Summary

UCSC MARINE SCIENCE CAMPUS CLRDP

Environmental Impact Report

SCH No. 2001112014

September 2004

Prepared for

University of California, Santa Cruz
Environmental Assessment Group

CHAPTER 2
SUMMARY

This section briefly describes the UCSC Marine Science Campus Coastal Long Range Development Plan (CLRDP) and the five near-term projects, together with the environmental issues associated with project implementation. This section also summarizes project impacts and mitigation measures identified in this EIR (see Table 2-1 at the end of this section).

A. PROJECT UNDER REVIEW

The project reviewed in this EIR consists of two components: (1) a Coastal Long Range Development Plan (CLRDP) for the University of California, Santa Cruz (UCSC) Marine Science Campus; and (2) specific development plans for five individual projects within the Marine Science Campus.

COASTAL LONG RANGE DEVELOPMENT PLAN (CLRDP)

The project includes adoption and implementation of the proposed CLRDP, a physical development and land use plan intended to guide and control future development, land use, and resource protection at the UCSC Marine Science Campus through 2020. The Preliminary Draft CLRDP, including Appendices A through E, was published in July 2002. The Draft CLRDP was published in July 2003, and an editorially revised version of the Draft CLRDP was published in January 2004. That Draft CLRDP is incorporated by reference into this EIR. The CLRDP was prepared over a period of about three years following the University's purchase of approximately 54 acres immediately to the east of, and adjacent to, its previous holdings of about 44 acres, which included the original Long Marine Laboratory (LML) site (16 acres), the adjacent Younger Lagoon Reserve (YLR) (25 acres), and the Seymour Marine Discovery Center site that had recently been acquired (3 acres).

Existing development on the 98-acre project site is limited primarily to the original 16-acre LML portion of the site and the additional 3-acre Seymour Marine Discovery Center site. Existing development on the LML site consists of a combination of permanent buildings, temporary and ancillary support structures, and outdoor space, for a net total of 108,604 gross square feet (gsf). (See Chapter 3, Project Description, for a full description of existing development.) Existing development also includes an approximately 2.5-acre federal "inholding," which is occupied by the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) laboratory. This inholding is not part of the 98-acre project site, nor is it covered by the CLRDP.

The CLRDP building program proposes construction of new facilities within three development areas (upper terrace, middle terrace, and lower terrace) and the removal of some existing development. Under the proposed CLRDP, approximately 409,100 square feet (sf)[1] of new

[1] Unless noted otherwise, all building area space reported in this EIR is in gross square feet.

building area would be constructed on the Marine Science Campus, and approximately 31,244 sf of existing building area would be removed and replaced, resulting in 377,856 sf of net new building area. An additional 152,000 sf of outdoor development would be constructed, for a total net new development of 529,856 sf. The CLRDP building program would include the following uses: 254,500 sf for Marine Research and Education; 70,000 sf for Outdoor Research Area; 19,000 sf for Support Facilities; 98,100 sf for Support Housing; 107,500 sf for Equipment Storage and Maintenance; and 12,000 sf for Seawater System Expansion. The additional seawater facilities would provide for a total system capacity of approximately 6,000 gallons per minute (gpm). The CLRDP building program would include removal of approximately 31,244 sf of existing building area consisting of: 3,000 sf of Temporary Office Trailers; 26,844 sf of Greenhouses; and 1,400 sf of Temporary Caretaker Housing. The CLRDP would also include approximately 550 additional parking spaces, of which 50 would be designated for dual use (i.e., either campus visitor or public coast access parking) and 10 would be designated solely for public coastal access parking. Recreational facilities proposed by the CLRDP would include paved and unpaved recreational courts, an enhanced trail network, two new overlooks, and improvements to an existing onsite overlook. The CLRDP also provides for various onsite infrastructure and other improvements to serve the new development. See Chapter 3, Project Description, for a more detailed description of the proposed CLRDP.

NEAR-TERM PROJECTS

Five projects are expected to be constructed in the early phases of the building program by 2010. Amongst the building locations depicted in the CLRDP prototype site plan are specific sites for these five near-term projects:

- A Shared Campus Warehouse and Laydown Facility (with about 37,500 sf of warehouse and 70,000 sf of laydown yard space) would be sited on the upper terrace development area.

- 42 Apartment/Townhouse Units with a combined building space of 43,050 sf would be constructed on the middle terrace development area.

- The United States Geological Survey (USGS) Western Coastal and Marine Geology Facility would include about 78,500 sf of new office and laboratory space within two buildings on the middle terrace development area.

- The Monterey Bay Aquarium Sea Otter Research and Conservation Center (SORACC) (with about 10,000 sf of building space and 40,000 sf of yard space) would be located on the middle terrace development area.

- The Center for Ocean Health Phase II facility (18,000 sf) would consist of an addition to the existing Center for Ocean Health building and would be located on the lower terrace development area. Additionally, this proposed project would include the construction of two new public-access overlooks (Overlooks A and E) and improvement of an existing overlook (Overlook D).

This EIR evaluates specific development plans for these five near-term projects.

B. AREAS OF POTENTIAL CONTROVERSY

In response to the November 1, 2001, issuance of the Notice of Preparation for this EIR, UCSC received 10 comment letters from agencies and organizations, including the California Coastal Commission, the California Department of Toxic Substances Control (DTSC), the California Department of Transportation (Caltrans), the City of Santa Cruz, the Monterey Bay Unified Air Pollution Control District (MBUAPCD), the Sierra Club, and the Terrace Point Action Network. Seven members of the public also submitted written comments on the NOP. A public scoping meeting on the EIR was held for the proposed project on November 14, 2001, at the Seymour Marine Discovery Center at the Long Marine Laboratory; about 17 members of the public attended the meeting, with 6 people providing oral comments on the project.

Areas of potential controversy that were identified through this input, such as the residual effect of pesticides on soil that may be excavated from the site, the conversion of currently fallow agricultural land for new development onsite, the potential impact of development on nearby sensitive habitats and animal species, and the visual impact of increased development within an urban-to-rural transitional area, are addressed in sections of Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of the EIR.

C. IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant effect on the environment is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by a project, including effects on land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. The criteria used to determine whether or not effects are significant are included in the introduction to each topic discussion in Chapter 4 of this EIR.

This EIR presents information in the following 16 impact categories, as required under CEQA and the *UC CEQA Handbook*: Aesthetics; Agricultural Resources; Air Quality; Biological Resources; Cultural Resources; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population and Housing; Public Services; Recreation; Transportation/Traffic; and Utilities, Service Systems, and Energy.

Potential environmental impacts of the project are summarized in Table 2-1 at the end of this chapter. This table lists impacts and mitigation measures in three major categories: significant impacts that would remain significant even with mitigation, significant impacts that could be mitigated to a less-than-significant level, and less-than-significant impacts for which the EIR identifies mitigation. For each impact, the table includes a summary of mitigation measure(s) and an indication of whether the impact would be mitigated to a less-than-significant level. Please refer to Chapter 4, Environmental Setting, Impacts, and Mitigation Measures, for a complete discussion of each impact and associated mitigation.

Cumulative effects have been included in the consideration of potential project impacts, as reflected in Table 2-1. Cumulative effects to which the project would contribute include increased demands on public utility and service systems, increases in traffic, and increases in traffic-related air pollutant emissions and noise, among others. The increased cumulative demand on public water supply is considered significant and unavoidable. In addition, the cumulative traffic impact at six study area intersections would be considered significant and unavoidable if the proposed mitigation measures prove infeasible. None of the other cumulative effects are considered significant and unavoidable.

D. ALTERNATIVES TO THE PROJECT

The purpose of the EIR alternatives analysis is to determine whether an alternative would feasibly attain some or most of the project objectives while avoiding or substantially lessening some of the significant effects of the proposed project. This EIR evaluates alternatives to both the proposed CLRDP and the five near-term projects. Chapter 5, Alternatives, presents detailed descriptions and an analysis of potential impacts of each alternative.

COASTAL LONG RANGE DEVELOPMENT PLAN (CLRDP)

The following five alternatives to the CLRDP are analyzed in detail in this EIR:

- **Reduced Program Alternative.** The net new marine research space developed on the middle and lower terraces would be reduced from 254,500 square feet to approximately 148,000 square feet through reductions in development density and/or the development footprint.

- **Modified Land Use Diagram Alternative.** Development on the upper terrace would be eliminated, the footprint of programmed development on the middle terrace would be altered and increased, and development on the lower terrace would be decreased. The net area of development would be approximately the same as under the proposed CLRDP. Development buffers for wetlands and potential wildlife habitat and habitat corridors would be increased.

- **Increased Program Alternative.** More space would be provided for marine research and education (345,000 square feet), support housing (102,100 square feet), and warehouse and laydown area (143,143 square feet). All other program space would be the same as under the CLRDP. The building program would be about 97,640 square feet larger than the proposed CLRDP. This alternative represents the original development program envisioned for the Marine Science Campus.

- **Project-by-Project Development Alternative.** Development on the campus would not be directed by a CLRDP or Master Plan. Instead, individual projects would be proposed by UCSC or non-UC entities; considered, approved, and developed on a case-by-case basis; and directed by the objectives of each project rather than by programmatic or campus-wide objectives.

- **No Project Alternative.** The CLRDP would not be adopted and no further growth would be planned for the campus. Existing facilities and programs on the campus would continue to operate, with only such population growth as the current facilities can accommodate.

The No Project Alternative would reduce or avoid the potential environmental impacts of CLRDP development and would be the environmentally superior alternative, although it would meet none of the project's primary objectives associated with program development and growth. If the environmentally superior is the No Project Alternative, CEQA Guidelines Section 15126(d)(2) requires that the EIR identify another alternative as environmentally superior. Of the remaining alternatives, the Reduced Program Alternative would be considered environmentally superior, although it would be less effective than the CLRDP in meeting certain project objectives.

NEAR-TERM PROJECTS

In addition to analyzing alternatives to the CLRDP, the EIR considers alternatives to each of the five near-term projects, as follows.

SHARED CAMPUS WAREHOUSE AND LAYDOWN FACILITY

The EIR evaluates the following four alternatives to the proposed Shared Campus Warehouse and Laydown Facility:

- **Reduced Shared Warehouse and Laydown Facility Project Alternative.** Shared warehouse space would be reduced from the proposed 37,500 square feet to about 23,300 square feet, and the shared laydown yard would be reduced from the proposed 70,000 square feet to about 33,000 square feet. Additional paved areas adjoining individual marine research facilities would be developed for equipment storage.

- **Individual Laydown Yards Alternative.** No centralized shared warehouse space and laydown yard would be provided, and the proposed warehouse and laydown project on the upper terrace would not be developed. Warehouse space and laydown yards would be developed adjacent to individual marine research facilities on the middle terrace. Compared to the proposed project, about the same amount of warehouse space and almost 50,000 more square feet in laydown space would be developed.

- **Alternate Shared Warehouse and Laydown Facility Site Alternative.** The 37,500 square feet of warehouse space and the 70,000-square-foot laydown yard would not be developed on the upper terrace, but would instead be located at the middle terrace site proposed in the CLRDP for development of the SORACC. Another site would be identified for the SORACC. Some project-proposed parking areas and research facilities would be reconfigured, and open space in the middle terrace would be reduced.

- **No Project Alternative.** No shared warehouse and laydown facility would be developed on the Marine Science Campus and the upper terrace site would remain undeveloped in the near term. The entities that require warehouse/laydown facilities would provide individual facilities on campus or lease already-developed facilities in the City of Santa Cruz. Since the development of individual facilities is already considered (see Individual Laydown Yards Alternative above), the No Project Alternative is defined as the use of existing space at undetermined off-site locations for warehouse and laydown facility functions.

The No Project Alternative is marginally the environmentally superior alternative but would not meet any of the project objectives. Among the other alternatives, the proposed project is considered the environmentally superior alternative.

42 APARTMENT/TOWNHOUSE UNITS

The EIR evaluates the following three alternatives to the proposed 42 Apartment/Townhouse Units project:

- **Reduced Project Alternative.** A total of 21 housing units would be built at the same middle terrace location proposed by the project, in a single building structure totaling about 22,000 square feet. Housing would be provided only for essential staff and a limited

number of visitors. Housing for most staff, for most visiting and short-term research scientists, and for students would have to be found elsewhere on the Main Campus or in Santa Cruz or other communities.

- **Alternate On-Site Location Alternative.** The proposed 42 housing units would be developed on the upper terrace in a similar configuration as proposed by the project, with the same square footage and height and the same population. The site plan for the Shared Campus Warehouse and Laydown Facility would be revised in order to accommodate additional future housing included on the CLRDP Prototype Site Plan.

- **No Project Alternative.** The proposed 42 apartments and townhouses would not be constructed and the proposed housing site would remain undeveloped. In the near term, no housing would be provided at the Marine Science Campus.

The proposed project is considered the environmentally superior alternative.

SEA OTTER RESEARCH AND CONSERVATION CENTER

The EIR evaluates the following four alternatives to the proposed Sea Otter Research and Conservation Center (SORACC):

- **Reduced SORACC Project Alternative.** The SORACC would be constructed with 6,000 to 7,000 square feet of building space and approximately 15,000 to 20,000 square feet of outside space, to accommodate only the existing research program of the Monterey Bay Aquarium.

- **Alternate Location Alternative.** The proposed 10,000-square-foot SORACC building and the associated 40,000 square feet of outdoor research area would be situated on the middle terrace on the east side of McAllister Way across from CDFG Marine Wildlife Center. The alternative facility would displace other future Marine Research and Education facilities programmed under the proposed CLRDP.

- **Larger SORACC Project Alternative.** Building area would be expanded from the project-proposed 10,000 square feet to 21,000 square feet, and outdoor research area would be reduced from 40,000 square feet to 35,000 square feet. The increased building area would provide more space for administrative offices and sea otter critical-care research and support uses consistent with the needs of the Monterey Bay Aquarium.

- **No Project Alternative.** The proposed SORACC would not be built and the SORACC site would remain in its current state.

The No Project Alternative is the environmentally superior alternative but would not meet any of the project objectives. Among the other alternatives, the proposed project is the environmentally superior alternative.

UNITED STATES GEOLOGICAL SURVEY WESTERN COASTAL AND MARINE GEOLOGY FACILITY

The EIR evaluates the following four alternatives to the proposed United States Geological Survey (USGS) Western Coastal and Marine Geology Facility:

- **Reduced USGS Project Alternative.** An approximately 58,000-square-foot facility containing only laboratory and non-laboratory research facilities would be developed on the proposed site. The USGS administrative, shop, and support space included in the proposed project would be housed either at leased facilities in the Santa Cruz area or at facilities at the USGS compound in Menlo Park.

- **Modified Site Plan Alternative.** The USGS Phase I facility would contain 78,500 square feet as proposed by the project, but the facility would be developed as a single three-story building with a smaller footprint than the proposed project. A portion of the proposed site would remain as open space.

- **Larger USGS Project Alternative.** The entire USGS development program (approximately 203,473 square feet) originally envisioned for the campus would be built. This alternative is considered for its potential to result in similar effects while potentially meeting project objectives to a greater degree than the proposed project.

- **No USGS Project Alternative.** The USGS Phase I facility would not be constructed and the site would remain undeveloped.

The No Project Alternative is the environmentally superior alternative but would not meet any of the project objectives. Among the other alternatives, the proposed project is the environmentally superior alternative.

CENTER FOR OCEAN HEALTH PHASE II

The EIR evaluates the following two alternatives to the proposed Center for Ocean Health (COH) Phase II:

- **Alternate COH Phase II Site Alternative.** The proposed expansion would be located on a site to the east of the existing facility, across McAllister Way from the project-proposed site and more distant from the Younger Lagoon Reserve.

- **No COH Phase II Project Alternative.** The COH Phase II project would not be constructed, COH Phase I would continue to operate within the limits of space and program deficiencies, and the Phase II site would remain undeveloped, at least in the near term. The existing overlook would not be upgraded, and two new overlooks would not be built.

The No Project Alternative is the environmentally superior alternative but would not meet any of the project objectives. Among the other alternatives, the proposed project is the environmentally superior alternative.

E. SUMMARY TABLE

Table 2-1 summarizes all project-related impacts identified during the preparation of this EIR; mitigation measures for those impacts are also described.

TABLE 2-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
A. SIGNIFICANT UNAVOIDABLE IMPACTS		
4.15 Transportation/Traffic		
Impact 4.15-1: The addition of traffic from the short-term development program to the Mission Street / Bay Street intersection would increase the existing volume by 3.1 percent (i.e., more than the 3-percent threshold) at this signalized intersection, which is projected to operate at LOS E during the PM peak hour. The 3-percent threshold would be exceeded at this intersection when the project generates 143 new PM peak hour trips. This would be a significant impact.	**General Mitigation Measure 4.15-1:** The University shall contribute its fair share (see definition of fair share on page 4.15-33) toward the cost of improvements to the intersection of Mission and Bay Street which would include re-striping the southbound Bay Street approach (which currently includes a left-turn and shared left-turn/through/right lane) to provide a separate right-turn lane, a shared through-left lane, and a left-turn lane. With this improvement, intersection operations would improve to LOS D with 37.7 second of delay in the peak hour.	SU*
Impact 4.15-3: The addition of traffic from the short- and long-term development program to the Mission Street / Bay Street intersection would increase the existing volume by 7.3 percent (i.e., more than the 3 percent threshold) at this signalized intersection, which is projected to operate at LOS E during the PM peak hour under Existing Plus Short- and Long-Term Development Conditions. The 3 percent threshold would be exceeded at this intersection when the project generates 143 new PM peak hour trips. This would be a significant impact.	**General Mitigation Measure 4.15-3:** Implement General Mitigation Measure 4.15-1.	SU*
Impact 4.15-4: The addition of traffic from the short- and long-term development program to the Mission Street / Chestnut Street intersection would increase the existing volume by 3.8 percent (i.e., more than the 3 percent threshold) at this signalized intersection, which is projected to operate at LOS F under Existing Plus Short- and Long-Term Development Conditions. The 3 percent threshold would be exceeded at this intersection when the project generates 272 new PM peak hour trips. This would be a significant impact.	**General Mitigation Measure 4.15-4:** The University shall contribute its fair share (see page 4.15-33 for definition of fair share) toward the cost of improvements to the Mission Street/Chestnut Street intersection, which would involve the following modifications: (1) convert the southbound dual right-turn lanes on Mission Street to a single-lane "free" right-turn lane and widen of the west leg of the intersection to accommodate a new 500-foot-long, third lane for merging; or (2) install a triple southbound right-turn lane, which would also require the new merge lane. In both cases, the modifications would require major reconstruction of the intersection, and possibly right-of-way acquisition and building modification/relocation.	SU*

* This impact remains significant and unavoidable because the mitigation may be infeasible and/or the University cannot guarantee its implementation (see Section 4.15 for further discussion).

SU = Significant and Unavoidable LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.15 Transportation/Traffic (cont.)		
Impact 4.15-5: The entire development program under the CLRDP would cause total traffic volume to increase by between 5.0 and 5.9 percent (i.e., more than the 3-percent threshold) at the signalized Mission Street/Bay Street intersection, which is projected to operate at LOS E and F during the AM and PM peak hours, respectively, under 2020 Baseline Plus Project Conditions. This would be a significant impact.	**General Mitigation Measure 4.15-5:** Implement General Mitigation Measure 4.15-1.	SU*
Impact 4.15-6: The proposed CLRDP in conjunction with other regional development would cause the AM and PM peak hour traffic to increase significantly at six study intersections, which would reduce the levels of service to unacceptable levels, a significant cumulative impact. This impact would occur both in the short term (2010) and in the long term (2020). The project's contribution to this impact at five of the six affected intersections would be cumulatively considerable.	**General Mitigation Measure 4.15-6:** Implement General Mitigation Measures 4.15-1 and 4.15-4. In addition, the University shall contribute its fair share (as defined on page 4.15-33) toward the cost of improvements to the intersections at High Street/Western Drive, Empire Grade/Heller Drive, and State Route 1/River Street (SR 9). Mitigation measures include traffic signals at the High Street/Western Drive and Empire Grade/Heller Drive intersections. Potential improvements for the State Route 1/River Street (SR 9) intersection will be identified by the City of Santa Cruz.	SU*
4.16 Utilities, Service Systems, and Energy		
Impact 4.16-1: The CLRDP, in conjunction with other existing development and probable future growth in the service territory of the SCWD, would result in a demand for potable water that would require development of new water supply sources, and the development of these sources could result in significant adverse impacts.	**General Mitigation Measure 4.16-1a:** All toilets, urinals, showers, and washing machines installed as part of this project shall be specified as low-flush and low-flow in order to reduce onsite water consumption. The University shall install low-flow toilets and urinals that are 1.6 gallon/flush or less and low-flow showers that are 2 gallons per minute (gpm) or less in new development. Further, in all new residential uses washing machines must be certified by the Consortium on Energy Efficiency (CEE) to be water- and energy-efficient (such as those with the Energy Star® label).	SU

* This impact remains significant and unavoidable because the mitigation may be infeasible and/or the University cannot guarantee its implementation (see Section 4.15 for further discussion).

SU = Significant and Unavoidable LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.16 Utilities, Service Systems, and Energy (cont.)		
Impact 4.16-1: (cont.)	**General Mitigation Measure 4.16-1b:** If and when the City adopts policies requiring all projects (or all similar institutional or commercial projects) within the water system to offset new water demand or any other water demand reduction policies, the University will consider voluntary compliance with the policy, with appropriate credit being given to account for UCSC's previous water conservation activities (in excess of that accomplished by the similar institutional and/or commercial entities covered by the City policy). **General Mitigation Measure 4.16-1c:** For projects proposed by non-UC entities on the campus, non-UC entities shall be required, through contracts and agreements, to implement General Mitigation Measure 4.16-1a to minimize water usage. **General Mitigation Measure 4.16-1d:** The City can and should identify and develop new water supplies to reliably accommodate increases in water supply due to UCSC Marine Science Campus CLRDP-related growth and other background growth during normal and drought conditions.	

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
B. SIGNIFICANT BUT MITIGABLE IMPACTS		
4.3 Air Quality		
Impact 4.3-1: Construction activities associated with development under the CLRDP could generate substantial amounts of fugitive dust, which would result in potential health and nuisance impacts in the immediate project vicinity. This would be a temporary significant impact.	**Project Specific Mitigation Measure 4.3-1:** The University shall require construction contractors to implement a dust abatement program to reduce the contribution of project construction to local respirable particulate matter concentrations. Elements of this program shall include the following as appropriate for each project: • Water all active construction areas at least twice daily. Frequency shall be based on the type of operation, soil, and wind exposure. • Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). • Pave, apply water two times daily, or apply non-toxic soil stabilizers to all unpaved access roads, parking areas, and construction staging areas. • Sweep daily with water sweepers any paved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets. • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas or previously graded areas left inactive for ten days or more. • Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.3 Air Quality (cont.)		
Impact 4.3-1: (cont.)	• Limit traffic speeds on unpaved roads to 15 miles per hour. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways. • Replant vegetation in disturbed areas as quickly as possible. • In the event that grading and excavation at two or more large project sites is proposed to occur concurrently (large sites defined as involving more than 2 acres), install wheel washers at the entrance of the construction sites. • Phase construction projects in such a manner that minimizes the area of surface disturbance (e.g., grading, excavation) and the number of vehicle trips on unpaved surfaces.	
4.5 Cultural Resources		
Impact 4.5-1: Construction activities associated with development in the upper terrace, middle terrace, and lower terrace development areas could disturb previously undiscovered human burial sites of Native American groups, a potentially significant impact.	**Project-Specific Mitigation Measure 4.5-1:** If human remains are discovered during the construction of a development project under the CLRDP, the University and/or its employees shall notify the Santa Cruz County Coroner's Office immediately. Upon determination by the County Coroner that the remains are Native American, the Coroner shall contact the California Native American Heritage Commission, pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and the County Coordinator of Indian Affairs and appropriate Native American consultation shall be conducted, as outlined by PRC 5097.98. Implementation Measure 3.9.1, Construction Monitoring, as identified in the CLRDP, shall also apply. UCSC will be responsible for implementing this mitigation measure.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.7 Hazards and Hazardous Materials		
Impact 4.7-1: Implementation of the CLRDP could increase use of hazardous materials by non-UC entities on campus, which could create hazards to the public or the environment under routine and/or non-routine conditions. This represents a potentially significant impact.	**Project-Specific Mitigation Measure 4.7-1:** For projects proposed by non-UC entities on campus that involve laboratories, non-UC entities shall be required, through contracts and agreements, to implement programs and controls that provide the same level of protection required of campus laboratories and departments. • Non-UC entities shall provide to campus EH&S copies of all required environmental reports to local, state, and federal environmental and safety regulators. • Non-UC entities shall submit the qualifications of designated laboratory directors to UC Santa Cruz EH&S Office prior to commencing laboratory operations. Such documentation shall be in the form of educational and professional qualifications/experience. • Non-UC entities shall submit a copy of applicable regulatory environmental documents prior to commencing on-site research. Applicable documents may include a Hazardous Materials Business Plan, an EPA Hazardous Waste Generator ID Number, a Wastewater Discharge Permit, and air permits regulating fume hood exhaust or emissions from other equipment. Copies of revisions or updates to regulatory documents shall be submitted to EH&S in a timely manner. • Non-UC entities shall submit certification of compliance with NIH biosafety principles to the UC Santa Cruz EH&S Office prior to commencing on-site research or pilot plant manufacturing activities. Non-UC entities shall submit copies of completed medical waste management plans, biosafety management plans, inventories of infectious or genetically modified agents, applicable permits and updates.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.7 Hazards and Hazardous Materials (cont.)		
Impact 4.7-1: (cont.)	• Non-UC entities shall submit proof of license with Department of Health Services Radiological Health Branch prior to commencing on-site research or pilot plant manufacturing activities involving the use of ionizing radiation or radiation producing machines, or alternatively request to be permitted under UCSC's Radioactive Material License. In either case, Non-UC entities shall submit copies of proposed radioactive material or radiation use protocols to the UCSC Radiation Safety Committee for their review and approval before any radioisotopes or radiation producing machines are brought on site. • If hazardous material quantities are proposed to be increased above applicable threshold quantities as defined in California Code of Regulations, Title 19, Division 2, Chapter 4.5, non-UC entities shall implement a Risk Management Plan/California Accidental Release Prevention Plan (RMP/Cal-ARP), which discusses the handling and storage of acutely hazardous materials on site. The RMP/Cal-ARP shall be approved by the CUPA and filed with the UC Santa Cruz EH&S Office prior to commencing proposed operations. • Non-UC entities shall submit certification to the UC Santa Cruz EH&S to verify that applicable requirements for handling and disposal of hazardous wastes have been met prior to commencing on-site research or pilot plant manufacturing activities. Non-UC entities shall submit copies of management plans for handling and disposal of hazardous wastes, and written verification of contracts with licensed waste disposal firms.	

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.11 Noise		
Impact 4.11-1: Development of the UCSC Marine Science Campus under the CDLRP could locate noise sources and sensitive receptors in close proximity on the campus, creating the potential to expose persons to, or generate, noise levels in excess of noise/land use compatibility standards. This would be a potentially significant impact.	**General Mitigation Measure 4.11-1:** Prior to developing marine research and education facilities on the middle terrace east of McAllister Way, or additional support housing on the upper terrace, the University shall conduct a project-specific noise analysis. Project-level mitigation measures shall be incorporated into the design of these facilities to reduce potentially significant noise impacts, if necessary.	LS
Impact 4.11-2: Operation of HVAC equipment that is part of the USGS Western Coastal and Marine Geology Facility, if not properly designed, could generate noise levels that exceed the normally acceptable OPR standard at the 42 Apartment/Townhouse Units proposed on the middle terrace.	**Project-Specific Mitigation Measure 4.11-2:** As part of the design of USGS Western Coastal and Marine Geology Facility, the University shall implement noise control measures in the design of the HVAC systems to reduce the resulting noise levels to 65 DNL or lower at the 42 Apartment/Townhouse units. Control measures for HVAC noise could include, but would not be limited to, the following: use of quiet HVAC models, use of sound barriers around the equipment, and/or orientation of HVAC systems away from sensitive receptors.	LS
Impact 4.11-3: Sound levels generated by delivery activity at the Shared Campus Warehouse and Laydown Facility could potentially affect residents of future campus housing planned for the upper terrace. This could be a potentially significant impact if the residences are located within 75 feet of the Shared Campus Warehouse and Laydown Facility, where they would be exposed to sound levels above the OPR "normally acceptable" noise standard of 65 dBA for multi-family residences.	**Project-Specific Mitigation Measure 4.11-3:** As part of the design of the Shared Campus Warehouse and Laydown Facility, the University shall implement noise control measures to reduce the resulting noise levels to 65 DNL or lower at future campus housing planned for the upper terrace development area. Control measures incorporated into the design and location of the Shared Campus Warehouse and Laydown Facility may include but not be limited to the following: • The University shall orient the warehouse so as to shield noise generated by activity at the Shared Campus Warehouse and Laydown Facility, from potential sites of future campus housing on the upper terrace development area. • The University shall incorporate an easy turn-around for trucks such that they can avoid maneuvering in reverse and thus minimize back-up alarm noise.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.11 Noise		
Impact 4.11-3: (cont.)	• Once the future campus housing planned for the upper terrace becomes inhabited, the University shall limit noisy outdoor activities (such as those involving the use of heavy equipment) at the warehouse and laydown area from 10:00 PM to 6:00 AM all days of the week. • The University shall construct a wall around the laydown area, consistent with CLRDP guidelines, to attenuate noise levels at future campus housing planned for the upper terrace development area. The wall shall be completed before the future campus housing planned for the upper terrace is occupied.	
Impact 4.11-4: Noise generated by construction activity under the CLRDP may substantially increase noise levels at nearby sensitive receptors, resulting in temporary and localized noise impacts. This would be a potentially significant impact.	**General Mitigation Measure 4.11-4:** Prior to the initiation of construction, the University shall approve a construction noise mitigation program including but not limited to the following: • The University shall require that construction activities be limited to a schedule that minimizes disruption to noise-sensitive uses on the project site and in the vicinity through implementation of the following: – Construction activities during daytime and evening hours (7:00 AM to 10:00 PM) shall not occur within 150 feet of sensitive receptors, when feasible. Construction activities within 500 feet of sensitive receptors activities shall not occur during nighttime hours (10:00 PM to 7:00 AM). – Whenever possible, academic and administrative staff, as well as residents who will be subject to construction noise, shall be informed one week before the start of each construction project. – Loud construction activity as described above within 150 feet of an academic or residential use shall, to the extent feasible, be scheduled during holidays, spring break, or summer break.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.11 Noise		
Impact 4.11-4: (cont.)	• To reduce noise impacts from construction, the University shall require that construction contractors muffle or otherwise control noise from construction equipment through implementation of the measures below. The effectiveness of these measures is quantified in Table 4.11-4 above. – Internal combustion engines used for any purpose at the construction sites shall be equipped with a muffler of a type recommended by the manufacturer. – Equipment used for construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible); – Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. Such mufflers can lower noise levels from the exhaust as much as 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures such as using drilling equipment rather than impact equipment shall be implemented whenever feasible. – Stationary noise sources shall be located as far from sensitive receptors as feasible. If they must be located near sensitive receptors, they shall be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.	

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.11 Noise		
Impact 4.11-4: (cont.)	• The University shall require that a temporary wooden wall be placed around construction activity areas that are within 150 feet of sensitive receptors to provide additional noise attenuation, where feasible. The wall should impede the direct line of site between the noise sources and sensitive receptors. • The University shall require that construction-related material haul trips access the campus via Natural Bridges Drive and Delaware Avenue in order to minimize noise exposure to residential land uses. • The University shall identify potential noise impacts related to construction of long-term projects proposed under the CLRDP, and develop project-specific noise mitigation measures as may be necessary. The University shall take into account the location of the five campus facilities that will have been developed in the near-term as well as off-campus developments nearby. The analysis shall also take into account the sequence in which long-term projects are to be constructed and shall identify appropriate mitigation, as may be required. These future facilities may be sensitive receptors or may act as barriers to noise approaching other sensitive receptors.	
Impact 4.11-5: Noise generated by nighttime construction of the Shared Campus Warehouse and Laydown Facility could potentially exceed the 70 dBA Leq threshold at nearby residents along Shaffer Road and north of the railroad tracks. This is a potentially significant impact.	**Project-Specific Mitigation Measure 4.11-5:** The University shall require that construction contractors limit construction activity for the Shared Campus Warehouse and Laydown Facility to the hours between 7:00 AM and 10:00 PM all days of the week.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.11 Noise		
Impact 4.11-6: Noise generated by the construction of the USGS Western Coastal and Marine Geology facility would exceed the 80 dBA Leq threshold at the 42 Apartment/ Townhouse Units that are also proposed for the near-term development on the middle terrace. This potentially significant impact would only occur if the 42 Apartment/ Townhouse Units are developed and occupied before construction of the USGS facility.	**Project-Specific Mitigation Measure 4.11-6:** If the 42 Apartment/Townhouse Units are developed and occupied before construction of the USGS Western Coastal and Marine Geology facility, the University shall require that construction contractors implement the following measures: • Contractors shall notify all residents of the 42 Apartment/Townhouse Units that will be subject to construction noise from the development of the USGS facility one week before the start of construction activity. • To the extent feasible, loud construction activity (i.e., jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) within 150 feet of the 42 Apartment/Townhouse Units shall occur during daytime hours (7:00 AM to 5:00 PM). • To reduce noise impacts from construction, contractors shall muffle or otherwise control noise from construction equipment through implementation of the measures below. – Internal combustion engines used for any purpose at the construction sites shall be equipped with a muffler of a type recommended by the manufacturer. – Equipment used for construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible);	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.11 Noise		
Impact 4.11-6: (cont.)	– Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. Such mufflers can lower noise levels from the exhaust as much as 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures such as using drilling equipment rather than impact equipment shall be implemented whenever feasible. – Stationary noise sources shall be located as far from sensitive receptors as feasible. If they must be located near sensitive receptors, they shall be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds. • The University shall require contractors to install a temporary wooden wall around construction activity areas that are within 150 feet of inhabited residences to provide additional noise attenuation, where feasible. The wall should impede the direct line of site between the noise sources and first floor sensitive receptors.	

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
C. LESS THAN SIGNIFICANT IMPACTS FOR WHICH MITIGATION MEASURES ARE PROPOSED		
4.2 Agricultural Resources		
Impact 4.2-1: With the inclusion of CLRDP policies and implementation measures, development under the CLRDP would not result in substantial pressures that could lead to the conversion of adjacent Farmland to other uses. The impact is therefore considered less than significant.	**General Mitigation Measure 4.2-1:** • UCSC will install a four-foot-high landscaped fence along the Younger Ranch property line that will extend from the bend in the existing access road, northward along the property line. The fence will be sited and constructed to have a uniform gap of 16 inches between a smooth wire defining the bottom of the fence and the ground. This will assure that wildlife passage can continue to occur through the fence. • UCSC will install tree and shrub landscaping approximately 25 feet inside the fence (to minimize shading effects on Younger Ranch crops), consisting of an indigenous, drought-resistant mosaic of mid-level shrubs and taller trees to help dissipate dust generation from the west. Tree and shrub choices will be made in conjunction with the landscape architect experienced in the use of native plants and vegetation. Trees and shrubs will be selected for non-invasive character. Native blackberries are recommended, as they would serve as an access barrier. • UCSC will install the fence and landscaping prior to groundbreaking of any CLRDP project components.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.4 Biological Resources		
Impact 4.4-1: Implementation of the CLRDP would not affect CLRF breeding habitat and would avoid impacts on dispersing CRLF by setting development back from off-site areas where the species has previously been observed. The impact on the species would be considered less than significant.	**Project-Specific Mitigation Measure 4.4-1:** For all projects proposed in the upper terrace under the CLRDP, the University will implement the following: • A preconstruction survey for CRLF will be conducted of all areas proposed for grading and construction by a qualified biologist, approved by the USFWS. If CRLF are observed, grading activities shall be postponed and USFWS shall be consulted to determine appropriate actions to avoid impact. Consultation with the USFWS will result in either a determination of the need to obtain a permit or in the identification of measures to avoid take of the individual(s). • The biological monitor shall also conduct meetings with the contractor(s) and other key construction personnel to describe the importance of the species, the need to restrict work to designated areas, and to discuss procedures for avoiding harm or harassment of wildlife encountered during construction.	LS
Impact 4.4-2: Development on, and restoration of, annual grassland and coastal scrub on the middle and upper terrace development zones could cause a lost of nesting raptors that may be present, primarily through the direct effects of ground disturbance and the indirect effects of increased human activity and noise. Because raptor nesting records are limited for the site, and due to abundant alternate and protected habitat in the region, the probability of this impact is low and the degree of impact is considered less than significant.	**Project Specific Mitigation Measure 4.4-2:** UCSC shall ensure that construction activities avoid disturbing nests of raptors (and other special-status birds). If ground-disturbing activities are scheduled to occur during the breeding season (February 1 through August 31), the following measures are required to avoid potential adverse effects on nesting special-status raptors and other birds: • A qualified wildlife biologist will conduct preconstruction surveys of all potential nesting habitat. For burrowing owls, such surveys will follow the most recent CDFG *Burrowing Owl Survey Protocol and Mitigation Guidelines*.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.4 Biological Resources (cont.)		
Impact 4.4-2: (cont.)	• If active raptor nests are found during preconstruction surveys, a no-disturbance buffer acceptable in size to CDFG will be created around active raptor nests and nests of any other special-status birds during the breeding season, and maintained until it is determined that all young have fledged. Raptor or other bird nests initiated during construction are presumed to be unaffected, and no buffer is necessary. However, the "take" of any individuals will be prohibited. • If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction/restoration period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by special-status birds or that are located outside the no-disturbance buffer for active nests may be removed.	
Impact 4.4-3: Construction of expanded seawater system facilities could cause a direct loss of nesting black swift not now known to nest, but with the potential to do so in any given year, an adverse but less than significant impact.	**Project Specific Mitigation Measure 4.4-3:** UCSC will ensure that construction/operation activities avoid disturbing nests of black swift. If construction activities are scheduled to occur during the breeding season (June 1 through September 30), the following measures will be implemented to avoid potential adverse effects: • UCSC will conduct pre-construction surveys to determine presence of active black swift nests within the project area. Published literature suggests that the optimal survey time is the final two hours of daylight, when chick provisioning rates may increase and adults are returning to the colony to roost. Targeting surveys for the last hours of daylight should also maximize the probability of counting breeding as opposed to nonresident foraging individuals. • If active nests are found during preconstruction surveys, UCSC will delay construction until after fledging occurs. If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied, no further mitigation is required.	LS

SU = Significant and Unavoidable
LS = Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Significance After Mitigation
4.15 Transportation / Traffic		
Impact 4.15-2: The addition of project-generated pedestrians to Delaware Avenue could result in an increase in hazards by increasing the potential for pedestrian conflicts with vehicles and bicyclists. This impact would occur on the 900-foot portion of the north side of Delaware Avenue when there is no sidewalk. Due to low level of pedestrian activity, the impact is considered less than significant.	**General Mitigation Measure 4.15-2:** UCSC will contribute its fair-share (see page 4.15-33 for definition of fair share) towards construction of a separate pedestrian path on the north side of Delaware Avenue from Shaffer Road to the existing sidewalk west of Natural Bridges Drive. This improvement could be as simple as installing a raised asphalt curb approximately five to six feet away from the existing curb or edge of pavement with openings to maintain existing drainage. Design and construction of this improvement to close the existing gap in pedestrian facilities in this area can and should completed by the City of Santa Cruz since Delaware Avenue is under its jurisdiction.	LS

SU = Significant and Unavoidable
LS = Less than Significant