There is no natural gas service to the Reserve and no on-site or off-site chilled water or steam facilities. The Project includes construction of new photovoltaic panels, back-up generators, and the electrical lines to distribute electricity to the adjacent buildings. All of these facilities would be constructed within the Project areas shown on Figures 3-4 and 3-5, and impacts of their construction and operation are incorporated into the impact analysis in the sections on *Air Quality*, *Biological Resources*, *Cultural Resources*, and *Climate Change* in this Initial Study. As discussed in those sections, all footprint impacts of the Project would be less than significant with implementation of mitigation measures BIO-1 through BIO-7.

i) Telephone service to the new development at Coyote Creek would be provided either through voice-over-internet by a satellite service provider, or by way of new underground telecommunications lines in the existing road from Highway 1 through the neighboring property to the south. Construction of this new line in the existing roadway would not disturb sensitive habitat and would not have the potential to result in significant environmental effects. No mitigation is required.

Summary

All impacts of the proposed project related to utilities would be less than significant. No mitigation is required.

6.19 MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project...				

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?

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)?

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

a) As discussed in Section ~~6.6~~ 6.5, above, removal of the pines for the classroom construction, removal of coastal scrub for the projects at the Coyote Creek segment, and limbing of trees has the potential to kill bird eggs or chicks if any are present. Noise and dust from construction has the potential to cause adult birds to abandon their eggs or chicks if any are nesting nearby. Construction activities may also result in indirect impacts to the Smith’s blue butterfly, through impacts to restoration plantings of its host plant, dune buckwheat, in the vicinity of the Project sites. Construction may also result in impacts to individual coast range newts. Implementation of mitigation measures BIO-1 through BIO-7 would reduce impacts to these species to a less than significant level. The project would not have adverse impacts to special-status plants.

The Project would not disturb known pre-historic archaeological or historic archaeological resources. Archaeological testing of a previously recorded pre-historic archaeological site in the vicinity of the Gatehouse (CA-MNT_1361) no evidence of “historic resources” or “unique archaeological resources.”

b) With the exception of minor greenhouse gas emissions resulting from combustion of propane for cooking, heating hot water, wood stoves for heating, and backup power generation, the adverse environmental effects of the project would be limited to construction phase impacts, including construction-related emissions of air pollutants and greenhouse gases, harm to special-status wildlife, and potential disturbance of sensitive natural communities in the vicinity of the Project site. No other Projects are planned at the Reserve or in the immediate vicinity that could result in cumulative impacts in conjunction with the proposed Project.

c) The Project would not have substantial adverse effects on human beings. The Project would not generate significant emissions of air pollutants or noise and would not result in exposure of people to significant risks associated with hazardous materials, wildfire hazards, or hazards related to geology and soils.

7 FISH & GAME DETERMINATION

Based on the information presented in this Initial Study, the project does have a potential to adversely affect wildlife or the habitat upon which wildlife depend. Therefore, a filing fee will be paid.

Certificate of Fee Exemption

Pay Fee

8 REFERENCES

Biotic Resources Group and Dana Bland & Associates, 2014. Landels-Hill Big Creek Natural Reserve Facilities Development Project, Biotic Study. August 22.

Bay Area Air Quality Management District, 2012. CEQA Air Quality Guidelines.

County of Monterey, 1986. Big Sur Coast Land Use Plan Local Coastal Program.

California Air Pollution Control Officers Association. 2008. CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. January.

California Air Resources Board. 2008. Climate Change, Proposed Scoping Plan, Pursuant to AB 32, the California Global Warming Solutions Act of 2006. October.

California Natural Resources Agency. 2009. Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97. December.

Condor Country Consulting, 2014. Archaeological Survey Report and Site Evaluation of CA-MNT-1361 for the UCSC Landels-Hill Big Creek Reserve Facility Improvement Project. September 22.

Fall Creek Engineering, Inc., 2015. Water System Review, Big Creek Reserve, UCSC, Big Sur, California. February 2.

Kane GeoTech, Inc., 2014. Big Creek Reserve Geotechnical Investigation. August 29.

Kane GeoTech, Inc., 2008. Big Creek Reserve Rockfall Mitigation. October 21.

Monterey Bay Area Unified Pollution Control District. 2008. CEQA Air Quality Guidelines.

San Joaquin Valley Air Pollution Control District, 2009. Final Draft Staff Report, Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act. September 17.

South Coast Air Quality Management District, 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. October.

Wills, C.J., Manson, M.W., Brown, K.D., Davenport, C.W., Domrose, C.J. (2001). “Landslides in the Highway 1 Corridor: Geology and Slope Stability along the Big Sur Coast Between Point Lobos and San Carpoforo Creek, Monterey and San Luis Obispo Counties, California.” Special Report 185, California Department of Transportation New Technology and Research Program. California Department of Conservation, Sacramento, CA.

9 AGENCIES & PERSONS CONSULTED

University of California Santa Cruz

Dean Fitch.....Director of Campus Planning
Gerald Greenleaf..... Associate Architect
Gage Dayton..... Director, UCSC Natural Reserves
Mark Readdie..... Resident Director, Landels Hill-Big Creek Natural Reserve

Levy Art and Architecture

Ross Levy

Biotic Resources Group

Kathy Lyons
Dana Bland

Condor Country Consulting

Sean Dexter

**10 REPORT PREPARERS
University of California Santa Cruz**

Alisa Klaus.....Senior Environmental Planner

Appendix A
Proposed Mitigated Negative Declaration

PROPOSED MITIGATED NEGATIVE DECLARATION

Lead Agency:	University of California
Project Proponent:	University of California Santa Cruz
Project Location:	Landels Hill-Big Creek Natural Reserve, on the Big Sur Coast, 20 miles south of Big Sur, unincorporated Monterey County
Project Description:	Project construction is proposed at two locations on the Reserve: the Gatehouse area at the mouth of Big Creek canyon just east of Highway 1; and the Coyote Creek area, near the southern boundary of the Reserve. In the Gatehouse area, the Project would remodel an existing single-family residence to create living space for up to five visiting researchers. A new 1,538-sf building would be constructed adjacent to the existing building to create a 40-seat classroom, and an office for the Reserve Manager. At the Coyote Creek site, the Project would construct three new buildings: a 1,335-sf Reserve Manager's residence, a 437-sf part-time staff and researchers studio, and a 662-sf service barn. At both sites, the Project would construct new septic systems and infrastructure to supply domestic and fire protection water from nearby creeks. Electricity would be provided by existing and new solar arrays and backup generators.
Mitigation Measures:	Mitigation Measures AES-1 requires selection of building materials to avoid visual impacts. Mitigation measures BIO-1 through BIO-7 require pre-construction surveys and construction procedures to avoid impacts to special-status wildlife and sensitive natural communities. <u>Mitigation Measures CULT-1A and CULT-1B require that construction be halted if archaeological resources or human remains are encountered during construction.</u> <u>Mitigation Measure HYD-1 requires documentation that the storm water drainage system design meets Campus Standards.</u>
Determination:	In accordance with CEQA, an Initial Study has been prepared by UC Santa Cruz that evaluates the environmental effects of the proposed project. On the basis of the project's Initial Study the campus has determined that, with implementation of the mitigation measures listed above, the proposed project would not have a potentially significant effect on the environment.
Public Review:	In accordance with Section 15073 of the CEQA Guidelines, the Initial Study for the project will be <u>was</u> circulated for public and

	agency review from November 14, 2014 to December 15, 2014.
--	--

Appendix B
Proposed Mitigation Monitoring Plan

PROPOSED MITIGATION MONITORING PROGRAM

CEQA requires that the Lead Agency establish a program to report on and monitor measures adopted as part of the environmental review process to mitigate or avoid significant effects on the environment. This Mitigation Monitoring Program (MMP) is designed to ensure that the project-specific mitigation measures identified in this Initial Study are implemented.

The MMP for the proposed project, as outlined in the following table, describes monitoring and reporting procedures, monitoring responsibilities, and monitoring schedules for the project-specific mitigation measures identified in the Initial Study. Once completed, all monitoring actions will be reported in writing to or by the UC Santa Cruz Physical Planning and Construction, which will maintain mitigation-monitoring records for the proposed project. The MMP will be considered by the University in conjunction with project review and will be included as a condition of project approval.

The components of the MMP include:

- a) **Mitigation Measure:** The mitigation measures provide mitigation for the proposed project.
- b) **Monitoring and Reporting Procedure:** Identifies the actions that must be completed for the mitigation measures to be implemented.
- c) **Mitigation Timing:** Identifies the timing for implementation of each action associated with the mitigation measures in order to effectively accomplish the intended outcome.
- d) **Monitoring Responsibilities:** Identifies the UC Santa Cruz entity responsible for undertaking the required action and monitoring the mitigation measure.

Big Creek Facilities Project: Draft Mitigation Monitoring Program

Mitigation Measure	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
<p>Mitigation Measure AES-1: Building materials for the proposed classroom building <u>and the siting and configuration of the building adjusted</u> shall be selected to reduce the visibility of the structure from Highway 1 to the extent feasible. Additional visual simulations shall be prepared to demonstrate the reduction in visibility.</p>	<p>Prepare visual simulations with proposed materials for Design Development phase. Review and revise as warranted.</p>	<p>Before design approval</p>	<p>PP&C Project Manager</p>
<p>Mitigation Measure BIO-1. To avoid impacts to nesting birds vegetation removal, grading, and ground disturbing construction activities will be scheduled between September 1 and February 1, which is outside the bird nesting season for the central coast. If this is not possible, a qualified biologist shall conduct a preconstruction survey for nesting birds no more than two weeks prior to start of construction. If any bird nests are observed within or immediately adjacent to the work area, a buffer of 50 feet for migratory birds, or 250 feet for raptors, will be established where no construction will take place until the biologist has determined that all young have fledged the nest.</p>	<p>Biologist will conduct pre-construction surveys as specified. If active nests identified, install and maintain fencing or other protective measures consistent with biologist's recommendations. Avoidance provisions will be included in contract specifications. Biologist will monitor nests and inform project manager when protection may be removed, and document in monitoring report.</p>	<p>Conduct surveys no more than two weeks prior to commencement of construction activities</p>	<p>PP&C Project Manager</p>
<p>Mitigation Measure BIO-2. To avoid potential impacts to the Smith's blue butterfly's host plant (dune buckwheat), place silt fence or other suitable barrier between the access road and adjacent buckwheat plants. This should occur along the access road to the Gatehouse site and along the lowermost portion of the access road to the Coyote Creek Area (near Highway 1). This will prevent excess dust from</p>	<p>Include requirement in contract Division 1.</p>	<p>Before project goes out to bid.</p>	<p>PP&C Project Manager</p>

Mitigation Measure	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
settling on the plants (or on the butterfly adults if present) and provide a visual screen to alert the heavy equipment operators to avoid driving too close to the plants.			
Mitigation Measure BIO-3. To minimize potential impacts of dust to the Smith's blue butterfly or its host plant, dune buckwheat, implement dust control measures along the access roads and all construction sites at the Gatehouse Area project site. Dust control may include use of a water truck or for smaller areas, a back-pack water tank may be sufficient.	Include requirement in contract Division 1.	Before project goes out to bid.	PP&C Project Manager
Mitigation Measure BIO-4. To minimize potential impacts to the Smith's blue butterfly, limit the speed of construction vehicles to 5 mph on the access roads.	Include requirement in contract Division 1.	Before project goes out to bid.	PP&C Project Manager
Mitigation Measure BIO-5. To minimize potential impacts to the Smith's blue butterfly or its host plant, in addition to the dust-barrier fencing along the access roads, place highly visible flagging or orange construction fencing along the access road and edges of parking areas. Place clearly visible signs along the access road with the following warning: SENSITIVE HABITAT – DO NOT ENTER (or similar text). The Reserve Director shall also be responsible for informing the construction contractor and their employees of the importance of parking or placing materials only in designated areas, to avoid any impacts to buckwheat plants and any Smith's blue butterflies that may be present on the plants.	Include requirement in contract Division 1.	Before project goes out to bid.	PP&C Project Manager and Resident Director
Mitigation Measure BIO-6. To avoid impacts to individual coast range newts, a qualified monitor will check the Gatehouse construction site during rainy periods in the morning before the onset of activities. The monitor will	Conduct survey and relocate newts as needed.	During construction	PP&C Project Manager (consult with Reserve Director)

Mitigation Measure	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
relocate any coast newts to a forested area along Big Creek that is outside of the construction area.			
<p>Mitigation Measure BIO-7: <u>The contractor shall be required to prepare and implement an Erosion and Sediment Control Plan as specified in Appendix D of the Campus Standards.</u> To avoid impacts to the riparian woodland and water environment of Big Creek, implement riparian habitat protection measures prior to and during construction. Measures should include:</p> <ul style="list-style-type: none"> ○ Install plastic mesh fencing at the perimeter of the work area to prevent impacts to the adjacent riparian woodland and in-stream habitat, and injury to adjacent native trees. Protective fencing shall be in place prior to ground disturbance and removed once all construction is complete. During construction, no grading, construction or other work shall occur outside the designated limits of work. ○ No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored outside the designated limits of work. ○ Implement standard erosion control BMP's to prevent construction materials from entering the creek and riparian woodland, such as perimeter silt fencing, straw wattles, and similar erosion control measures. ○ All staging of equipment and materials, and 	Include requirement in contract Division 1.	Before project goes out to bid.	PP&C Project Manager

Mitigation Measure	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
<p>refueling of equipment, shall be located in existing roadways, driveways, and parking areas. The contractor shall prepare and implement a fuel spill prevention and clean-up plan.</p>			
<p><u>Mitigation Measure CULT-1A:</u> If an archaeological resource is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. The Campus shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the extent of the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project.</p>	<p><u>Include stop-work requirement in bid documents. In the event of a find, a qualified archaeologist will assess to determine extent and significance and will carry out data recovery.</u></p>	<p><u>Before Project goes out to bid, and during construction</u></p>	<p>PP&C</p>
<p><u>Mitigation Measure CULT-1B:</u> In the event of a discovery of human bone, suspected human bone, or a burial, the Campus shall ensure that all excavation in the vicinity halts immediately and the area of the find is protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bone is human, or if a qualified archaeologist is not present, the Campus will notify the Santa Cruz County Coroner of the find and protect the find without further disturbance until the Coroner has made a finding relative to PRC 5097 procedures. If it is determined that the find is of Native American origin, the Campus will comply with the provisions of PRC §5097.98 regarding identification and involvement of the Native American Most Likely</p>	<p><u>Include stop-work requirement in bid documents. Halt excavation and follow notification procedures described in the event of a discovery of suspected human bone.</u></p>	<p><u>Before Project goes out to bid, and during construction</u></p>	<p>PP&C</p>

Mitigation Measure	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
<u>Descendant (MLD).</u>			
<p><u>Mitigation Measure HYD-1:</u> The final Project plans and specifications shall include documentation that the Project design meets the requirements of Campus Standards Section 2720, including, as applicable:</p> <ul style="list-style-type: none"> • <u>Site Design and Performance Requirements:</u> design strategies such as directing runoff from roofs, sidewalks, walkways, and/or patios onto vegetated areas safely away from building foundations and footings; directing roof runoff into cisterns or rain barrels for reuse; constructing driveways, uncovered parking lots, walkways, and patios with permeable surfaces • <u>Water Quality Treatment:</u> Treatment of runoff using the following onsite measures, listed in order of preference: a) <u>Low Impact Development (LID) systems</u> (harvesting and use, infiltration, and evapotranspiration Storm Water Control Measures); b) <u>biofiltration treatment systems that meet specified design parameters;</u> or 3) <u>non-retention-based treatment systems.</u> • <u>Runoff Retention:</u> Prevention of offsite discharge from events up to the 85th percentile 24-hour rainfall event, using storage, rainwater harvesting, infiltration, and/or evapotranspiration. 	<u>Review documentation provided by consultant.</u>	<u>Before Project goes out to bid.</u>	<u>PP&C</u>

Appendix C-1
Applicable Coastal Act Provisions

Coastal Act Requirements Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Section	Requirement	Comments
Public Access		
30211	Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	The Project would not interfere with existing public coastal access.
30210. (a)	Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.	See Initial Study, Section 6.1. Access to the Big Creek Reserve is by application only and is limited to those whose use is consistent with the Reserve's mission of teaching, research, and public service. The Project would not affect visual access to the shoreline, and would not alter the existing policy of managing all use of the Reserve to minimize impacts to sensitive resources. Therefore, the Project would not reduce existing public access to the shoreline, and would not increase use in a way that could jeopardize the fragile resources.
Marine Resources		
30231	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.	Potential impacts of the Project on riparian habitat, natural streams, groundwater supplies and surface water flow are analyzed in Sections 6.5 and 6.10 of the Initial Study. All impacts would be less than significant with mitigation measures identified in the Initial Study/Mitigated Negative Declaration.

Coastal Act Requirements Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Section	Requirement	Comments
Land Resources		
30240	<p>(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.</p> <p>(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.</p>	The Project would not disturb environmentally sensitive habitat areas. See Initial Study, Section 6.5.
30244	Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.	The Project would not impact known archaeological or paleontological resources. See Initial Study, Section 6.6.
Development		
30250. (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.	The new development will be in Gatehouse area, which is already developed, and in Coyote Creek area, which is adjacent to an existing road. Most of the Coyote Creek area has been kept mowed for equipment storage.

Coastal Act Requirements Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Section	Requirement	Comments
30251	<p>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.</p>	<p>Visual impacts of the Project on scenic views and visual character and quality are analyzed in Section 6.2 of the Initial Study; these impacts would be less than significant with implementation of Mitigation Measure AES-1.</p>
30253	<p>New development shall do all of the following:</p> <ul style="list-style-type: none"> (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. 	<ul style="list-style-type: none"> (a),(b) As discussed in Sections 6.7 and 6.9 of the Initial Study, the Project would not result in significant risks to life and property and would not contribute to erosion, geologic instability or destruction of the site or surrounding area. (c) As discussed in Section 6.4 of the Initial Study, the Project would be consistent with requirements of the Monterey Bay Area Unified Air Pollution Control District. (d) The Reserve is off the grid, and photovoltaics are the primary source of power for all Reserve facilities. As described in Section 3.6 of the Initial Study, the proposed new facilities would be designed to minimize the need for mechanical heating and cooling. The Project would reduce existing trips by part-time staff by providing on-site housing. (e) The Project would not affect communities or neighborhoods outside the boundaries of the Reserve.

Appendix C-2

Applicable Policies of the Big Sur Land Use Plan

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
Resource Management: Scenic Resources		
3.2.1	[I]t is the County's policy to prohibit all future public or private development visible from Highway 1 and major public viewing areas (the critical viewshed), and to condition all new development in areas not visible from Highway 1 or major public viewing areas on the siting and design criteria set forth in Sections 3.2.3, 3.2.4, and 3.2.5 of this plan.	See Initial Study, Section 6.1.
3.2.3.A.2	The best available planning techniques shall be used to permit development of parcels partially in the critical viewshed. These may include clustering of structures, sensitive site design, design control, transfer of development credits, and other techniques designed to allow development on such parcels outside the critical viewshed.	See Initial Study, Section 6.1.
3.2.3.A.4	New roads, grading or excavations will not be allowed to damage or intrude upon the critical viewshed. Such road construction or other work shall not commence until the entire project has completed the permit and appeal process.	See Initial Study, Section 6.1.
3.2.4.A.2	New applicants, when selecting a building site, must consider the visual effects upon public views as well as the views and privacy of neighbors. The portion of a parcel least visible from public viewpoints will be considered the appropriate site for the location of new structures. New structures shall be located where existing topography or trees provide natural screening and shall not be sited on open hillsides or silhouetted ridges. Sites shall not leave excavation scars or slope disturbance. Structures and access roads shall be designed to minimize alterations of the natural landform and to avoid, insofar as feasible, removal of healthy tree cover.	See Initial Study, Section 6.1.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.2.4.A.3	New development should be subordinate and blend with its environment, using materials or colors that will achieve that effect. Where necessary, appropriate modifications will be required for siting, structural design, size, shape, color, textures, building materials, access, and screening.	See Initial Study, Section 6.1.
3.2.4.A.5	Sites for new structures shall be selected to avoid the construction of visible access roads and minimize the extent of environmental and engineering problems resulting from road construction.	No new access roads required.
3.2.5.D	It is the County's intent that utilities be installed underground. Overhead power or telephone lines will be considered only where overriding natural or physical constraints exist. Poles will be placed in the least conspicuous locations out of public, and where possible, private view. Exterior lighting will require shielding to reduce its long-range visibility, and to cause the light source to not be visible. Further, exterior lighting shall be downlite and minimal to reduce as much as possible light pollution. Transmitter towers and power facilities must not appear in the critical viewshed. Water lines or underground conduits should be buried or otherwise obscured by vegetation.	All new utility lines will be underground or at grade and obscured by vegetation
Resource Management: Environmentally Sensitive Habitats		
3.3.2.1	Development, including vegetation removal, roads and structures, shall not be permitted in the excavation, grading, filing, and the construction of roads and structures, shall not be permitted in the environmentally sensitive habitat areas if it results in any potential disruption of habitat value. To approve development within any of these habitats the County must find that disruption of a habitat caused by the development is not significant.	The Project would not disturb environmentally sensitive habitat areas. See Initial Study, Section 6.5.
3.3.2.2	Where private or public development is proposed, in documented or expected locations of environmentally sensitive habitats, field surveys by qualified individuals or agencies shall be made in order to determine precise locations of the habitat and to recommend mitigating measures to ensure its protection.	A biological resources study was prepared for the Project. The Project would not impact environmentally sensitive habitats. See Initial Study, Section 6.5., and Appendix E.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.3.2.4	For developments approved within environmentally sensitive habitats, the removal of indigenous vegetation and land disturbance (grading, excavation, paving, etc.) associated with the development shall be limited to that needed for the structural improvements themselves. The guiding philosophy shall be to limit the area of disturbance, to maximize the maintenance of the natural topography of the site, and to favor structural designs which achieve these goals.	Vegetation removal, grading and excavation would be in previously disturbed areas and limited to that required for buildings and associated utilities and paths.
3.3.2.5	Public access in areas of environmentally sensitive habitats shall be limited to low-intensity recreational, scientific, or educational uses. Access shall generally be controlled and confined to recreational, scientific, or educational uses. Access shall generally be controlled and confined to the designated trails and paths. No access shall be approved which results in significant disruption of the habitat.	Access to Reserve will continue to be controlled. Project is not expected to substantially increase Reserve population.
3.3.2.6	To protect environmentally sensitive habitats and the high wildlife values associated with large areas of undisturbed habitat, the County shall retain significant and, where possible, continuous areas of undisturbed land in open space use. To this end, parcels of land in sensitive habitat areas shall be kept as large as possible, and if structures are permitted, they shall be clustered in the least environmentally sensitive areas.	The new development will be in Gatehouse area, which is already developed, and in Coyote Creek area, which is adjacent to an existing road. Most of the Coyote Creek area has been kept mowed for equipment storage.
3.3.2.7	Land uses adjacent to environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New land uses shall be considered compatible only where they incorporate all site planning and design features needed to prevent significant habitat impacts, and where they do not establish a precedent for continued land development which, on a cumulative basis, could degrade the adjoining habitat.	Project will support continued maintenance of the resource and use for educational and scientific purposes.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.3.2.8	New development adjacent to environmentally sensitive habitat areas shall be allowed only at densities compatible with the protection and maintenance of the adjoining resources. New subdivisions shall be approved only where potential impacts to environmentally sensitive habitats from development of proposed parcels can be avoided.	Access to Reserve will continue to be controlled. Project is not expected to substantially increase Reserve population.
3.3.2.9	The County shall require the use of appropriate native species in proposed landscaping.	Proposed landscaping is minimal and limited to species native to the site.
3.3.3.A.3	Development or land use activities shall be sited to protect riparian habitat values. Development adjacent to stream courses shall be restricted to low intensities and constructed to minimize erosion, runoff, and water pollution. In order to protect riparian habitats, land use development activities will not be permitted that will have the effect of diminishing surface flows in coastal streams to levels that will result in loss of plant or wildlife habitat.	The proposed development at the Gatehouse site is in an existing developed and disturbed area adjacent to the Big Creek riparian corridor. As described in the Initial Study, Section 6.10, the Project would be constructed to minimize erosion, runoff, and water pollution.
3.3.3.A.4	Setbacks of 150' on each side of the streambank shall be required for all streams to protect riparian plant communities unless a narrower corridor can be demonstrated to be sufficient to protect existing vegetation and provide for restoration of previously disturbed vegetation.	The classroom building in the Gatehouse area would be within 150 feet of Big Creek but all disturbance would be outside the top of the bank. No riparian vegetation would be removed.
3.3.3.A.8	Residential development shall be sited and designed to have minimum impacts on redwood trees from soil compaction and other disturbances to tree roots. With similar considerations, recreation should be encouraged as an appropriate use for redwood forests.	Redwood trees are present in the riparian area adjacent to the Gatehouse site but would not be impacted by the proposed development. There are no redwood trees on or adjacent to the at the Coyote Creek site.
Resource Management: Water Resources		

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.4.3.A.1	Applicants for development of residential, commercial, and visitor-serving facilities must demonstrate by appropriate seasonal testing that there will be an adequate water supply for all beneficial uses and be of good quality and quantity (e.g. at least 1/2 gallon per minute per single family dwelling year round) from a surface or groundwater source, or from a community water system under permit from the County.	Adequacy of water supply has been documented by civil engineer. See Draft Initial Study, Section 6.18.
3.4.3.A.2	Development of water supplies, or intensification of use of existing supplies from springs, streams, wells, or community water systems shall be regulated by permit in accordance with Coastal Act requirements. These permits shall be in addition to any required permits from the County Health Department.	Campus would obtain applicable permits from the County Health Department, and a Coastal Development Permit from the California Coastal Commission.
3.3.4.A.3	Applicants intending to utilize a water supply from a source not occurring on the parcel to be served, shall obtain any necessary rights or permits to appropriate the water from the State Division of Water Rights prior to receiving project approval from the County. The State is requested to notify the County of all applications for appropriate water rights. The County's policy shall be to protest such applications that conflict with the protection of beneficial uses of water including instream flow requirements. The County shall require riparian or groundwater users applying for development rights to perfect and record their rights to the water to minimize future conflicts. The County also encourages existing riparian users to perfect and record their water rights.	Project would be served by springs on the same parcel.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.3.4.B.1	The effects of all new development proposals or intensification of land use activities or water uses on the natural character and values of the Big Sur coast's rivers and streams will be specifically considered in all land use decisions. Subjects to be addressed in such evaluations include protection of scenic quality, water quantity and quality, wildlife and fish habitat, and recreational values. Land use proposals determined to pose significant impacts to the natural integrity of the stream must be modified accordingly. The County will request assistance from the Department of Fish and Game as a technical expert on wild life and fish habitat and mitigation measures.	The Project would not result in significant impacts to the natural integrity of Big Creek. See Initial Study Section 6.10.
3.3.4.B.2	In general, the high rate stream discharges during the winter should not be interrupted because of their beneficial effects on the stream and its living community and on beach replenishment. Therefore, any water diversions beyond the ordinary year-round entitlements must be consistent with policy 3.4.3.B.7 and carefully regulated to avoid impairment of beach sand supply and adromous fish runs, and shall be limited to agricultural irrigation, and developments where the primary function is the improvement of fish and wildlife habitat.	No water diversions beyond ordinary domestic use are proposed.
3.3.4.B.3	Water quality, adequate year-round flows, and stream bed gravel conditions shall be protected in streams supporting rainbow and steelhead trout. These streams include: Garrapata Creek, Rocky Creek, Bixby Creek, Little Sur River, Big Sur River, Partington Creek, Anderson Creek, Hot Springs Creek, Vicente Creek, Big Creek, and Limekiln Creek.	Potential impacts to Big Creek would be less than significant with mitigation identified in the Initial Study (Sections 6.5 and 6.10).

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.3.4.B.6	<p>Priority for Wells Over Surface Water Diversions: Where groundwater is available on the site, developments for the purpose of diverting surface water sources -- perennial streams and springs that feed perennial streams -- shall be avoided. Wells and infiltration fields located within or near a stream channel so as to tap stream sub-flow rather than groundwater will be considered as stream diversion structures for the purposes of this policy. Exceptions will be allowed only: a) for the development of a primary residence on a vacant parcel served by a County-approved connection to an existing water system where no interbasin transfer of water will result; b) for parcels which qualify as exceptions under LUP Policy 3.4.3.A-4 regarding inter basin transfer of water; c) where groundwater well(s) would significantly deplete recharge areas needed to maintain natural springs; or, d) where the use of groundwater, either on the site or via a community system, is demonstrated to be infeasible and the adverse impacts of such diversion are mitigated to the extent feasible.</p> <p>Non-availability of groundwater shall be demonstrated by test boring to a reasonable depth, unless it is demonstrated through surface geologic evidence or well-drilling data from adjacent properties, that the presence of adequate ground water is unlikely. This policy should not be read to prohibit instream uses which do not alter water quality or quantity.</p>	<p>The Project would use water from springs on the Reserve that are already developed. No stream diversion is proposed.</p>

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.3.4.B.7	<p>Water Resource Verification: No substantial water use intensification (e.g., residential subdivision with potential to increase number of households; residential or inn development of more than one unit; restaurant, bar or other food service development or expansion; recreational vehicle campground; development for commercial irrigated agriculture) shall proceed without specific verification that adequate water supplies are available, and that the proposed development will not adversely affect, cumulatively or individually, existing water supplies needed for the maintenance of riparian vegetation and anadromous fisheries, or the supply needed by existing users during the driest expected year. Such verification shall be supported by a report, prepared by a qualified professional hydrologist on the basis of well logs, stratigraphic profiles, and technical data as needed. The County shall consult with Department of Fish and Game as to the adequacy of the report before allowing water use intensification; and, if necessary, may at applicant's expense engage the services of an appropriate independent expert to review the report as well. In the case of water withdrawals from streams and springs, water use shall be measured and maximum use levels shall be consistent with instream flow requirements.</p>	<p>Adequacy of water supply has been documented by civil engineer. See Draft Initial Study, Section 6.18.</p>
Resource Management: Hazardous Areas		
3.7.2.3	<p>All development shall be sited and designed to minimize risk from geologic, flood, or fire hazards to a level generally acceptable to the community. Areas of a parcel which are subject to high hazard(s), shall generally be considered unsuitable for development. For any development proposed in high hazard areas, and environmental or geotechnical report shall be required prior to County review of the project.</p>	<p>Geotechnical report was prepared, and recommends rockfall mitigation screens, which are included in project.</p>

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.7.3.A. 1	All development shall be sited and designed to conform to site topography and to minimize grading and other site preparation activities. Applications for grading and building permits and applications for subdivisions shall be reviewed for potential impacts to on-site and off-site development arising from geologic and seismic hazards and erosion. Mitigation measures shall be required as necessary.	A geotechnical investigation has been prepared for the Project. See Initial Study, Section 6.7.
3.7.3.A.7	All structures should be designed and constructed to: a) resist minor earthquakes with epicenters on the closest potentially active fault without damage; b) resist moderate earthquakes without structural damage, but with some non-structural damage allowable; c) resist major earthquake of the intensity or severity of the strongest experienced in California without collapse, but with some structural as well as non-structural damage allowable.	A geotechnical investigation has been prepared for the Project. Project design will incorporate the recommendations of this investigation regarding seismic strength. See Initial Study, Section 6.7.
3.7.3.A.8	Structures and roads in areas subject to landsliding are prohibited a certified engineering geology report indicates mitigations exist to minimize risk to life and property. Mitigation measures shall not include massive grading or excavation or the construction of protective devices that would substantially alter natural landforms.	Geotechnical report includes a slope stability assessment, which recommends rockfall mitigation screens. These are included in project. No massive grading or excavation is proposed.
3.7.3.A.9	Any proposed development within 50 feet of the face of a cliff or bluff or within the area of a 20 degree angle from the toe of a cliff, whichever is greater, shall require the preparation of a geologic report prior to consideration of the proposed project. The report shall demonstrate that (a) the area is stable for development; and (b) the development will not create a geologic hazard or diminish the stability of the area.	The geotechnical investigation for the Project includes a slope stability analysis, and provides recommendations for mitigating a rockfall hazard at the Coyote Creek site. The hazard will be addressed during detailed design by adjusting the siting of the garage, or with a rockfall screen or fence.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.7.3.A.11	Soils and geologic reports shall be required for all new land divisions and for the construction of roads and structures, excluding minor structures not occupied by people, in areas of known or suspected geologic hazards. Both potential onsite and offsite impacts shall be evaluated in the report. Hazard areas requiring submission of such reports include the 100-year floodplain; landslide areas and other locations showing evidence of recent ground movement; earthquake fault zones; sites falling within the area of demonstration as provided in the Statewide Interpretive Guidelines for Blufftop Development (as amended February 4, 1981); and any other geologic high hazard area for which a geotechnical report is required by policy 3.7.2.3 above. Such reports shall be prepared by a soils engineer or registered and certified engineering geologist, as appropriate, acting within their areas of expertise, based upon an on-site evaluation; the reports shall be consistent with "Guidelines for Geologic/Seismic Reports" (CDMG Notes #37).	A geotechnical investigation has been prepared for the Project. Project siting and design incorporate the recommendations of this investigation. See Initial Study, Section 6.7.
3.7.3.B. 2	All new development, including filling, grading, and construction shall be prohibited within 100- year flood plains except as needed for outdoor recreation, wildlife habitat, agriculture, and similar low intensity open space uses, as well as bridges, water resource developments requiring a streamside location, restoration activities pursuant to the Protected Waterways Plans, and flood control projects where no other method for protecting existing structures in the floodplain is feasible and such protection is necessary for public safety or to protect existing development.	Neither site is in 100-year flood plain.
3.7.3.C.4	Roads serving new residential development shall be adequate to allow access by emergency vehicles while permitting evacuation of the area by residents.	The Campus has consulted with the UCSC Fire Marshal and the Chief of the Big Sur Volunteer Fire Brigade on the adequacy of access and their requirements are incorporated into the schematic design. Further consultation will be conducted during the detailed design process.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.7.3.C.6	Each development proposal shall be accompanied by a written assessment of adequacy of access. The written assessment shall be prepared by the applicant and shall evaluate the project in relation to Monterey County Subdivision Ordinance requirements, types of existing and proposed roads, minimum road widths, and specific evacuation routes applicable to the parcel. The assessment shall be submitted to fire officials for their review and recommendations.	The Campus has consulted with the UCSC Fire Marshal and the Chief of the Big Sur Volunteer Fire Brigade on the adequacy of access and their requirements are incorporated into the schematic design. Further consultation will be conducted during the detailed design process.
Resource Management: Historical Resources		
3.10.2.1	New development shall, where appropriate, protect significant historical buildings, landmarks, and districts because of their unique characteristics and contribution to the cultural heritage of the County.	No historic buildings, landmarks or districts will be affected by the project. See Initial Study, Section 6.6.
Resource Management: Archaeological Resources		
3.11.2.2	When developments are proposed for parcels where paleontological resources or archaeological or other cultural sites are located, project design shall be required which avoids or substantially minimizes impacts to such cultural sites. To this end, emphasis should be placed on preserving the entire site rather than on excavation of the resource, particularly where the site has potential religious significance.	The Project would not be constructed on a cultural resource site. See Initial Study, Section 6.6.
3.11.2.4	Whenever development is to occur in areas having a probability of containing archaeological sites, the Site Survey Office or a professional archaeologist shall be contacted to determine whether the property has received an archaeological survey. If not, such a survey shall be conducted to determine if an archaeological site exists.	An archaeological survey was performed for the Project. The Project would not be constructed on an archaeological site. See Initial Study, Section 6.6.

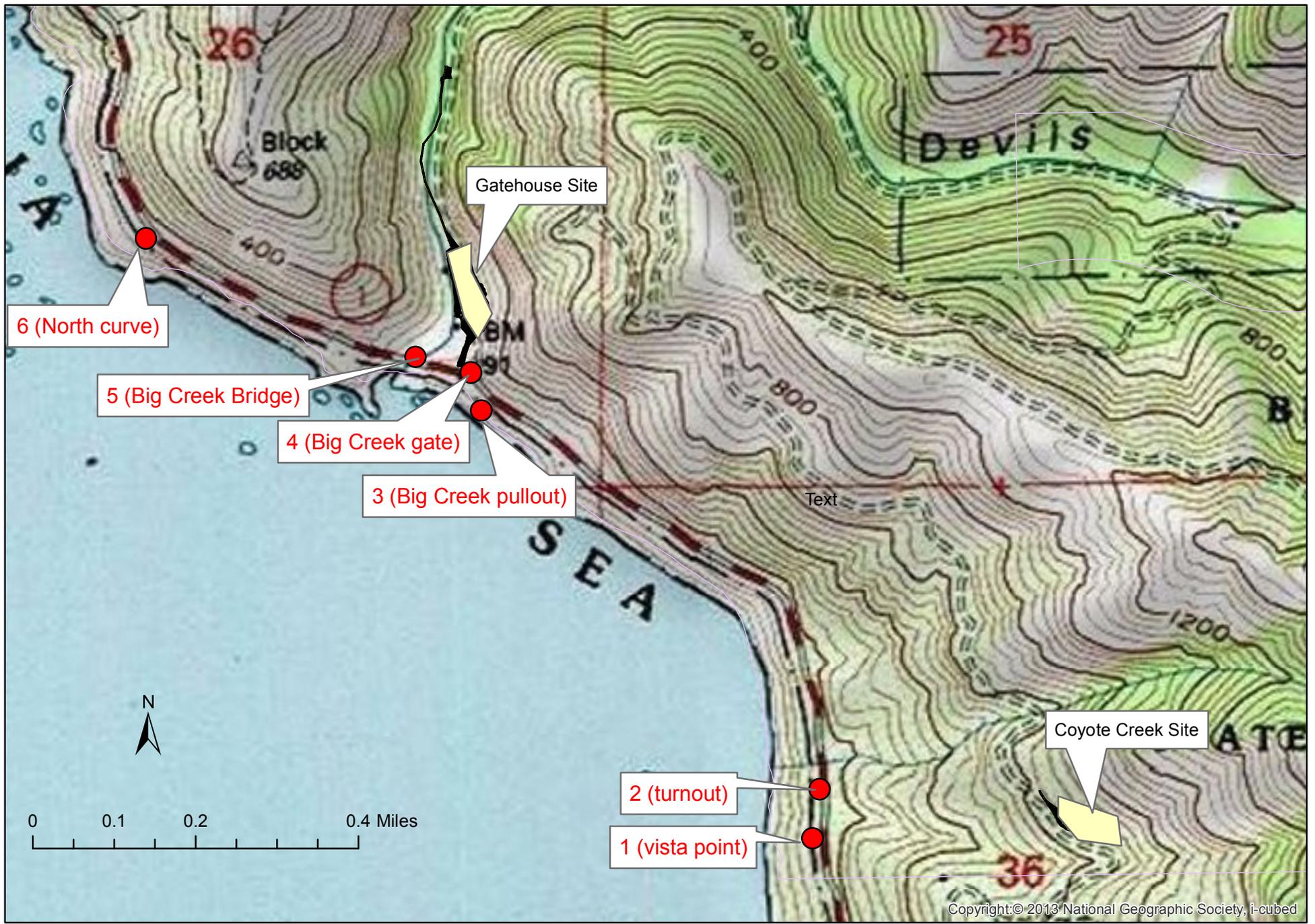
Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
3.11.2.5	When sufficient planning flexibility does not permit avoiding construction on paleontological, archaeological or other types of cultural sites, adequate preservation measures shall be required. Mitigation shall be designed to accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.	The Project would not be constructed on a cultural resource site. See Initial Study, Section 6.6.
Highway 1 and County Roads		
4.1.3.C.1	To comply to Coastal Act policies concerning the allocation of limited highway capacity to coastal priority uses, 85 percent of the capacity of Highway 1 under improved road conditions and managed traffic shall be reserved to serve recreational travel, service trips to public and private recreation and visitor-serving facilities, use by military vehicles, and coastal-dependent agriculture. To implement this policy, the land use regulations of this plan limit future residential development to a level that will utilize not more than 15 percent of highway capacity at buildout.	Project would accommodate one additional full-time resident staff person, potentially with a family, and could increase the number of visiting researcher and part-time staff in any one week by about five people. This small increase in population would not result in a noticeable increase in traffic on Highway 1. Additionally, having staff on-site rather than travelling could reduce road trips (e.g. current part-time steward lives off-site and drives to and from work several times a week).
Land Use and Development: Land Use Categories		
5.3.1.3	Resource Conservation. Protection of sensitive resources, plant communities, and animal habitats and important archaeological sites is emphasized. Only very low intensity uses and supporting facilities compatible with protection of the resource are allowed. Appropriate uses can include carefully controlled low intensity day use recreation, education, and research. Two types of Resource Conservation areas are shown on the plan map. State Park Environmental Camping facilities and other low intensity facilities are allowed, but only where it can be demonstrated that no significant adverse impact on the resources will result.	Reserve land is designated as Resource Protection, and is further classified as Forest and Upland Habitat, which applies to public or private reserves or open space areas set aside for resource preservation or research, as well as specific environmentally sensitive areas. The proposed use is consistent with this classification.
Land Use and Development: Development Policies		
5.4.2.2	Development of any area of Big Sur will be limited to uses for that area illustrated on the plan map and to the use intensities described in the text. Uses not shown on the plan map or described in the text will not be permitted.	The proposed use is consistent with the plan designation of Resource Protection/ Forest and Upland Habitat. The LUP does not identify use intensities for Forest and Upland Habitat.

Big Sur Land Use Plan Policies Applicable to the
Proposed Landels Hill-Big Creek Natural Reserve Facility Improvement Project

Policy	Requirement	Comments
5.4.2.8	<p>It is the policy of Monterey County that lands in excess of thirty percent cross slope, located east of Highway 1, shall not be developed. Those portions of a parcel in this area that have a cross slope of thirty percent or more shall receive a density of one dwelling unit (d.u.) for 320 acres. The calculation of residential development potential on property east of Highway 1 will be based on the following slope density formula:</p> <p>CROSS SLOPE DWELLING UNIT/ACRE</p> <p>Under - 15% 1 - 40 18 - 30% 1 - 80 Over - 30% 1 - 320</p>	<p>The area of the Reserve is approximately 4,500 acres. The Project would construct one full-time single-family residence, which would replace an existing residence that would be remodeled as a bunkhouse for visiting researchers.</p>
Public Access		
6.1.4.3	<p>Access should be discouraged as inappropriate where it would be inconsistent with public safety, military security or the protection of fragile coastal resources. The County and other public agencies should cooperate with landowners to develop effective methods to direct access to appropriate locations.</p>	<p>Big Creek and the beach are fragile coastal resources. All use of the Big Creek reserve is managed to minimize impacts to sensitive resources. Use will continue to be managed to ensure fragile coastal resources are not impacted.</p>
6.1.4.4	<p>Visual access should be protected for long term public use. The development of scenic viewpoints in conjunction with accessways or where physical access is not appropriate is encouraged.</p>	<p>Project will not affect visual access to the coast.</p>

Appendix D
Visual Impact Study



Landels Hill-Big Creek Natural Reserve Facility Improvement
Initial Study/Mitigated Negative Declaration

Figure D-1
Visual Impact Study
Vantage Points



View from East end of Bridge (actual)



View from East end of Bridge (zoom) (Note story poles visible 3)



View from center span of Bridge (Note story poles above roofline 2)



View from center span of Bridge (zoom)



View from West end of Bridge (Note story pole above roof and treeline)



View from West end of Bridge (zoom)

Appendix E
Biological Resources Survey Report

LANDELS-HILL BIG CREEK NATURAL RESERVE FACILITIES DEVELOPMENT PROJECT

Monterey County

Biotic Study



Biotic Resources Group

Biotic Assessments ♦ Resource Management ♦ Permitting

Biotic Resources Group

Biotic Assessments ♦ Resource Management ♦ Permitting

LANDELS-HILL BIG CREEK NATURAL RESERVE FACILITIES DEVELOPMENT PROJECT

Monterey County

Biotic Study

Prepared for:

UC Santa Cruz
Attn: Alisa Klaus

Prepared by:

Biotic Resources Group
Kathleen Lyons, Plant Ecologist

With

Dana Bland, Wildlife Biologist
Dana Bland & Associates

August 22, 2014

1.0 INTRODUCTION

The Biotic Resources Group, with Dana Bland & Associates, conducted a biological study for proposed Facilities Development Project within the Landels-Hill Big Creek Natural Reserve. The property, owned by University of California and operated by UC Santa Cruz, spans State Highway 1, and is located approximately 50 miles south of Monterey and approximately 5 miles north of the community of Lucia on the Big Sur coast in Monterey County.

Specific tasks conducted for this study include:

- Identify sensitive biotic resources, including species of concern, within the facilities development construction area, and
- Evaluate the potential effects of the proposed work, and associated infrastructure, on sensitive biological resources and recommend measures to avoid or reduce such impacts.

1.1 PROPOSED PROJECT

The project area is located in the Santa Lucia Mountains in the Big Sur coastal area of Monterey County. The 4,328 acre Landels-Hill Big Creek Natural Reserve currently supports several buildings on the east side of Highway 1: the Gatehouse Area supports a residence (the Gatehouse), a library/classroom, and a research cabin. Other existing developments in the Reserve include parking areas, septic systems, dirt roads, water tanks, a boat launch, and three campgrounds. The Coyote Creek Area of the Reserve is currently undeveloped.

The proposed project includes development at two locations: The Gatehouse Area and the Coyote Creek Area. At the Gatehouse Area a new 1,000 square foot classroom building, water tank, and septic leach line is proposed. The new classroom, water tank and septic system will be located immediately north of the existing gatehouse building.

At the Coyote Creek Area, located approximately 2 miles south of the Gatehouse on the Coyote Creek segment of the Reserve, a new 2,000 sq. ft. staff residence, 1,000 sq ft maintenance garage, a 500 sq ft studio, water tank, and septic leach line is proposed.

All new buildings will be powered by solar and propane. Water is supplied from springs. Construction access will be via existing dirt and/or graveled access roads.

The location of the Gatehouse and Coyote Creek areas is depicted on Figure 1.

1.2 INTENDED USE OF THIS REPORT

The findings presented in this biological report are intended for the sole use of UC Santa Cruz and Monterey County in evaluating the proposed project. The findings presented by the Biotic Resources Group in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or County laws or ordinances pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

2.0 EXISTING BIOTIC RESOURCES

2.1 METHODOLOGY

Kathleen Lyons, plant ecologist, and Dana Bland, wildlife biologist, conducted an assessment of biological resources within the project area on July 30, 2014.

Study methodology included field reconnaissance surveys, literature review, and accessing electronic databases. Literature and data base searches included the California Natural Diversity Data Base (CNDDDB) “Rare Find” (2014) and California Native Plant Society (CNPS) Rare Plant Electronic Inventory (2014) for the Lopez Point quadrangle and surrounding quadrangles. A previous draft Biotic Study of the two sites (Readdie and Dayton 2014) was reviewed.

Prior to conducting the field survey, a potential list of special status or sensitive plant species was prepared for the project area, utilizing species recognized by California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and CNPS. The field survey was conducted to document the biological resources within the expected project work area. The *Jepson Manual Vascular Plants of California* (Baldwin (ed.), 2012) and *An Illustrated Field Key to the Flowering Plants of Monterey County* (Matthews, 1997) were the principal taxonomic references. The July 2014 site visit, consultation with the reserve Manager, and a review of a previous biotic study were used to determine the presence/absence of special status plant species within the project area. Classification of vegetation types is according to the California Natural Community Codes as developed by CDFW (CDFG, 2010).

2.2 ENVIRONMENTAL SETTING

2.2.2 Geographic Setting

Five plant community types were documented within the project area: Monterey pine and Monterey cypress tree grove, riparian woodland, coastal scrub (natural and mowed), annual grassland, and ruderal (weedy) areas. Bare areas are also present; these are existing access roads and parking areas. Each vegetation type, its California code, and state ranking (rarity) are listed in Table 1. Figure 2 depicts the extent of habitat types found at each project area.

Table 1. Vegetation Types within the Landels-Hill Big Creek Reserve Facilities Development Project Area

CaCode	Vegetation Type	Plant Association	State Ranking ¹
87.110.00	Monterey Pine and Monterey Cypress Tree Grove	Monterey Pine/Monterey Cypress- Annual Grasses	None ²
61.310.00	Riparian Woodland	Western Sycamore/Alder/Coast Redwood/California Bay- Coltsfoot/Chain Fern	S3
32.060.00	Northern Coastal Scrub (natural and mowed areas)	Coyote Brush/Poison Oak/Sticky Monkey Flower- Cudweed/California Blackberry	S4
None	Ruderal (weedy)	Wild Oat/Wild Mustard/Bull Mallow	None
44.150.00	Annual Grassland	Wild Oat/Cudweed	None

1- State Rankings: S1-S3 vegetation types and associations considered to be highly imperiled and considered of special concern by CDFG. S4 vegetation types are common and are not considered of special concern by CDFW (CDFG, 2010).

2- Planted trees, non-native stands have no ranking

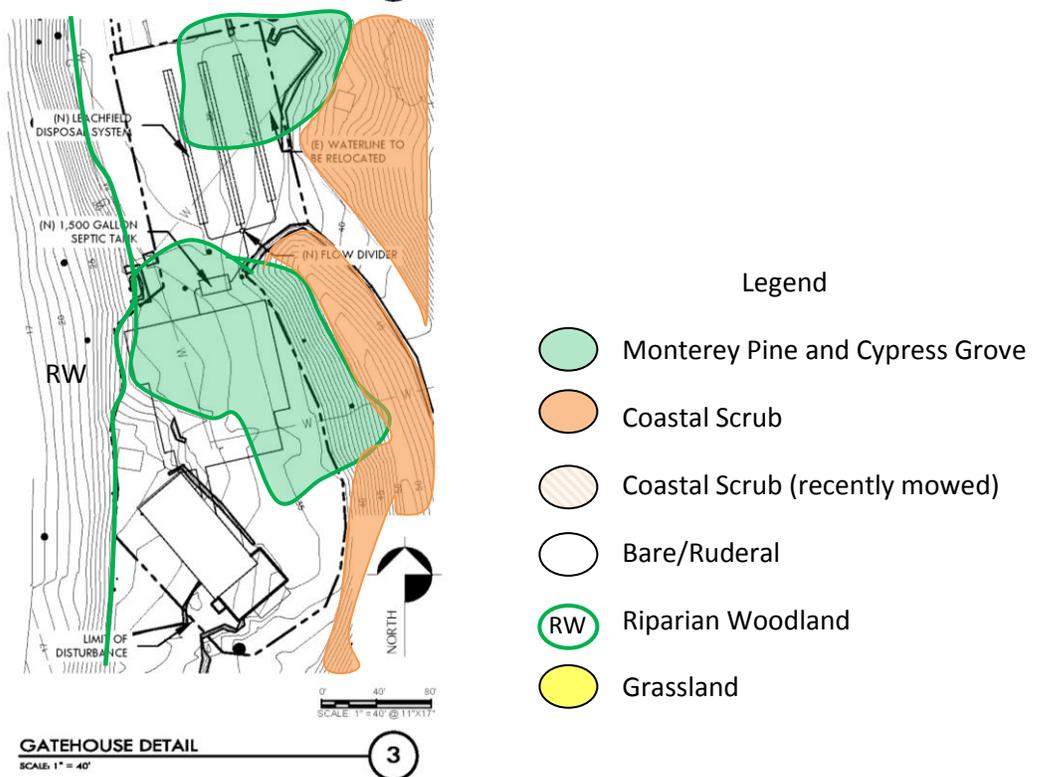


Figure 2A. Existing Vegetation at Gatehouse Area

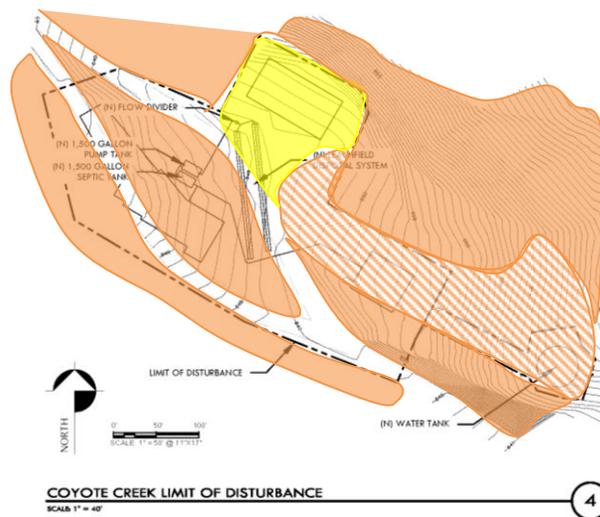


Figure 2B. Existing Vegetation at Coyote Creek Area

2.2.2 Vegetation and Wildlife Habitats

Monterey Pine and Monterey Cypress Tree Groves

Planted Monterey pine (*Pinus radiata*) and Monterey cypress (*Cupressus macrocarpa*) trees grow at the Gatehouse Area, east of Big Creek. The trees occur in/adjacent to the existing buildings, along the roadside berm, and around the dirt parking area. The groves consist of planted trees and are not naturally occurrence stands.

The Monterey pine and Monterey cypress are mature trees. The tree canopies extend over a portion of the existing parking area and areas proposed for the septic leach field and the new classroom. The understory is dominated by non-native herbaceous species common to disturbed areas, such as wild oat (*Avena sp.*), barley (*Hordeum sp.*), fiddle dock (*Rumex acetosella*), wild mustard (*Brassica nigra*), mallow (*Malva sp.*) and common knotweed (*Polygonum aviculare ssp. depressum*). The character of the tree grove at the proposed classroom site is depicted in Figure 3.



Figure 3. Monterey pine and Monterey cypress trees grove at proposed classroom area at the Gatehouse Area, view northerly toward parking area, July 2014

Woody understory vegetation is limited to the roadside berm; some vegetation grows under the tree canopy. This vegetation includes California blackberry (*Rubus ursinus*), hedge nettle (*Stachys sp.*), lizard tail (*Eriophyllum staechadifolium*), and mustard. Figure 4 depicts scrub vegetation along the berm and within the understory of cypress trees.

The tree grove provides perching, roosting, cover, foraging and nesting opportunities for native wildlife. Because the tree groves lack a natural stratified understory, the habitat does not provide the variety of niches for wildlife usually found in a natural forest habitat. Common wildlife species that are expected to occur in the tree groves include mourning dove (*Zenaida macroura*), Acorn woodpecker (*Melanerpes formicivorus*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stelleri*), western scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), chestnut-backed chickadee (*Poecile rufescens*), California thrasher (*Taxostoma redivivum*), California towhee (*Pipilo crissalis*), and western gray squirrel (*Sciurus griseus*).



Figure 4. Character of vegetation under Monterey cypress trees at edge of proposed classroom site near the Gatehouse, view southerly toward Gatehouse, July 2014

Riparian Woodland

Riparian woodland grows along Big Creek, west of the Gatehouse. The riparian woodland is co-dominated by western sycamore (*Platanus racemosa*), coast redwood (*Sequoia sempervirens*), alder (*Alnus sp.*), and California bay (*Umbellularia californica*). Understory vegetation includes willow (*Salix sp.*), California blackberry, hedgenettle, chain fern (*Woodwardia fimbriata*), and coltsfoot (*Petasites figidus*). This type of riparian woodland has a State ranking of S3, indicating it is considered sensitive in the CNDDDB. The character of the riparian woodland along Big Creek is depicted in Figure 5.

This riparian habitat along Big Creek provides native wildlife with perching, foraging, nesting, cover and a source of perennial drinking water. The creek is known to support steelhead (*Oncorhynchus mykiss*), a federally listed threatened species. Common wildlife species that may utilize this riparian habitat include Anna's hummingbird (*Calypte anna*), pacific-slope flycatcher (*Empidonax difficilis*), black phoebe (*Sayornis nigricans*), yellow-rumped warbler (*Dendroica coronata*), Townsend's warbler (*Dendroica townsendi*), Bewick's wren (*Thryomanes bewickii*), black-headed grosbeak (*Pheucticus melanocephalus*), California myotis (*Myotis californicus*), brush rabbit (*Sylvilagus bachmani*) and raccoon (*Procyon lotor*).

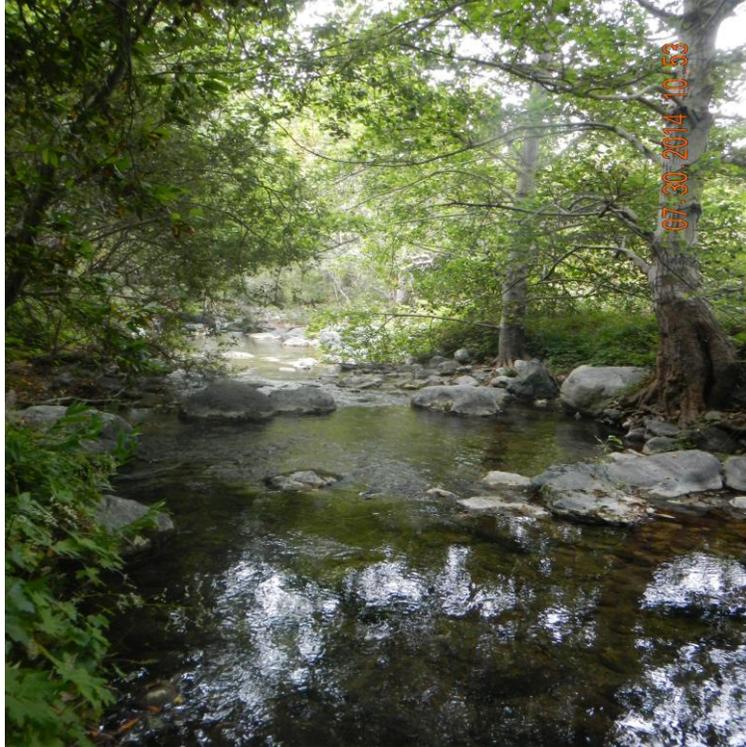


Figure 5. Riparian habitat along Big Creek, view downstream in Gatehouse Area, July 2014.

Northern Coastal Scrub

Coastal scrub occurs at the Gatehouse site and the Coyote Creek site. The scrub is characterized by a dense growth of native shrubs and sub-shrubs.

At the Gatehouse site, coastal scrub grows on the slope above the existing driveway/access road and along a man-made berm located between the driveway/access road and the Gatehouse. The vegetation is co-dominated by shrubs of lizard tail, California sagebrush (*Artemisia californica*), dune buckwheat (*Eriogonum parvifolium*), California bee plant, morning glory (*Calystegia macrostegia*), and sticky monkey flower (*Diplacus aurantiacus*). Figure 6 displays the character of the coastal scrub upslope of the driveway/access road and along the roadside berm.

At the Coyote Creek site, the scrub occurs as dense thickets co-dominated by lizard tail, coyote brush (*Baccharis pilularis*), coffee berry (*Frangula californica*), and poison oak (*Toxicodendron diversilobum*). Figures 7 and 8 displays the thickets of coastal scrub at the area proposed for the caretaker residence at the Coyote Creek site.

The Coyote Creek site also supports coastal scrub has been mowed/cleared. These areas are located upslope of the existing access road. Herbaceous plant species, such as poison hemlock (*Conium maculatum*), wild mustard, and California bee plant intermix with re-sprouting California blackberry and poison oak. Figure 9 displays the character if these mowed/cleared areas.

The berries of shrubs and the seeds of herbaceous plants in the coastal scrub habitats at this site provide important forage for wildlife and nesting opportunities for some birds. Wildlife may perch on the outer perimeter of mixed scrub to take advantage of hunting opportunities in

adjacent openings, and take cover in the denser shrub patches as needed. Common wildlife species found in coastal scrub include western fence lizard (*Sceloporus occidentalis*), Anna's hummingbird (*Calypte anna*), California towhee (*Pipilo crissalis*), and white-crowned sparrow (*Zonotrichia leucophrys*).



Figure 6. Coastal scrub adjacent to driveway/access road and roadside berm in Gatehouse Area, view southerly toward Highway 1 entrance gate.

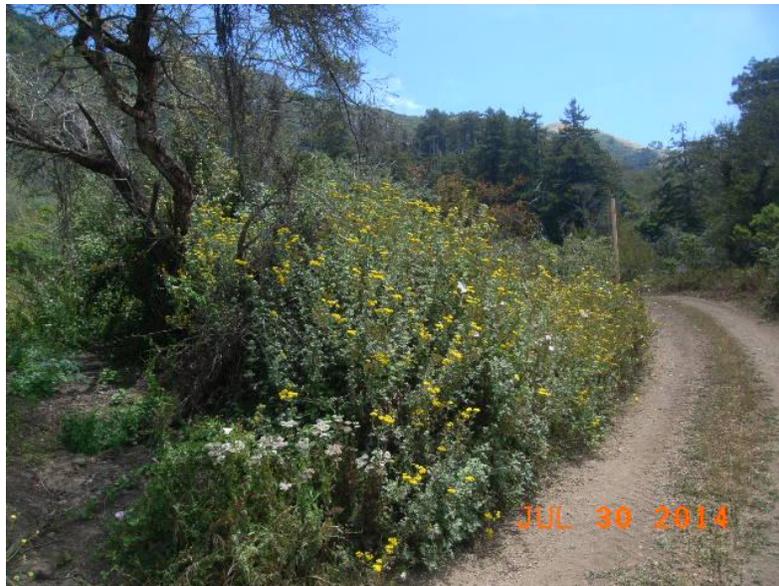


Figure 7. Coastal scrub at proposed caretaker residence area in Coyote Creek Area, view southerly along existing access road.



Figure 8. Coastal scrub in area of proposed staff residence, Coyote Creek Area; view southerly along access roads



Figure 9. Mowed/cleared scrub areas upslope of access road at Coyote Creek Area; area proposed for garage and studio, view northwesterly.

Annual Grassland and Ruderal (weedy) Areas

A small area at the Coyote Creek site supports annual grassland. This area has been mowed for many years and is used for equipment storage (M. Readdie, pers. comm., 2014). Plant species are typical of disturbed areas and include wild oat, English plantain (*Plantago lanceolata*), cudweed, and wild mustard. Similarly, the grassy opening near the Gatehouse (proposed classroom site and septic area) supports non-native, weedy (ruderal) vegetation. This area supports common species, such as wall barley (*Hordeum sp.*), knotweed, wild mustard, and fiddle dock.

The grassland and grassy ruderal areas provide a foraging resource for a variety of wildlife

species. The grasses and forbs within the mowed area produce an abundance of seeds and attract numerous insects, providing food for granivorous and insectivorous wildlife. Sparrows, rabbits and rodents are commonly found in this habitat. Consequently, these open areas are valuable foraging sites for raptors such as hawks and owls, and other predators including coyote, fox, skunk and snakes. Aerial foraging species that occur over grasslands include bats and swallows. Common species expected to occur in this grassland include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis melanoleucus*), turkey vulture (*Cathartes aura*), savannah sparrow (*Passerculus sandwichensis*), western meadowlark (*Sturnella neglecta*), American goldfinch (*Carduelis tristis*), broad-footed mole (*Scapanus latimanus*), California meadow vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), and coyote (*Canis latrans*).

2.3 SENSITIVE BIOLOGICAL RESOURCES

2.3.1 Regulated Habitats

CDFW is a trustee agency that has jurisdiction under Sections 1600-1603 of the California Fish and Game Code. CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. Along watercourses, CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. The proposed classroom and septic leach line at the Gatehouse is located adjacent to Big Creek; however, the project is located outside of the top of bank and the project area will occur outside areas subject to CDFW jurisdiction. In addition, the proposed project does not propose any drainage facilities that would enter CDFW jurisdictional areas.

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. The proposed project will not affect any drainage within the jurisdictional area of the RWQCB because classroom and septic leach field construction at the gatehouse will be located outside of the top of bank. In addition, the proposed project does not propose any drainage facilities that would enter RWQCB jurisdictional areas.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). The proposed project will not affect any areas within the jurisdictional of the USACE. No work or fill will be placed within any drainage way in the project area.

2.3.2 Sensitive Habitats

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity. CDFG classifies and ranks the State's natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFG, 2007 and 2010). The project area was observed to support one vegetation type with an imperiled status: riparian woodland. While native stands of Monterey pines and Monterey cypress are ranked S1 the trees within the project area (Gatehouse Area) are planted trees; planted trees are not considered to be native stands and are not considered sensitive in the CNDDDB.

The Monterey County General Plan also identifies sensitive or significant vegetation. Monterey County's *Big Sur Coast Land Use Plan and Local Coastal Program (LUP/LCP)* identifies policies for acceptable activities within environmentally sensitive habitats areas (ESHA). It also outlines objectives for managing the natural resources of the Big Sur coast for the long-term benefit of both visitors and residents. Protection of these natural resources is the primary objective with definite precedence over land use development. Under the LUP/LCP, ESHAs are areas in which plant or animal life or their habitats are rare or particularly valuable because of their special nature or role in an ecosystem. Within the project area, riparian woodland along Big Creek is considered ESHA. In addition, the coastal scrub at the Gatehouse Area is considered ESHA due to the presence of dune buckwheat (the host plant for Smith's blue butterfly, an endangered species). The coastal scrub within the Coyote Creek area is not considered ESHA due to the lack of rare plants or animals. The scrub within the Coyote Creek area does not support dune buckwheat (host plant for Smith's blue butterfly, an endangered species).

The California Coastal Act limits uses within ESHA to those which are dependent on such resources; examples include nature education and research, hunting and fishing, as well as essential ranching and agricultural uses, and repair and rehabilitation of existing structures. To approve development within any of these habitats the County must find that disruption of a habitat caused by the development is not significant. The proposed project is consistent with policies contained in the County's LUP/LCP in that the project will not affect any riparian woodland or coastal scrub in the Gatehouse Area. In addition, measures have been identified in this Biotic Study to avoid inadvertent impacts to ESHA habitat (riparian woodland and coastal scrub, including dune buckwheat) during construction. UC Santa Cruz's adherence to avoidance and minimization measures, as outlined in this Biotic Study, would avoid disturbances to these two habitats and protect these environmentally sensitive habitat areas from damage.

2.3.3 Special Status Plant Species

The biotic study focused on special status plant species that are officially listed by the State or Federal government, and/or on CNPS List 1B (CDFW, 2014). Several special status plant species were evaluated for the potential to occur in the project vicinity (see Table 2). No special status species were observed within the project area during the July 2014 field survey. Previous surveys conducted by UCSC (Biotic Study, Readdie and Dayton, 2014) were conducted during the blooming season for the special status species with potential to occur within the habitats in the

project area. With the exception of the presence of Monterey pine (CNPS List 1B species) and Monterey cypress (CNPS List 1B species), no special status plant species were detected within the proposed disturbance areas during the survey. The individuals of Monterey pine and Monterey cypress are planted or naturalized specimens located outside their native stands. The closest documented occurrence of a special status species is Hutchinson's larkspur, which grows in the coastal scrub upslope of the driveway/access road to the Gatehouse Area; no plants of this species occur in the proposed disturbance area. A discussion of plant species searched for and their occurrence in the project area is provided in Table 2.

Although the Reserve is known to support colonies of special status plant species, as noted in table 2, multi-year observations by Reserve staff have been negative for any listed species within the proposed project area(s) (M. Readdie, pers. comm., 2014).

**Table 2. Special status plant species and potential occurrence at Landels-Hill Big Creek Reserve, Monterey, CA, August 2014
(Source: CNDDDB and CNPS for Lopez Point quadrangle and surrounding quadrangles)**

Scientific Name	Common Name	Lifeform	CNPS Rank	CESA	FESA	Nearby Occurrence Potential on Site?
Lopez Point Quadrangle						
<i>Abies bracteata</i>	bristlecone fir	perennial evergreen tree	1B.3	None	None	Headwaters of Arroyo Seco Creek approx 5 km NE of site Absent from project area
<i>Arctostaphylos hookeri ssp. hookeri</i>	Hooker's manzanita	perennial evergreen shrub	1B.2	None	None	Landels-Hill Big Creek Reserve Absent from project area
<i>Carex obispoensis</i>	San Luis Obispo sedge	perennial rhizomatous herb	1B.2	None	None	Landels-Hill Big Creek Reserve, north side of Big Creek along nature trail, shaded location along tributary to Big Creek. Absent from project area
<i>Castilleja latifolia</i>	Monterey Coast paintbrush	perennial herb (hemiparasitic)	4.3 ¹	None	None	Coastal scrub along Hwy 1 Absent from project area
<i>Dacryophyllum falcifolium</i>	tear drop moss	moss	1B.3	None	None	Landels-Hill Big Creek Reserve, Devils Canyon just upstream from confluence with Big Creek Absent from project area
<i>Delphinium hutchinsoniae</i>	Hutchinson's larkspur	perennial herb	1B.2	None	None	Landels-Hill Big Creek Reserve, coastal scrub upslope of driveway/access road along Eagle Trail Absent from project area
<i>Galium californicum ssp. luciense</i>	Cone Peak bedstraw	perennial herb	1B.3	None	None	Landels-Hill Big Creek Reserve Gamboa Trail at saddle near Twin Peak Absent from project area

**Table 2. Special status plant species and potential occurrence at Landels-Hill Big Creek Reserve, Monterey, CA, August 2014
(Source: CNDDDB and CNPS for Lopez Point quadrangle and surrounding quadrangles)**

Scientific Name	Common Name	Lifeform	CNPS Rank	CESA	FESA	Nearby Occurrence Potential on Site?
<i>Rosa pinetorum</i>	pine rose	perennial shrub	1B.2	None	None	Landels-Hill Big Creek Reserve, Devils Canyon just upstream from confluence with Big Creek Absent from project area
<i>Sidalcea hickmanii</i> ssp. <i>hickmanii</i>	Hickman's checkerbloom	perennial herb	1B.3	None	None	On north coast Ridge Trail, 0.8 air mile ESE summit trail junction, Ventana Wilderness. Absent from project area
Surrounding Quadrangles						
<i>Allium hickmanii</i>	Hickman's onion	perennial bulbiferous herb	1B.2	None	None	Slopes N of Carmel Valley Road, E side Hwy 1 at Carpenter Road. Not observed within project area
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita	perennial evergreen shrub	1B.2	None	None	0.4 mile east of Highway 1 on Plaskett Ridge Road Absent from project area
<i>Arctostaphylos obispoensis</i>	Bishop manzanita	perennial evergreen shrub	4.3	None	None	San Luis Obispo County Absent from project area
<i>Calochortus fimbriatus</i>	late-flowered mariposa lily	perennial bulbiferous herb	1B.3	None	None	Silver Peak, Santa Lucia Mountains Absent from project area
<i>Calycadenia villosa</i>	dwarf calycadenia	annual herb	1B.1	None	None	Fort Hunter Liggett, Santa Lucia Range Absent from project area
<i>Calyptridium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	annual herb	1B.1	None	None	Los Burros Creek, Fort Hunter Liggett, Junipero Serra Peak Trail, Ventana Wilderness

**Table 2. Special status plant species and potential occurrence at Landels-Hill Big Creek Reserve, Monterey, CA, August 2014
(Source: CNDDDB and CNPS for Lopez Point quadrangle and surrounding quadrangles)**

Scientific Name	Common Name	Lifeform	CNPS Rank	CESA	FESA	Nearby Occurrence Potential on Site?
						Absent from project area
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	annual herb	1B.2	None	None	2.0 Miles Northwest of Bee Rock, San Antonio River Drainage, SW of Bradley Absent from project area
<i>Clarkia jolonensis</i>	Jolon clarkia	annual herb	1B.2	None	None	2 miles S of Malpaso Creek, possibly near Soberanes Point (1950); record is from east of Highway 1 in the Soberanes Point area Absent from project area
<i>Eriogonum butterworthianum</i>	Butterworth's buckwheat	perennial herb	1B.3	CR	None	Along South Side of Road to Indian Ranger Station (1.45 Mi S Of Station), North Fork San Antonio River Absent from project area
<i>Erythranthe hardhamiae</i>	Santa Lucia monkeyflower	annual herb	1B.1	None	None	Fort Hunter Liggett Absent from project area
<i>Fritillaria ojaiensis</i>	Ojai fritillary	perennial bulbiferous herb	1B.2	None	None	Ridgetop East of Little Falls Spring South of Santa Margarita Lake, Los Padres N.F. Absent from project area
<i>Fritillaria viridea</i>	San Benito fritillary	perennial bulbiferous herb	1B.2	None	None	Southern Corner of Training Area 11, Fort Hunter Liggett Absent from project area
<i>Galium clementis</i>	Santa Lucia bedstraw	perennial herb	1B.3	None	None	Santa Lucia Mountains, About 2 Miles Southeast of Cone Peak Absent from project area

**Table 2. Special status plant species and potential occurrence at Landels-Hill Big Creek Reserve, Monterey, CA, August 2014
(Source: CNDDDB and CNPS for Lopez Point quadrangle and surrounding quadrangles)**

Scientific Name	Common Name	Lifeform	CNPS Rank	CESA	FESA	Nearby Occurrence Potential on Site?
<i>Galium hardhamiae</i>	Hardham's bedstraw	perennial herb	1B.3	None	None	Upper Salmon Creek, Santa Lucia Mountains Absent from project area
<i>Horkelia yadonii</i>	Santa Lucia horkelia	perennial rhizomatous herb	4.2	None	None	Pt. Lobos Ranch, E of Hwy 1 in Gibson Creek area; near summit of Lobos Ridge E of Pt. Lobos State Reserve; Palo Colorado area Absent from project area
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	annual herb	1B.2	None	None	Near Indians Ranger Station, Memorial Park Campground; SW Of Junipero Serra Peak Absent from project area
<i>Malacothamnus palmeri</i> var. <i>lucianus</i>	Arroyo Seco bush-mallow	perennial deciduous shrub	1B.2	None	None	W of Pfeiffer Falls between Hwy 1 and Big Sur River Absent from project area
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	Carmel Valley malacothrix	perennial rhizomatous herb	1B.2	None	None	Carmel Valley Road Absent from project area
<i>Monardella palmeri</i>	Palmer's monardella	perennial rhizomatous herb	1B.2	None	None	Upper Alder Creek; Approx 0.7 Airmi Southwest Of Alder Peak, Santa Lucia Mountains Absent from project area
<i>Orthotrichum kellmanii</i>	Kellman's bristle moss	moss	1B.2	None	None	On Knob Along Ridge Just SE of Marble Peak, Los Padres National Forest Absent from project area

**Table 2. Special status plant species and potential occurrence at Landels-Hill Big Creek Reserve, Monterey, CA, August 2014
(Source: CNDDDB and CNPS for Lopez Point quadrangle and surrounding quadrangles)**

Scientific Name	Common Name	Lifeform	CNPS Rank	CESA	FESA	Nearby Occurrence Potential on Site?
<i>Pentachaeta exilis ssp. aeolica</i>	San Benito pentachaeta	annual herb	1B.2	None	None	Just East Of Indians Ranger Station In Los Padres National Forest Absent from project area
<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	annual herb	1B.2	None	None	Recorded from Hastings Reserve Absent from project area
<i>Pogogyne clareana</i>	Santa Lucia mint	annual herb	1B.2	CE	None	Along Los Bueyes Creek From Confluence With Los Burros Creek Upstream About 3 Air Miles, Fort Hunter Liggett Absent from project area
<i>Sanicula maritima</i>	adobe sanicle	perennial herb	1B.1	CR	None	Record from Andrew Molera SP along Panorama Trail Absent from project area
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	perennial herb	4.2	None	None	2 miles up Rocky Creek from Hwy 1 Absent from project area
<i>Streptanthus albidus ssp. peramoenus</i>	most beautiful jewel-flower	annual herb	1B.2	None	None	West Of Los Bueyes Creek on Road to Burro Mountain, Fort Hunter Liggett Absent from project area

CNPS Status:

List 1B: These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFG Code.

Federal and State Status:

CR: Designated as a rare species by the federal government or the California Fish and Game Commission

CE: Designated as an endangered species by the federal government or the California Fish and Game Commission

¹ Considered locally unique by Monterey County

2.3.4 Special Status Wildlife Species

Special status wildlife species include those listed, proposed or candidate species by the Federal or the State resource agencies, as well as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Wildlife Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Special status wildlife species were evaluated for their potential presence in the project area as described in Table 3 below.

Of the special status species known from the general vicinity, only three may occur within or immediately adjacent to the proposed project sites: Smith’s blue butterfly, coast range newt, and purple martin. The Smith’s blue butterfly is known to occur on its host plant, dune buckwheat, within the Reserve. Restoration plantings of buckwheat along the entrance road to the Gatehouse provide potential habitat for Smith’s blue butterfly. There is no buckwheat within the project footprint for the classroom, maintenance garage, studio, staff residence, septic systems, or new water tanks. Coast range newt may breed and live in the riparian habitat of Big Creek near the Gatehouse. Although none of the proposed facilities will impact newt habitat, individuals may be encountered during the new classroom construction which is adjacent to Big Creek. Purple martins are known to occur on the Reserve, and this area is one of the last few known breeding colonies in Monterey County of this bird (Roberson and Tenney 1993). No suitable cavities or holes were observed in the pine trees that will be removed for the classroom building, but birds may nest in trees in the adjacent riparian corridor. There is no purple martin habitat at the site proposed for the Coyote Creek section of the Reserve.

Table 3. Special status wildlife species and potential occurrence at Landels-Hill Big Creek Reserve, Monterey, CA, August 2014.

SPECIES	STATUS ¹	HABITAT	POTENTIAL OCCURRENCE ON SITE
Invertebrates			
Monarch butterfly <i>Danaus plexippus</i>	*	Eucalyptus, acacia and pine trees groves provide winter habitat when they have adequate protection from wind and nearby source of water and nectar	Have been observed flying through Reserve, but no milkweed host plants present. May use pines or cypress as autumnal roosts.
Smith’s blue butterfly <i>Euphilotes enoptes smithi</i>	FE	Coastal dunes and sage scrub with host plant of buckwheat present	Known to occur on Reserve. Host plant present along entry road to Gatehouse Area and to the Coyote Creek Area, but not in project work area.
Fish			
Steelhead <i>Oncorhynchus mykiss</i>	FT, CSC	Perennial creeks and rivers with gravels for spawning.	Known to occur in Big Creek.
Amphibians			
Coast range newt <i>Taricha torosa torosa</i>	CSC (Monterey Co. south)	Breeds in creeks, ponds; uses forests for uplands	Known to occur on Reserve; possible to occur in new classroom site.
California red-legged frog	FT, CSC	Riparian, marshes, estuaries	Not known to occur on Reserve;

SPECIES	STATUS ¹	HABITAT	POTENTIAL OCCURRENCE ON SITE
<i>Rana draytonii</i>		and ponds with still water at least into June.	no breeding habitat present; no occurrences within 5 miles of site.
Reptiles			
Western pond turtle <i>Actinemys marmorata</i>	CSC	Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting.	Not known to occur on Reserve; no breeding habitat present.
Birds			
Black swift <i>Cypseloides niger</i>	CSC	Nests in small colonies on cliffs behind or adjacent to waterfalls and along sea bluffs	Known from sea bluffs at Pt. Lobos State Park. No suitable habitat on this site.
Purple martin <i>Progne subis</i>	CSC	Nest in cavities in large trees or snags, usually those dug by woodpeckers	Known to occur on Reserve; may nest in trees with suitable holes.
Mammals			
Pallid bat <i>Antrozous pallidus</i>	CSC	Roosts in caves, hollow trees, mines, buildings, bridges, rock outcroppings	Not known to occur on Reserve; no detected during focused bat surveys; no suitable habitat within project sites.
Western mastiff bat <i>Eumops perotis</i>	CSC	Roosts in crevices high on rock faces, usually in arid climates	Not known to occur on Reserve; no detected during focused bat surveys; no suitable habitat within project sites.

¹Key to status:

FE	=	Federally listed as endangered species
FT	=	Federally listed as threatened species
ST	=	State listed as threatened species
CSC	=	California species of special concern
FP	=	Fully protected species under CDFG Code
*	=	Protected under County Local Coastal Plan

3.0 IMPACT AND MITIGATION ANALYSIS

3.1 IMPACT CRITERIA

The following section describes the thresholds of significance used to assess potential environmental impacts and the impact assessment.

3.1.1 *Thresholds of Significance*

According to CEQA Appendix G criteria, implementation of the Project would be considered to have a significant impact on biological resources if it resulted in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as listed endangered or threatened, proposed for listing, candidate for listing, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Threaten to eliminate a plant or animal community, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, including but not limited to:
 - Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources;
 - Substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors; and
 - Impede the use of nursery areas or disrupt nesting and breeding of fish and wildlife species;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

Impacts were not considered significant to vegetation communities or habitats that are not protected, are generally common, and do not support listed, candidate or special concern species. Project impacts to the planted Monterey pine and Monterey cypress trees grove (expected removal of three trees and limbing of other trees), annual grassland, and ruderal areas were not considered to pose significant impacts to statewide or regional botanical resources. Impacts to the coastal scrub at the Coyote Creek Area are not deemed significant due to the lack of special status species; however, impacts to the coastal scrub at the Gatehouse Area would be considered significant due to the presence of dune buckwheat and known/potential presence of Smith's blue butterfly, an endangered species. The coastal scrub at the Gatehouse Area meets the definition of ESHA under the Monterey County's *Big Sur Coast Land Use Plan and Local Coastal Program (LUP/LCP)*. Impacts to the riparian woodland along Big Creek would also be deemed significant due to its sensitivity and its status as ESHA.

3.2 ENVIRONMENTAL IMPACTS, MITIGATION MEASURES AND SIGNIFICANCE DETERMINATION FOR THE PROPOSED PROJECT

The proposed Landels-Hill Big Creek Reserve Facilities Development project was evaluated for potential direct and indirect impacts to sensitive resources. No regulated habitats will be directly affected by the project; however, at the Gatehouse Area use of the existing driveway/access road for construction access may result in inadvertent impacts to riparian woodland and coastal scrub (including dune buckwheat plants growing alongside the roadway). Buckwheat plants are also present along the western portion of the access road to the Coyote Creek Area. Coastal scrub supporting dune buckwheat and riparian woodland area considered ESHA and are regulated by Monterey County.

No State-recognized sensitive resource will be affected by the project. No oak trees, as regulated by Monterey County, will be removed by the project. The project will require removal of two planted Monterey pines and one planted Monterey cypress and possible limbing of additional nearby pine and cypress trees to accommodate the classroom building.

Migratory birds (including purple martin) may nest in some trees and shrubs adjacent to the project work areas. Limbing and removal of trees and shrubs has the potential to impact nesting birds if any are present during construction. Construction of the classroom site has the potential to impact coast range newt if any are present during construction. Heavy equipment access along the dirt entry road to the classroom building site has the potential to impact dune buckwheat, the host plant for Smith's blue butterfly, an endangered species. Measures are recommended below to avoid impacts to these wildlife species.

Impact 3.2-1. Impacts to Nesting Birds Including Purple Martin

Removal of the pines for the classroom construction, and removal of coastal scrub for the projects at the Coyote Creek segment, and limbing of trees has the potential to kill bird eggs or chicks if any are present. Noise and dust from construction has the potential to cause adult birds to abandon their eggs or chicks if any are nesting nearby.

Mitigation Measure BIO-1. To avoid impacts to nesting birds, if feasible schedule vegetation removal, grading, and ground disturbing construction activities to take place between September 1 and February 1 of any given year, which is outside the bird nesting season for the central coast. If this is not possible, have a qualified biologist conduct a preconstruction survey for nesting birds no more than two weeks prior to start of construction. If any bird nests are observed within or immediately adjacent to the work area, a buffer of 50 feet for migratory birds and 250 feet for raptors will be established where no construction will take place until the biologist has determined that all young have fledged the nest.

Impact 3.2-2. Impacts to Smith's Blue Butterfly

Heavy equipment using the access/entry roads for the proposed projects at the Gatehouse Area and Coyote Creek Area (lower area closest to Highway 1) has the potential to damage or crush dune buckwheat, the host plant for Smith's blue butterfly, growing adjacent to the road. No buckwheat plants will be removed for any portions of the project. Dust from equipment has the potential to impact buckwheat plants nearby, and indirectly impact Smith's blue butterfly if any

are present on the plants. Dust can accumulate on the buckwheat plants, reducing food available to butterflies, and possibly cause the plants to die. Dust can also clog the spiracles of butterflies in all life stages; the spiracle allows the butterfly to breathe. The project will not result in the permanent removal of any Smith's blue butterfly habitat.

Mitigation Measure BIO-2. To avoid potential impacts to the Smith's blue butterfly's host plant (dune buckwheat), place silt fence or other suitable barrier between the access road and adjacent buckwheat plants. This should occur along the access road to the Gatehouse site and along the lowermost portion of the access road to the Coyote Creek Area (near Highway 1). This will prevent excess dust from settling on the plants (or on the butterfly adults if present) and provide a visual screen to alert the heavy equipment operators to avoid driving too close to the plants.

Mitigation Measure BIO-3. To minimize potential impacts of dust to the Smith's blue butterfly or its host plant, dune buckwheat, implement dust control measures along the access roads and all construction sites at the Gatehouse Area project site. Dust control may include use of a water truck or for smaller areas, a back-pack water tank may be sufficient.

Mitigation Measure BIO-4. To minimize potential impacts to the Smith's blue butterfly, limit the speed of construction vehicles to 5 mph on the access roads.

Mitigation Measure BIO-5. To minimize potential impacts to the Smith's blue butterfly or its host plant, in addition to the dust-barrier fencing along the access roads, place highly visible flagging or orange construction fencing along the access road and edges of parking areas. Place clearly visible signs along the access road with the following warning: **SENSITIVE HABITAT – DO NOT ENTER**. The Reserve Manager shall also be responsible for informing the construction contractor and their employees of the importance of parking or placing materials only in designated areas, to avoid any impacts to buckwheat plants and any Smith's blue butterflies that may be present on the plants.

Impact 3.2-3. Indirect Impacts to Riparian Woodland in Gatehouse Area

Construction of the classroom and septic leach field will occur at top of bank; however, work is proposed in close proximity to Big Creek and its associated riparian woodland. Construction has the potential to adversely impact the riparian woodland if construction activities inadvertently enter the woodland or construction material is placed below the top-of-bank.

Mitigation Measure BIO-6. To avoid impacts to the riparian woodland and water environment of Big Creek, implement riparian habitat protection measures prior to and during construction. Measures should include:

- a. Install plastic mesh fencing at the perimeter of the work area to prevent impacts to the adjacent riparian woodland and in-stream habitat, and injury to adjacent native trees. Protective fencing shall be in place prior to ground disturbances and removed once all construction is complete. During construction, no grading, construction or other work shall occur outside the designated limits of work.
- b. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored outside the designated limits of work.
- c. Implement standard erosion control BMP's to prevent construction materials from entering the creek and riparian woodland, such as perimeter silt fencing, straw wattles, and similar erosion control measures.

- d. All staging of equipment and materials, and refueling of equipment, shall be located in existing roadways, driveways, and parking areas. The contractor shall prepare and implement a fuel spill prevention and clean-up plan.

Impact 3.2-4. Impacts to Coast Newt

The project will not impact any coast newt breeding habitat; however, newts may pass through the Gatehouse construction site during rainy periods. Construction equipment may kill or injure newts moving through the project area, if any are present.

Mitigation Measure BIO-7. To avoid impacts to individual coast newts, the Reserve Manager or other qualified monitor, will check the Gatehouse construction site during rainy periods in the morning before the onset of activities. The Manager or monitor will relocate any coast newts to a forested area along Big Creek that is outside of the construction area.

4.0 REFERENCES AND LITERATURE CITED

- California Native Plant Society. 2014. Electronic Inventory of Rare and Endangered Vascular Plants of California. Electronic Database, Lopez Point quadrangle and surrounding quadrangles.
- California, State of, Department of Fish & Wildlife. 2014. Natural Diversity Database. 2014 Rare Find 5 program, Lopez Point quadrangle.
- California, State of, Department of Fish & Game. 2010. Natural Diversity Database, Natural Communities Classification System, 2010. <http://www.dfg.ca.gov/biogeodata/vegcamp>.
- Baldwin (ed.) 2012. The Jepson Manual Vascular Plants of California. Berkeley: University of California Press.
- Matthews M.A., 1997. Flowering Plants of Monterey County. California Native Plant Society and M.A. Matthews, Sacramento, CA.
- Readdie, M. and G. Dayton. 2014. University of California, Landels-Hill Big Creek Reserve, Facilities Development Biotic Study. Report prepared for UCSC Planning Dept., May 2014.
- Roberson, D. and C. Tenney (Eds). 1993. Atlas of the breeding birds of Monterey County California. Monterey Peninsula Audubon Society, Monterey, CA.
- Sawyer, J.O., T. Keeler-Wolf, and Evens. 2009. A Manual of California Vegetation, 2nd Edition. California Native Plant Society, Sacramento, CA.

Appendix F
Responses to Comments on the
Draft Initial Study/Mitigated Negative Declaration

REC'D DEC 22 2014



EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

December 17, 2014

Alisa Klaus
University of California
PP&C, 1156 High Street
Santa Cruz, CA 95064

Subject: Landels Hill-Big Creek Reserve Facility Improvement
SCH#: 2014111034

Dear Alisa Klaus:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on December 15, 2014, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

A handwritten signature in cursive script that reads "Scott Morgan".

Scott Morgan
Director, State Clearinghouse

**Document Details Report
State Clearinghouse Data Base**

SCH# 2014111034
Project Title Landels Hill-Big Creek Reserve Facility Improvement
Lead Agency University of California

Type MND Mitigated Negative Declaration
Description Project would remodel an existing staff residence to create living space for visiting researchers. A new 1,500 sf classroom building would be constructed adjacent to the existing residence. At a separate location, the Project would construct a 1,332-sf staff residence, a 493-sf residence for part-time staff and visitors, and a 1,048 sf garage/workshop.

Lead Agency Contact

Name Alisa Klaus
Agency University of California
Phone 831 459 3732 **Fax**
email
Address PP&C, 1156 High Street
City Santa Cruz **State** CA **Zip** 95064

Project Location

County Monterey
City
Region
Lat / Long 36° 4' 12" N / 121° 35' 56" W
Cross Streets SR 1, 5 miles north of Lucia
Parcel No. 421021011000
Township 21S **Range** 3E **Section** 26/36 **Base** MDB&M

Proximity to:

Highways Hwy 1
Airports No
Railways No
Waterways Big Creek
Schools No
Land Use Resource Protection/Forest and Upland Habitat (Big Sur Land Use Plan)

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 4; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 5; Department of General Services; Air Resources Board; Regional Water Quality Control Board, Region 3; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

Date Received 11/14/2014 **Start of Review** 11/14/2014 **End of Review** 12/15/2014

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
 725 FRONT STREET, SUITE 300
 SANTA CRUZ, CA 95060
 PHONE: (831) 427-4863
 FAX: (831) 427-4877
 WEB: WWW.COASTAL.CA.GOV



December 15, 2014

Office of Physical Planning & Construction
 University of California Santa Cruz
 1156 High Street
 Santa Cruz, CA 95064
 Attn: Alisa Klaus, Senior Environmental Planner

**Subject: Landels Hill-Big Creek Natural Reserve Facility Improvement
 Comments on Draft Initial Study/Proposed MND**

Dear Ms. Klaus:

Thank you for providing the opportunity to review and comment on the Draft Initial Study/Proposed Mitigated Negative Declaration (MND) pertaining to the Landels Hill-Big Creek Natural Reserve Facility Improvement project (the Project). The Project proposes to remodel an existing staff residence and construct a new 1500-sf classroom building and office, and outbuildings in the "Gatehouse" area of the Reserve, and construct three new buildings, consisting of a 1,332 sf residence, a 493-sf studio and a 1048-sf garage/workshop, at the Coyote Creek site. The Project is located on University of California property within the Coastal Zone and will therefore require a Coastal Development Permit (CDP) from the Coastal Commission.

SA-1-1

Comment 1: Project Description (aesthetics). At page 20, the MND describes the proposed classroom as including a "massive south-facing wall and atrium" potentially constructed of rammed earth that would act as a passive solar energy conductor. While staff is generally supportive of using renewable sources of energy to support the new facilities, we do have concerns regarding the potential visual impacts of the proposed classroom structure from public views along Highway 1. Given the value of the scenic coastal views and character of the surrounding area, potential impacts to visual and aesthetic resources should be avoided by siting any new structures such that they are not visible from Highway 1.

SA-1-2

Comment 2: Project Description (wastewater treatment.) At page 20, the MND references two potential options for wastewater treatment for the proposed outbuildings that will serve the classroom. In evaluating these options, it would be useful to have additional information regarding the relative environmental benefits of each option in relation to potential impacts to Big Creek and other sensitive resources.

SA-1-3

Comment 3: Aesthetic Resources. See Comment 1 above. At pages 26-29, the MND makes numerous references to the Big Sur Land Use Plan. Please be advised that the standard of review for a CDP for this project is the Coastal Act. With respect to visual and scenic resources, Section 30251 of the Coastal Act provides that "The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be

sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas..." Note also that the final sentence under subparagraph (d) on page 29 appears to contain a typographical error.

SA-1-4

Comment 4: Biological Resources. At page 38, the MND references tree removal and limbing. Additional information in this regard is provided at page 20 of the Biological Impact Study. In assessing potential impacts, it would be helpful if the proposed work was described in greater detail; e.g. a table and/or map depicting type, size, and location of trees and shrubs to be removed or limbed up.

SA-1-5

Comment 5: Biological Resources. At page 42, the MND references the riparian corridor of the Big Creek. It would be helpful to have a better description of where the proposed structures would be located, and construction work conducted, in relation to the creek. Note that the last paragraph on page 42 references the "County" when the "Commission" was intended.

SA-1-6

Comment 6: Cultural Resources. At page 46, the MND references the potential for encountering cultural resources and recommends following recommendations of the archeological survey. This should be identified as a mitigation measure.

SA-1-7

Comment 7: Hydrology and Water Quality. At page 56, the MND references storm water management systems and grading and compliance with UC construction standards. Again, these might appropriately be identified as mitigation measures. Please note that the CDP will likely include detailed conditions to further address these issues.

SA-1-8

Comment 8. Land Use and Planning. At page 59, the MND references Public Access and the "key policy" of the Big Sur Land Use Plan. As previously mentioned, the standard of review for this CDP will be the Coastal Act. With respect to public access, relevant policies include Coastal Act Sections 30210 through 30214 and 30220 through 30224.

SA-1-9

Comment 9. Mandatory Findings of Significance. At page 70, the MND appears to contain a typographical error when it references Section 6.6 (cultural resources) in relation to pine tree removal.

SA-1-10

Comment 10. Visual Impact Study. Appendix D references a Visual Impact Study but only appears to include a site map. Please explain.

Thank you for the opportunity to comment on the MND. We look forward to working with you on this important project.

Sincerely,


Ryan Moroney, Coastal Program Analyst

Response to Comment Letter SA-1

Response to Comment SA-1-1: Since the Draft IS/MND was circulated for public review, the Campus has initiated preliminary consultation with Coastal Commission staff. Based on the results of that consultation, the Campus is in the process of revising the siting and configuration of the classroom structure in relation to the existing Gatehouse to reduce the visibility of the development from Highway 1. Mitigation Measure AES-1 (Initial Study, p. 28) has been revised as follows:

Mitigation Measure AES-1: Building materials for the proposed classroom building shall be selected and the siting and configuration of the building adjusted to reduce the visibility of the structure from Highway 1 to the extent feasible. Additional visual simulations shall be prepared to demonstrate the reduction in visibility.

Response to Comment SA-1-2: The Campus is no longer considering vault toilets as an option for wastewater treatment, as these are not suitable for the proposed residential use of the Gatehouse. The proposed septic system would include an advanced treatment system consisting of a recirculating biological filtration system with a final effluent filter and UV disinfection system to remove biochemical oxygen demand (BOD), total suspended solids (TSS), total nitrogen and pathogens. The treated effluent would be discharged to subsurface pressurized leachfields set back greater than 50 feet from the creek. The description of the proposed wastewater treatment system in the Initial Study (p. 20) has been revised accordingly.

Response to Comment SA-1-3: Although the Coastal Act is the standard of review for the proposed Project, the Campus anticipated that the Coastal Commission would take into account consistency with the Local Coastal Program (LCP) for the surrounding area. The IS/MND has been revised (pp. 26, 40-41, 44, 60-62, and 70) to clarify that the Coastal Act is the standard of review and to summarize Coastal Act requirements applicable to the proposed Project. Appendix C-1, listing applicable Coastal Act provisions and summarizing the Project's consistency with them, has been added.

The final sentence under subparagraph (d) on page 30, which discusses light and glare, has been revised to state that the impact would be less than significant. The reference to "inconsistency" with the Big Sur Land Use Plan has been deleted.

Response to Comment SA-1-4: A more detailed description of the trees and shrubs to be removed has been added to the Final IS/MND on p. 38.

Response to Comment SA-1-5: Figure 6.5-1a shows the location of the proposed new development and relative to the riparian woodland. The text on p. 41 of the Initial Study has been revised to provide more specific information about the distance between the creek channel, the top of bank, and the proposed Project elements. The work area would be limited to the existing cleared and graded area, which extends to the top of the bank of Big Creek, adjacent to the riparian woodland habitat. The deck of the proposed Classroom Building, as described in the Initial study, would be adjacent to the top of the bank. However, the modifications to the design of this structure to reduce visibility from Highway 1, will likely move the edge of the building further from the riparian habitat.

The text on p. 44 of the Initial Study has been revised to refer to Coastal Commission approval and to eliminate the reference to County approval.

Response to Comment SA-1-6: For the reasons described on p. 46 of the Draft Initial Study, the Campus has determined that the potential impact on archaeological resources would be less than significant; therefore, mitigation is not required. The standard Campus contract, which requires contractors to stop work if archaeological resources or human remains are encountered during construction, would further reduce the potential for an adverse impact. However, in response to the Coastal Commission comment, the Initial Study (pp. 47-48) has been revised to identify these requirements as Mitigation Measures CULT-1A and CULT-1B. These mitigation measures have been added to the Mitigation Monitoring and Reporting Program (Appendix B).

Response to Comment SA-1-7: For the reasons discussed in the Initial Study, p. 58, the impact would be less than significant and mitigation is not required. However, because of the proximity of the site to Big Creek, to ensure that the Project meets the appropriate standards, Mitigation Measure HYD-1 has been added on pp. 58-59 to require documentation that the Project meets the applicable Campus Standards for storm water management. Mitigation Measure BIO-7 (Initial Study, p. 41) has been revised to include the requirement that the contractor prepare and implement an Erosion and Sediment Control Plan as specified in Appendix D of the Campus Standards.

Response to Comment SA-1-8: See Response to Comment SA-1-3.

Response to Comment SA-1-9: The first sentence in subparagraph (a) on p. 74 of the IS has been revised to refer to Section 6.5, *Biological Resources*.

Response to Comment SA-1-10: Three pages of the Visual Impact Study, which present photographs taken from the vantage points shown on the map, were inadvertently omitted from the Draft Initial Study. This omission has been corrected in the Final Initial Study. A narrative description of the methodology of the study and its results are included in Section 6.2, *Aesthetics*.



MBUAPCD

Monterey Bay Unified Air Pollution Control District
Serving Monterey, San Benito, and Santa Cruz Counties

Comment Letter RA-1

24580 Silver Cloud Court
Monterey, CA 93940

PHONE: (831) 647-9411 • FAX: (831) 647-8501

December 5, 2014

Office of Physical Planning & Construction
University of California Santa Cruz
1156 High Street
Santa Cruz, CA 95064
Attn: Alisa Klaus, Senior Environmental Planner

Email: EIRcomment@ucsc.edu

Re: Draft IS/ Proposed MND UCSC Landels Hill-Big Creek Natural Reserve Facility Improvement

Dear Ms. Klaus:

Thank you for providing the Monterey Bay Unified Air Pollution Control District (Air District) with the opportunity to comment on the above-referenced document. The Air District has reviewed the document and has the following comments:

- Air District Rule 424 and the Federal National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61 M, require asbestos surveys and advance notification on structures being renovated or demolished. Notification to the Air District is required at least ten days prior to any renovation or demolition activities. Please contact Mike Sheehan, District Compliance Coordinator, at (831) 647-9411 x 217 to determine if Rule 424 and NESHAP requirements apply to the renovation described in the project.

Please let me know if you have any questions. I can be reached at (831) 647-9418 ext. 227.

Best Regards,

Amy Clymo
Supervising Air Quality Planner

cc: David Frisbey/MBUAPCD

Response to Comment Letter RA-1

Comment noted. The Campus will coordinate with the Air District to address survey and notification requirements.