UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

South Coast Research and Extension Center (REC) Engagement Center Project

PUBLIC REVIEW DRAFT
INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

JUNE 2024

Prepared for:

UNIVERSITY OF CALIFORNIA, DIVISION OF AGRICULTURE AND NATURAL RESOURCES
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PUBLIC REVIEW DRAFT INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION

South Coast Research and Extension Center (REC) Engagement Center Project

Lead Agency:
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
1111 Franklin Street
Oakland, CA 94607

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June 2024

JN 198494

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The Notice of Intent to Adopt (NOI), Draft IS/MND, and Appendices are available for download at the UC ANR's official website.

https://environmentalplanning.ucdavis.edu/uc-anr-south-coast-rec-engagement-center-project

In addition to the UC ANR's official website, the NOI, Draft IS/MND, and Appendices are also available for review at the Office of Planning and Research's (OPR) CEQAnet online database.

https://ceqanet.opr.ca.gov/

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1.0 INTRODUCTION

The South Coast Research and Extension Center (REC) Engagement Center Project (herein referenced as the "project") is situated in the southeastern corner of the existing 193-acre University of California (University), Division of Agriculture and Natural Resources (UC ANR) South Coast Research and Extension Center (South Coast REC), located at 7601 Irvine Boulevard, in the City of Irvine (City), California. The project proposes the construction of a new Engagement Center at the southeast corner of the South Coast REC to support existing programming. The construction of a new Engagement Center would also include internal roadway improvements to facilitate ingress/egress to the proposed center, as well as a new entrance to the site at Modjeska and Still Night; refer to Section 2.0, *Project Description*. In addition to these improvements, the project would protect and enhance the existing agricultural research space. Following a preliminary review of the project, UC ANR has determined that the project is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration addresses the direct, indirect, and cumulative environmental effects of the project, as proposed.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with CEQA (Public Resources Code Section 21000-21189) and pursuant to California Code of Regulations Section 15063, the University of California (University), acting in the capacity of Lead Agency under CEQA, is required to undertake the preparation of an Initial Study to determine if the project would have a significant environmental impact. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the project would not have a significant effect on the environment and shall prepare a Negative Declaration for that project. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Public Resources Code Section 21080(c)).

The environmental documentation, which is ultimately adopted by the University in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and/or other discretionary approvals would be required.

The environmental documentation is subject to a public review period. During this review, public agency comments on the document relative to environmental issues should be addressed to the University. Following review of any comments received, the University will consider these comments as a part of the project's environmental review and include them with the Initial Study documentation for consideration by the University.

1.2 PURPOSE OF INITIAL STUDY

Section 15063(d) of the CEQA Guidelines identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project;
- Identification of the environmental setting;
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries. The brief explanation may be either through a narrative or a reference to another information source such as

an attached map, photographs, or an earlier EIR or negative declaration. A reference to another document should include, where appropriate, a citation to the page or pages where the information is found.

- Discussion of ways to mitigate significant effects identified, if any;
- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls; and
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.

Section 15071 of the CEQA Guidelines identifies the required contents for a negative declaration/mitigated negative declaration, which include the following:

a) A brief description of the project, including a commonly used name for the project, if any;
b) The location of the project, preferably shown on a map, and the name of the project proponent;
c) A proposed finding that the project will not have a significant effect on the environment;
d) An attached copy of the Initial Study documenting reasons to support the finding; and
e) Mitigation measures, if any, included in the project to avoid potentially significant effects.

1.3 AGENCY COORDINATION

As soon as a Lead Agency (in this case, the University) has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, to obtain the recommendations of those agencies as to whether an Environmental Impact Report or Negative Declaration should be prepared for the project. Following receipt of any written comments from those agencies, the Lead Agency considers any recommendations of those agencies in the formulation of the preliminary findings. Following completion of this Initial Study, the Lead Agency initiates formal consultation with these and other governmental agencies as required under CEQA and its implementing guidelines.

1.4 INCORPORATION BY REFERENCE

The *University of California – Policy on Sustainable Practices* was utilized during preparation of this Initial Study and is incorporated into this document by reference. The document is available for review at the UC ANR Office of Environmental Planning, located at 2801 Second Street, Davis, CA 95618.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The University of California (University), Division of Agriculture and Natural Resources (UC ANR) South Coast Research and Extension Center (South Coast REC) is a 193-acre facility located at 7601 Irvine Boulevard, within the eastern portion of the City of Irvine (City), Orange County, California; refer to Exhibit 2-1, *Regional Vicinity*. Regionally, the cities of Costa Mesa and Newport Beach are to the west, Tustin and Santa Ana are located to the north, Lake Forest is to the east, and Laguna Hills and Laguna Woods are to the south. The proposed South Coast REC Engagement Center Project (project) proposes improvements within the limits of the existing facility. Areas of proposed improvements are referred to as the "project site". Refer to Exhibit 2-2, *Site Vicinity*. The project site is primarily located at the southeast corner of the South Coast REC (along Modjeska). Regional access to the project site is provided via Interstate 5 (I-5), State Route 241 (SR-241), and State Route 133 (SR-133). Existing local access to the South Coast REC is provided via Irvine Boulevard.

2.2 ENVIRONMENTAL SETTING

UC ANR REC HISTORY

UC ANR's REC System consists of nine RECs located throughout California's various crop production and climatic zones. The REC System is used by University researchers and educators to advance the knowledge and understanding of agricultural and natural resource systems. The REC system is an essential component of the University's continuing commitment to extending the benefits of research to California's citizens. The REC System has three main purposes:

- To provide University researchers with the opportunity to conduct research in climatic zones and in commodities best suited to their individual research discipline or responsibility.
- To provide University personnel the opportunity to research solutions for important regional problems.
- To extend the results of research to regional clientele and industries so they may put the new information into day-to-day application.

Each of the nine RECs offer unique opportunities for research and education and present a wide variety of climate types and elevation levels that parallel the many climate zones and elevations found in California. Some RECs are adapted and equipped to grow tree fruit and vine crops, while other RECs specialize in field and vegetable crops. Still other RECs specialize in livestock production and in natural resource conservation and management. This variety allows researchers to work within the REC system on any of the more than 250 crop commodities grown in the state.

The South Coast REC was established by the University in 1956 as a representative site for the south coastal plain-temperate climatic zone. Since its inception, the area surrounding the South Coast REC has transitioned from a rural agricultural area to an urban environment. These transitions have led to changes in research activities, with the center currently focusing on conventional agriculture, urban agriculture, healthy food systems, sustainable landscapes, and water conservation practices.

SOUTH COAST REC CURRENT OPERATIONS

Research and extension projects and programs at the South Coast REC focus on a variety of agriculture and natural resource topics, including variety development, crop and landscape pest management, irrigation management, plant disease, rootstock development, and alternative weed control methods in managed systems. Research and extension efforts are currently focused on a variety of fruits and vegetables, and considerable effort is directed at agronomic

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Regional Vicinity

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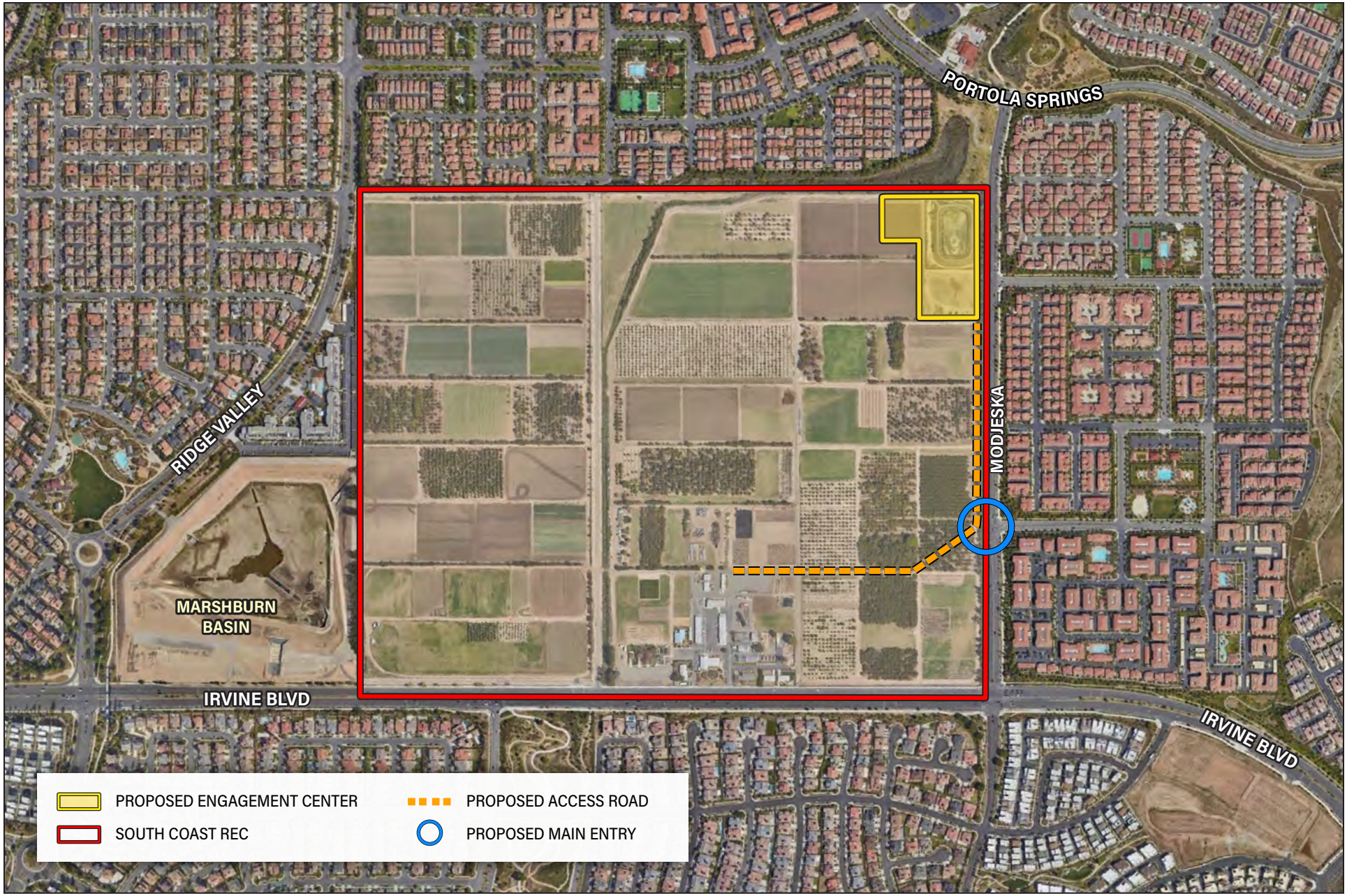
Exhibit 2-1



Source: Google Earth Pro, February 2024

SOUTH COAST RESEARCH AND EXTENSION CENTER (REC) ENGAGEMENT CENTER PROJECT
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Site Vicinity

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Exhibit 2-2

crops, turf grass and landscape shrub/tree management, and ornamental plant nursery production. In addition to being an outdoor laboratory, South Coast REC is also headquarters to the Orange County Farm Bureau and University of California Cooperative Extension (UCCE) Orange County. UCCE Orange County programs include, but are not limited to, the Master Food Preservers, Master Gardeners, 4-H Youth Development, Expanded Food and Nutrition Education Program (EFNEP), and research and extension programs addressing human wildlife interactions, urban forestry, water resources, urban agriculture, organic waste management, and nutrition.

There are approximately 32 members on staff. A core staff of 15 are at the South Coast REC daily from 7:00 a.m. to 4:00 p.m., while researchers and educational staff have variable schedules, as activities take place on campus or other remote locations in the City and region when attendance is expected to exceed campus capacity. Classes are typically held between 9:00 a.m. and 2:00 p.m.; approximately twice a month the South Coast REC hosts workshops/special events that run from 6:00 p.m. to 9:00 p.m. Classes range from 10 to 30 students. The South Coast REC currently hosts approximately eight visitors per day, and approximately 257 visitors per month. In 2023, there were a total of 224 events/workshops with a cumulative total of 2,700 attendees; it should be noted that most events average 12 attendees. The largest event occurred on a weekend and included 650 attendees.

SOUTH COAST REC LAYOUT

Exhibit 2-2 depicts the existing South Coast REC, which primarily consists of agricultural research fields, as well as roughly 16 buildings, support structures, and event spaces. Currently, all administrative, research, and engagement activities are located along Irvine Boulevard. Existing South Coast REC facilities include:

- Six greenhouses;
- A lathhouse;
- Three demonstration landscapes for use by urban environment and water use research;
- Germplasms;
- A California Irrigation Management Information System station maintained by the California Department of Water Resources and the Irvine Ranch Water District (IRWD);
- A 49-seat conference room;
- Two 40-seat outdoor demonstration landscape classrooms;
- A 20-seat covered demonstration area;
- Barn space for events up to 200 people; and
- A breezeway with a full kitchen and capacity for 75 people.

Existing vehicle access to the South Coast REC is provided from a main entrance, full access driveway along Irvine Boulevard and a secondary full access driveway, north of the main entrance, along Irvine Boulevard. Ornamental landscaping (including trees) and a chain-link fence are present around the perimeter of the South Coast REC. Existing utilities that serve the South Coast REC include domestic potable water, reclaimed water for field and landscape irrigation, sanitary sewer, electric, gas, fiber optic, and building and security lighting. There is also a drainage channel that flows from the eastern boundary of the project site, then west (parallel to Lambert Road), then north (along Irvine Boulevard), discharging to Marshburn Basin.

EXISTING PROJECT SITE

The proposed improvements include the new Engagement Center, new internal access road, and traffic signal improvements, which encompass the “project site”; refer to Exhibit 2. The project site is currently improved with an approximately 57,000 square-foot, abandoned agricultural irrigation pond. The eight acre-foot agricultural irrigation pond was constructed in the 1950’s to provide non-potable water storage for flood irrigation of South Coast REC orchards and now crops. Water was purchased from the local water district to provide temporary storage. In the early 1990’s the IRWD began to provide pressurized non-potable water for irrigation, and the agricultural irrigation pond was decommissioned. As the standing water became a public health and safety risk, the reservoir intake pipe was

decoupled from the main system in 2005, allowing for any standing water to drain into surrounding fields. There are currently agricultural fields and private dirt pathways where the internal access road is proposed. It is acknowledged that the existing intersection of Modjeska and Still Night is constructed as a signalized three-leg intersection and does not provide direct access to the project site currently. Nonetheless, it is acknowledged that this intersection was designed to accommodate a future fourth leg into the project site.

SURROUNDING USES

Surrounding land uses in proximity to the project site include agricultural, park, and residential uses; refer to Exhibit 2-2. The surrounding land uses are described in further detail as follows:

- *North:* Existing South Coast REC research fields are present to the north of the project site. Lambert Road is situated to the north of the project site, trending through South Coast REC in an east/west direction. Further north, adjoining the South Coast REC, is the Marshburn Basin (owned and operated by Orange County Flood Control (OCFC), Ridge Valley roadway right-of-way, and residential uses (Solaira at Pavilion Park apartment complex).

- *East:* East of the project site is an earthen bottom channel that was historically part of the Round Canyon drainage basin. This channel has been revegetated as part of mitigation requirements for the Portola Springs community. Further east is the Portola Springs residential neighborhood, Discovery Park at Portola Springs (a local neighborhood-serving park), Orange County Fire Authority Station 27 (Portola Springs), and Portola Springs Elementary School.

- *South:* The project site is bound by a landscaped parcel (owned by the Portola Springs Homeowners Association), as well as Modjeska roadway right-of-way to the south. Further south of Modjeska is the Portola Springs residential neighborhood.

- *West*: Existing South Coast REC research fields and classroom/research ancillary structures are present to the west of the project site. Further west is Irvine Boulevard right-of-way, which bounds the South Coast REC to the west. Further west of Irvine Boulevard, is the Great Park residential neighborhood (Cadence Park).

2.3 PROJECT CHARACTERISTICS

The proposed project would construct a new Engagement Center at the southeast corner of the South Coast REC to support existing programming. The construction of a new Engagement Center would also include a new access point at Modjeska and Still Night and internal roadway improvements to facilitate ingress/egress to the proposed development and through the South Coast REC; refer to Exhibit 2-3a, *Conceptual Site Plan*, and Exhibit 2-3b, *Conceptual Site Plan – Proposed Engagement Center*. In addition to these improvements, the project would protect and enhance the existing agricultural research space.

NEW ENGAGEMENT CENTER

The project proposes to demolish the former agricultural irrigation pond situated at the southeast corner of the South Coast REC and construct a new Engagement Center; refer to Exhibit 2-2, Exhibit 2-3a, and Exhibit 2-3b. The Engagement Center would support existing programming at the South Coast REC. Overall, the Engagement Center would include approximately 13,750 square feet of building space, including a conference center, demonstration kitchen, classrooms, audio/video (AV) technical center, and ancillary uses. The approximately 6,000 square-foot conference center would be designed with a flexible, open concept to allow for reprogramming to accommodate a range of activities and events, with capacity for up to 200 people. An approximately 7,750-square foot building adjacent to the conference center would include the other proposed indoor uses (e.g., classrooms, demonstration kitchen, and

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Conceptual Site Plan

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Exhibit 2-3a

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Conceptual Site Plan - Proposed Engagement Center

Exhibit 2-3b

roof observation deck). The demonstration kitchen would be approximately 800 square feet and would provide a space for food preparation and cooking as part of on-site engagement and extension activities. Connected to the kitchen would be approximately 5,400 square feet of classroom space, as well as the AV technical center for production and storage associated with broadcasting events and classes, restrooms, break rooms, and additional storage.

Connecting the conference center and kitchen/classroom building would be an approximately 22,000 square-foot, partially covered outdoor plaza. The design would be a flexible, hardscaped area to be used for overflow of larger events. Additionally, the Engagement Center would include a 1.25-acre outdoor space adjacent to the conference center as part of the University's Master Gardener program. This space would include a range of landscapes for the purpose of food and water education.

The proposed Engagement Center is intended to provide a space for existing programs provided by the South Coast REC, which are currently hosted elsewhere in the community and region; the project would enable these programs to relocate to the same space where research and agricultural practices take place. Programming would coincide with the same hours of operation currently held by the South Coast REC: core staff on-site from 7:00 a.m. to 4:00 p.m., classes held between 9:00 a.m. and 2:00 p.m., and twice-monthly events held from 6:00 to 9:00 p.m. It is anticipated that the proposed project would staff four additional employees and 1-2 additional researchers, and increase community attendance (students/visitors) by 10 to 20 percent over time. This equates to an increase of approximately 1 to 2 people daily, or 26 to 52 people monthly.

DESIGN AND SUSTAINABILITY

The new Engagement Center is envisioned to have modern, clean lines that support the design aesthetic of the University, while also incorporating natural cooling and low maintenance attributes. All structures would be one story in height, with either barn-style or shed roof designs and additional overhangs to increase shade. Buildings would be oriented toward the plaza for increased accessibility, connectivity, and engagement with outdoor spaces. Building facades would be neutral and soft, utilizing earth tones such as gray, brown, tan, mov, and orange, and materials (such as composite and/or metal with accents of wood); supplies would be sourced locally, durable, produce minimal pollution, require low-energy construction materials, and have low radiant heat properties. Exterior lighting would be designed to minimize glare, prevent light spillover, conserve energy, and be dark sky compliant. Where feasible, smart controls and/or bi-level occupancy controls on outdoor lighting would be incorporated.

To ensure that the Engagement Center is energy efficient and easy to maintain, the development would be designed and constructed to a minimum Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) Gold rating. The project would exceed the California Building Code (CBC) energy requirements by at least 20 percent and meet or exceed whole-building energy performance targets per Table 1 of the *University of California – Policy on Sustainable Practices*. The project would utilize ultra-low flow fixtures, automatic sensor controls, and reduced flow aerators at all new fixtures, to exceed current California Green Building Standards Code—Part 11, Title 24, California Code of Regulations (CALGreen) Water Efficiency measures by 20 percent and as required for LEED Certification. High-efficiency lighting systems would be installed into all buildings, and adaptive light layering would be utilized for task, accent, and ambient lighting to allow lighting levels to be safely reduced under multiple circumstances. Additionally, high-efficiency domestic hot water (DHW) systems would be installed in all buildings.

In accordance with CALGreen standards, the project would include solar facilities either in the form of panels mounted on the roof of the Engagement Center, as a parking shade structure, or panels that also provide shaded growing space for sensitive/high value crops.

CIRCULATION

Under existing conditions, primary pedestrian and vehicular access to the South Coast REC is provided by two ingress/egress access points along Irvine Boulevard. There is no paved access to the proposed Engagement Center

site from the existing ingress/egress access points. The existing the intersection of Modjeska and Still Night has been designed to accommodate a future fourth leg into the project site, and includes an existing left-turn pocket along westbound Modjeska, as well as signal/light poles at all four legs. As such, the project proposes a new entry at the intersection of Modjeska and Still Night. . This ingress/egress point would connect to a proposed internal access road, directing traffic to either the existing South Coast REC structures along Irvine Boulevard (to the west), or the new Engagement Center (to the east); refer to Exhibit 2-2. The portion of the proposed access road leading to the Engagement Center would be paved, while the portion leading to the existing South Coast REC structures would be gravel. The Engagement Center would be designed to accommodate future bicycle and pedestrian facilities connecting to an existing off-street bikeway to the north of Modjeska.

The primary parking lot would be situated in the western portion of the Engagement Center. The new surface parking lot would provide 50 spaces, including Americans with Disabilities Act (ADA) compliant spaces. A new bus drop-off lane would also be accommodated. This parking lot would be improved with landscaping and bioswales. Adjacent to the primary parking lot would be a secondary, overflow lot providing extra parking for larger events. This lot would be finished with either gravel or decomposed granite in order to provide additional "flex" space for REC events.

LANDSCAPING

Landscaped areas would be designed to support the research conducted on site (e.g., sustainable landscapes and water conservation). Project landscaping would include native and climate-appropriate, non-native plant species that do not require excessive watering, are low-maintenance, and have a clean and compact appearance. Existing perimeter trees present at the South Coast REC property, near the existing intersection of Modjeska and Still Night, may require removal in order to accommodate the proposed intersection improvements. However, replacement ornamental shade trees would be installed at the new Engagement Center. New landscaping would be intended to enhance comfort in walking, sitting, and gathering. Irrigation would comply with all Model Water Efficient Landscape Ordinance (MWELO) requirements to promote the conservation and efficient use of water. New landscaping would also incorporate drainage control and stormwater management via biofiltration within in-ground planters, bioswales, permeable pavers, and other low-impact design (LID) features.

Water features such as fountains, bird baths, shallow pools, and ravines would complement site landscaping. Among the landscaped areas and along landscaped pedestrian pathways, the project would provide furnishings and wayfinding that heighten visibility, clearly define crosswalks, trash/recycling receptacles, seating elements, and shade/shelter elements. All walkways and paths would have ramps and warning stripes and comply with ADA standards.

UTILITIES

Utility connections (e.g., water, sewer, electrical, telecommunications), would connect to the existing utilities present along Modjeska. Water service is provided by the Irvine Ranch Water District (IRWD) via a potable water main and recycled water main. Sewer service is provided by the IRWD via a gravity main. The project proposed to connect to water, recycled water, and sewer lines at the intersection of Walking Stick and Modjeska. Electricity would be provided by Southern California Edison; there are existing distribution lines on the southern side of Modjeska as well as on South Coast REC less than 1,000 feet from the existing agricultural irrigation pond. No natural gas would be used on site.

The project proposes to develop an underground detention basin within the Engagement Center. The exact location and design of the stormwater infrastructure will be determined following further hydrologic investigation during the project design phase. Proposed infrastructure would ensure that flow rates off site do not change from existing conditions.

2.4 PHASING/CONSTRUCTION

Construction activities are anticipated to occur in one phase for approximately 10 months. Filling of the existing agricultural irrigation pond in order to reclaim the land is anticipated to take place in January 2025. Grading and paving activities would begin in January 2025 for the first month and building construction and architectural painting activities occurring for the remaining time, ending in October 2025. Project earthwork would be balanced on site, and would not require the export/import of soil. All construction staging and laydown areas would be located within the South Coast REC and no off-site staging/laydown areas would be required.

2.5 PERMITS AND APPROVALS

The proposed project would require agreements, permits, and approvals from the following agencies prior to construction. These discretionary actions are listed below and may change as the project entitlement process proceeds.

The Regents of the University of California, or their Designee (Lead Agency)

- University Approval; and
- Approval of California Environmental Quality Act Document.

University of California Fire Marshall, or their Designee (Responsible Agency)

- Fuel Modification Program; and
- Fire Permit.

The City of Irvine (Responsible Agency)

- Traffic-Signal Improvement Plan Approval; and
- Public Street Tree Removal Permit.

Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB) (Responsible Agency)

- National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

Orange County Flood Control (OCFC)/Santa Ana RWQCB (Responsible Agencies)

- Municipal Separate Storm Sewer System (MS4) Permit.

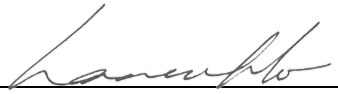
3.0 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

The University of California (University) finds that the proposed project WOULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

The University finds that although the proposed project could have a significant effect on the environment, the project impacts were adequately addressed in an earlier document or there will not be a significant effect in this case because revisions in the project have been made that will avoid or reduce any potential significant effects to a less than significant level. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

The University finds that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT will be prepared. ☐

Signature: 

Title: Associate Vice President

Printed Name: Tu M. Tran

Agency: The University of California

Date: 6/5/2024

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4.0 INITIAL STUDY CHECKLIST

4.1 BACKGROUND

1. **Project Title:**

   South Coast Research and Extension Center (REC) Engagement Center Project

2. **Lead Agency Contact Name and Address:**

   University of California, Division of Agriculture and Natural Resources
   Office of Environmental Planning
   2801 Second Street
   Davis, California 95618

3. **Contact Person:**

   Darren Haver
   dlhaver@ucanr.edu

4. **Project Location:**

   The proposed project is located within the existing University of California (University), Division of Agriculture and Natural Resources (UC ANR) South Coast Research and Extension Center (South Coast REC). The project site is primarily located at the southeast corner (along Modjeska) of the South Coast REC, in the City of Irvine, County of Orange, California.

5. **Project Sponsor's Name and Address:**

   University of California, Division of Agriculture and Natural Resources
   Office of Environmental Planning
   2801 Second Street
   Davis, California 95618

6. **General Plan Designation:**

   Not applicable. The University is constitutionally exempt from local land use laws and regulations under Article IX, Section 9 of the California Constitution, which includes being exempt from all city and county general plans, as well as community plans and zoning regulations.

7. **Zoning:**

   Not applicable. The University is constitutionally exempt from local land use laws and regulations under Article IX, Section 9 of the California Constitution, which includes being exempt from all city and county general plans, as well as community plans and zoning regulations.

8. **Description of Project:**

   The proposed project would construct a new Engagement Center at the southeast corner of the South Coast REC to support existing programming. The construction of a new Engagement Center would also include the addition of a new access point at the intersection of Modjeska and Still Night and internal roadway improvements to facilitate

ingress/egress to the proposed center and through the South Coast REC; refer to Section 2.0, *Project Description*. In addition to these improvements, the project would protect and enhance the existing agricultural research space.

9. **Surrounding Land Uses and Setting:** Surrounding land uses in proximity to the project site include agricultural, park, and residential uses. Refer to Section 2.2, *Environmental Setting*, for a specific description of surrounding land uses and development.

10. **Other public agencies whose approval is required:**

    Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB); the City of Irvine; and Orange County Flood Control (OCFC).

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    In compliance with Assembly Bill (AB) 52, UC ANR distributed letters notifying each local Native American tribe that requested to be on UC ANR's list for the purposes of AB 52 of the opportunity to consult with UC ANR regarding the proposed project. The letters were distributed by mail on December 5, 2023. The 30-day response period for AB 52 consultation concluded on January 5, 2024. UC ANR did not receive any communications or requests for consultation; refer to Section 5.18, *Tribal Cultural Resources*.

4.2 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" or "Less Than Significant Impact With Project-Level Mitigation Incorporated."

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

4.3 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Wildfire
- Mandatory Findings of Significance

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines* and used by UC ANR in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is potential for significant impacts indicates the need to analyze the development's impacts more fully and to identify mitigation, which has been completed as part of this evaluation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the project. To each question, there are four possible responses:

- *Potentially Significant Impact*. The project would have impacts which are considered potentially significant, if there is substantial evidence that the project's effect may be significant. If there are one or more potentially significant impacts, an Environmental Impact Report (EIR) will be prepared.

- *Less Than Significant With Project-Level Mitigation Incorporated*. The incorporation of project-specific mitigation measures would reduce an effect from potentially significant to less than significant levels. All project-level mitigation measures are to be described, including a brief explanation of how the measures reduce the effect to a less than significant level.

- *Less Than Significant Impact*. The project would not result in any significant effects. The project impact is less than significant without the incorporation of project-level mitigation.

- *No Impact*. The project would not result in any impact in the category or the category does not apply. Information is provided to show that the impact does not apply to projects like the one involved (e.g., the project falls outside of a fault rupture zone). A conclusion of no impact may be based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project specific screening analysis).

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5.0 ENVIRONMENTAL ANALYSIS

5.1 AESTHETICS

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

a) Have a substantial adverse effect on a scenic vista?

No Impact. The University is constitutionally exempt from local land use laws and regulations under Article IX, Section 9 of the California Constitution, which includes exemption from all city and county general plans, as well as community plans and zoning regulations. Regardless, review of the *City of Irvine General Plan: Land Use Element* and the *City of Irvine – General Plan Update Background Report* is included herein for purposes of a threshold of significance and as UC ANR has and shall continue to work cooperatively with adjacent local communities to pursue cooperative planning, land use compatibility, and consistency with local plans and policies, whenever feasible. The project is low-rise in nature, minimizing the potential for adverse impacts on a scenic vista.

There are no officially designated scenic vistas in Irvine. However, the City does characterize visual resources and scenic highways/corridors. There are no mapped visual resources or Scenic Highways within, adjacent to, or in the vicinity of the project site.[1,2] The nearest City-designated scenic highway is Sand Canyon Avenue (an Urban Character scenic highway), situated approximately 1.17-mile north of the project site. The nearest identified visual resource to the project site includes Borrego Canyon Wash, approximately 0.94-mile south of the project site.[3] No existing public views encompass both the project site and Borrego Wash, nor Sand Canyon Avenue, due to distance, topography, and intervening trees and structures. Therefore, the project would not have a substantial adverse effect on a scenic vista, and no impact would occur.

Mitigation Measures: No mitigation is required.

1 City of Irvine, *Irvine General Plan: Land Use Element, Figure A-4, Scenic Highways*, July 2015.
2 City of Irvine, *City of Irvine – General Plan Update Background Report, Figure 8-6, Visual Resources*, January 2017.
3 Ibid.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. There are no eligible or State-designated scenic highways in the vicinity of the project site.[4,5] No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The project site is located in an urbanized area as defined by Section 15387 of the CEQA Guidelines. As such, this analysis considers if the project would conflict with applicable zoning and other regulations governing scenic quality. The project site is currently improved with an abandoned agricultural irrigation pond, within the southeast corner of the existing South Coast REC. The project would demolish/clear the former agricultural irrigation pond and construct a new Engagement Center. Surrounding land uses in proximity to the project site include agricultural, park, and residential uses. The project does not conflict with applicable zoning and other regulations governing scenic quality.

CONSTRUCTION

Construction activities are anticipated to occur in one phase for approximately 10 months. During this time, short-term construction activities, construction equipment, and truck traffic may be visible to local roadway travelers along Modjeska. Visible activities would include stockpiled soil and materials storage on-site. In addition, views of construction of new buildings would also be observed. However, such activities would be phased as part of the construction process and no single activity would occur during the full 10 months. All visible construction activities would cease upon completion of construction. Further, as discussed in Section 5.3, *Air Quality*, the project would be subject to the South Coast Air Quality Management District (SCAQMD) dust control techniques (i.e., daily watering) and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), which would reduce fugitive dust emissions that would impact scenic quality during construction. Construction-related visual impacts are considered to be temporary and would cease upon completion of construction. Therefore, impacts in this regard would be less than significant.

OPERATIONS

As discussed in Response 5.1(a), the University is constitutionally exempt from local land use laws and regulations, including all city and county general plans, as well as community plans and zoning regulations. However, UC ANR has and continues to work cooperatively with adjacent local communities to pursue cooperative planning, land use compatibility, and consistency with local plans and policies, whenever feasible.

The proposed project would include specific Design Guidelines to provide high-level direction toward developing a functional, integrated, and recognizable facility. The new Engagement Center is envisioned to have modern, clean lines that support the design aesthetic of the agricultural character associated with the existing South Coast REC, and all structures would be one story in height to maintain an inviting, human scale. Buildings would be oriented toward the outdoor plaza for increased accessibility, connectivity, and engagement with outdoor spaces, while also utilizing natural light. Landscaping and outdoor lighting would complement sitewide wayfinding and enhance sitewide beautification.

4 City of Irvine, *Irvine General Plan: Land Use Element, Figure A-4, Scenic Highways*, July 2015.

5 California Department of Transportation, *State Scenic Highway Program – Scenic Highway System Lists*, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed February 14, 2024.

Overall, the proposed Design Guidelines would govern the materials, massing, and placement of each project feature to ensure that the proposed project, as an expansion of the existing South Coast REC, would be visually compatible with the surrounding land uses. Further, the existing South Coast REC perimeter fencing and mature trees along Modjeska would provide a buffer between the project site and adjacent development, ensuring a more subtle transition between uses. Thus, the project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts related to operation would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. There are two primary sources of light: light emanating from building interiors that pass through windows, and light from exterior sources, such as street lighting, parking lot lighting, building illumination, security lighting, and landscape lighting. Light introduction can be a nuisance to adjacent uses and diminish the view of the clear night sky.

CONSTRUCTION

Project construction could involve temporary light and glare impacts as a result of construction equipment and materials. However, based on the project's limited construction duration and scope of activities, these sources of light and glare would not be substantial. While the City of Irvine Municipal Code (Irvine Municipal Code) limits construction activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturdays, the University is constitutionally exempt from these restrictions. Nonetheless, project construction is not anticipated to occur outside of these hours. Construction-related impacts concerning light and glare would be less than significant.

OPERATIONS

Currently, light and glare are being emitted from the surrounding uses, including streetlights along Modjeska and adjacent residences to the east and south of the project site. Existing South Coast REC structures along Irvine Boulevard also utilize external building lights and pole-mounted lights in surface parking areas for security purposes.

The proposed project would include additional site lighting to provide safe levels of illumination for staff and visitors, such as pedestrian or vehicular scale lights, parking lot lighting, exterior lighting fixtures for the Engagement Center, and landscape lighting. Per the proposed Design Guidelines for the project, exterior lighting would be designed to minimize glare, prevent light spillover, conserve energy, and prevent excessive nighttime light pollution. Where feasible, smart controls and/or bi-level occupancy controls on outdoor lighting would be incorporated. High-efficiency lighting systems would be installed into all buildings, and adaptive light layering would be utilized for task, accent, and ambient lighting to allow lighting levels to be safely reduced under multiple circumstances. In general, site lighting would be similar in character to the existing South Coast REC, and the existing perimeter fencing and mature trees along Modjeska would continue to separate the project site and neighboring residential uses, thus, acting as an additional barrier from the potential light of the project site. Therefore, with adherence to the proposed Design Guidelines for the project, operational impacts due to the addition of light would be less than significant.

Vehicle headlights along the proposed internal access road could contribute to ambient lighting and glare. However, vehicles would enter and exit the project site at an existing signalized three-leg intersection, and the internal access road would run parallel to Modjeska. As such, new sources of vehicle headlight and glare would be similar in character to the existing condition along Modjeska. Thus, potential glare from vehicle headlights would be less than significant.

Exterior glare would potentially originate from building materials, such as glass and metal. However, per the proposed Design Guidelines, the new Engagement Center is envisioned to support the design aesthetic of the University, while also incorporating lighter colored, albedo materials that reduce solar reflectance. All structures would be one story in height, with additional overhangs to increase shade. Further, as discussed above, existing fencing and mature trees

along Modjeska would provide an additional buffer from potential glare from the project site. As such, building glare would be reduced and would be similar to existing South Coast REC structures and impacts would be less than significant.

Mitigation Measure: No mitigation is required.

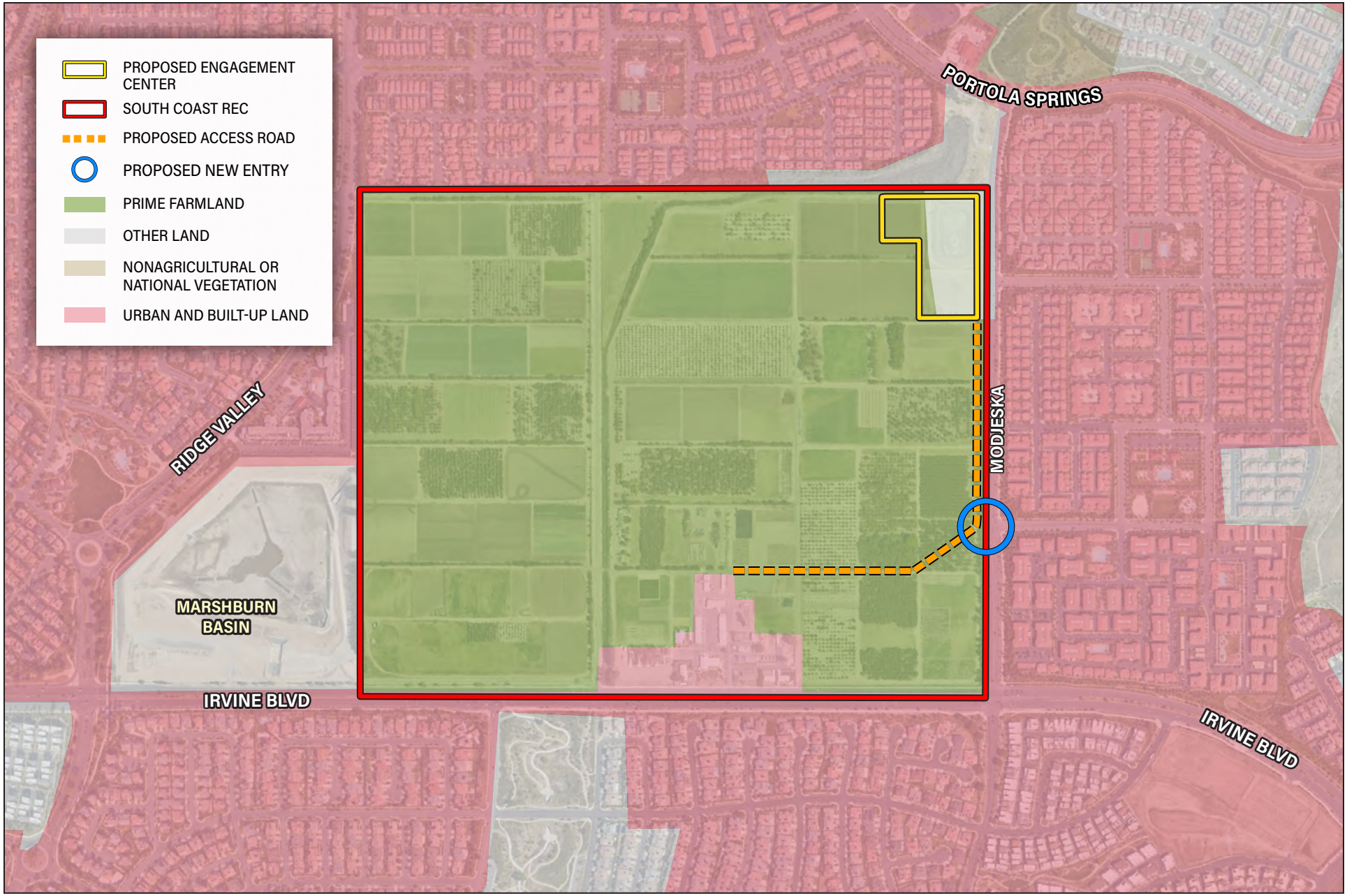
5.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			✓	
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d. Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			✓	

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?

Less Than Significant Impact. As depicted in Exhibit 5.2-1, *Farmland Designations*, portions of the project site are designated as "Other Land," while the remainder is designated and/or adjacent to "Prime Farmland."[1] Prime Farmland is defined as irrigated land with the best combination of physical and chemical features able to sustain long term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce

[1] California Department of Conservation, *California Important Farmland Finder*, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed February 26, 2024.



Source: Farmland Mapping and Monitoring Program, Division of Land Resource Protection, California Department of Conservation | Esri Community Maps

SOUTH COAST RESEARCH AND EXTENSION CENTER (REC) ENGAGEMENT CENTER PROJECT
PUBLIC REVIEW DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Farmland Designations

Michael Baker INTERNATIONAL

NOT TO SCALE

06/2024 • JN 198494

Exhibit 5.2-1

sustained high yields. As described in Section 2.0, *Project Description*, the South Coast REC is a representative site for agricultural and horticultural research operated by UC ANR; it provides educational extension in the form of classes and workshops focused on finding solutions for regional agriculture and natural resource systems. The South Coast REC supports the Orange County Farm Bureau and University of California Cooperative Extension (UCCE) Orange County, which includes, but is not limited to, the Master Food Preservers, Master Gardeners, 4-H Youth Development, Expanded Food and Nutrition Education Program (EFNEP), and research and extension programs addressing human wildlife interactions, urban forestry, water resources, urban agriculture, organic waste management, and nutrition. However, the South Coast REC is not an agricultural production facility and does not operate as a food production/crop source for the area or region.

The proposed project would develop less than four percent of the 193-acre South Coast REC with a new Engagement Center and associated amenities; as depicted in Exhibit 2-2, *Site Vicinity*. Engagement Center amenities would include a range of landscapes and gardens to enhance the University's Master Gardener program, and the overall project would provide additional educational facilities to support other UCCE programs. While the proposed Engagement Center and associated amenities would be developed on nominal portions of Prime Farmland within the South Coast REC, the development would not remove any operational food production crops, as this activity does not occur on site. Rather, the proposed project would protect and enhance the existing agricultural research and education agriculture space at the South Coast REC, including installation of new outdoor agricultural education spaces. As such, the project would not change the use or purpose of the site and would still offer areas of pervious surface to be used for agricultural education purposes. Therefore, project implementation would not convert areas of Prime Agricultural farmland to a non-agricultural use. Impacts would be less than significant in this regard.

***Mitigation Measures*: No mitigation is required.**

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

No Impact. The University is constitutionally exempt from local land use laws and regulations under Article IX, Section 9 of the California Constitution, which includes being exempt from all city and county zoning regulations. As such, the project site is not zoned for agricultural use. Due to the specific tax-exempt status of the University, land owned by the University is not subject to Williamson Act land use/tax contracts. As such, no Williamson Act contract is recorded on the property, nor would the property be eligible for recordation due to the University's tax-exempt status. In addition, Orange County does not offer Williamson Act contracts.[2] Thus, impacts related to a conflict with existing zoning for agricultural use or a Williamson Act contract would not occur.

Mitigation Measures: No mitigation is required.

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

No Impact. The project site and vicinity are not used for forest land, timberland, or timberland production. Further, project implementation would not result in the rezoning of forest land, timberland, or timberland zoned timberland production. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

[2] California Department of Conservation, *The Williamson Act Status Report*, https://www.conservation.ca.gov/dlrp/wa/Documents/stats_reports/2022%20WA%20Status%20Report.pdf, May 2022.

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

No Impact. As discussed in Response 5.2(c), the project site does not contain designated forest land. Accordingly, the project would not result in the conversion or loss of forest land to non-forest use. Therefore, no impacts would result and no mitigation is required.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. As stated above in Responses 5.2(a) through 5.2(d), the project would protect and enhance the existing agricultural research space on-site. Thus, the project would not convert farmland to non-agricultural use, and no potential conversion of forest land would occur. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

5.3 AIR QUALITY

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

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The project site is located within the South Coast Air Basin (Basin), which is governed by the South Coast Air Quality Management District (SCAQMD). On December 2, 2022, the SCAQMD Governing Board adopted the *2022 Air Quality Management Plan* (2022 AQMP). The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, updated emission inventory methodologies for various source categories. Additionally, the 2022 AQMP utilized information and data from the Southern California Associations of Governments (SCAG) and its 2020-2045 *Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS). SCAG updates the RTP/SCS every four years and the most recent plan, the 2024-2050 RTP/SCS (Connect SoCal 2024) was adopted on April 4, 2024. Connect SoCal 2024 is a vision for the future of Southern California that includes policies, strategies, and projects to advance the region's mobility, economy, and sustainability through 2050. While SCAG recently adopted the Connect SoCal 2024, the SCAQMD has not released an updated AQMP. As such, this consistency analysis is based off the 2022 AQMP and the RTP/SCS that was adopted at the time, the 2020-2045 RTP/SCS. As such, this consistency analysis is based off the 2022 AQMP and the RTP/SCS that was adopted at the time, the 2020-2045 RTP/SCS. According to the SCAQMD's CEQA Air Quality Handbook, projects must be analyzed for consistency with two main criteria, as discussed below.:

CRITERION 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations?

Since the consistency criteria pertains to pollutant concentrations, rather than to total regional emissions, an analysis of the project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in Response 5.3(c), localized concentrations of carbon monoxide (CO), nitrogen oxides (NO_X), coarse particulate matter (particulate matter less than or equal to 10 microns in diameter; PM_{10}), and fine particulate matter (particulate matter less than or equal to 2.5 microns in diameter; $PM_{2.5}$) would be less than significant during project construction and operations. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations.

b) *Would the project cause or contribute to new air quality violations?*
As discussed in Response 5.3(b), the proposed project would result in pollutant emissions that are below their respective SCAQMD thresholds. Therefore, the project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The proposed project would result in less than significant impacts with regard to localized concentrations during project construction and operations; refer to Responses 5.3(b) and 5.3(c). As such, the project would not delay the timely attainment of air quality standards or 2022 AQMP emissions reductions.

CRITERION 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2022 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2022 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the 2022 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the 2022 AQMP. In the case of the 2022 AQMP, three sources of data form the basis for the projections of air pollutant emissions: general plans, SCAG's regional growth forecast, and SCAG's 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS also provides socioeconomic forecast projections of regional population growth.

Based on the City of Irvine General Plan Land Use Element, the project site is designated Agriculture. However, as an entity of the University, the South Coast REC is not subject to municipal regulations such as general plans. Nonetheless, the proposed project would construct a new Engagement Center to support existing agriculture programming. As such, the project would be consistent with the existing designation identified by both UC ANR and the City of Irvine.

Further, as detailed in Section 5.14, *Population and Housing*, the project would be constructed on a former agricultural irrigation pond within the existing South Coast REC. It is anticipated that the proposed project would staff four additional employees and 1 to 2 additional researchers and increase community attendance (students/visitors) by 10 to 20 percent over time, which conservatively equates to six new students. As such, the proposed Engagement Center would introduce up to 12 new people. However, majority of the growth would come from the existing programs that occur within the region. Project implementation would not displace any existing housing or persons. As such, the project would not induce substantial population growth that would notably exceed existing local conditions or regional projections, and the proposed project would be consistent with the types, intensity, and patterns of land use envisioned for the site in the 2020-2045 RTP/SCS. Additionally, as the SCAQMD has incorporated similar population projections into the 2022 AQMP, it can be concluded that the proposed project would be consistent with the population projections included in the 2022 AQMP.

b) Would the project implement all feasible air quality mitigation measures?

The proposed project would result in less than significant air quality impacts. Compliance with all feasible emission reduction rules and measures identified by the SCAQMD would be required as identified in Responses 5.3(b) and 5.3(c). As such, the proposed project meets this 2022 AQMP consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth in the AQMP?

Land use planning strategies set forth in the 2022 AQMP are primarily based on the 2020-2045 RTP/SCS. As detailed in Section 2.3, *Project Characteristics*, the project proposes would include solar facilities either in the form of panels mounted on the roof of the Engagement Center, as a parking shade structure, or panels that also provide shaded growing space for sensitive/high value crops in accordance with CALGreen standards. Additionally, the Engagement Center would be designed to accommodate future bicycle and pedestrian facilities connecting to an existing off-street bikeway to the north of Modjeska. As a result, the project would provide staff and students the opportunity to use alternative forms of transportation (i.e., bicycling, and electric vehicle transportation) and therefore reduce criteria pollutant emissions. As such, the proposed project would be consistent with the land use planning strategies set forth in the 2022 AQMP and would meet this AQMP consistency criterion.

In conclusion, the determination of 2022 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet Federal and State air quality standards. As discussed above, the proposed project's long-term influence would also be consistent with the SCAQMD and SCAG's goals and policies and is, therefore, considered consistent with the 2022 AQMP. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The project has the potential to generate short-term emissions during construction and long-term emissions during operations. Construction activities may generate temporary pollutant emissions using heavy-duty construction equipment (e.g., graders, pavers, etc.), as well as construction worker, vendor, and haul trips. Project operations may generate area, energy, mobile, or stationary source emissions. The following analysis discusses the project-generated construction, operational, and cumulative emissions.

CRITERIA POLLUTANTS

The following are the specific criteria pollutants of concern considered as part of this analysis:

- Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources because of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO.

- Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O_3 layer) extends upward from about 10 to 30 miles and

protects life on Earth from the sun's harmful ultraviolet rays. "Bad" O_3 is a photochemical pollutant, and needs volatile organic compounds (VOCs), NO_X, and sunlight to form; therefore, VOCs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.
While O_3 in the upper atmosphere (stratosphere) protects the Earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are the most susceptible to the health effects of O_3. Short-term exposure (lasting for a few hours) to O_3 at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

- Nitrogen Dioxide (NO_2). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3 and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO_2 can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

- Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

- Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to $PM_{2.5}$, both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards. On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the Statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

- Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

- Volatile Organic Compounds (VOC). VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

- Reactive Organic Gases (ROG). Similar to VOC, ROG are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC interchangeably.

CONSTRUCTION

The project involves construction activities associated with grading (including clearing/filling of the existing agricultural irrigation pond), building construction, paving, and architectural coating applications. The project would be constructed over a duration of approximately 10 months. Soils would be balanced on-site.

The California Emissions Estimator Model (CalEEMod) version 2022.1 was utilized to calculate the project's construction-related and operational air pollutants emissions. CalEEMod relies upon trip generation rates and project specific land use data to calculate emissions. Exhaust emission factors for typical diesel-powered heavy equipment are based on CalEEMod program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Refer to Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*, for the CalEEMod outputs and results. Table 5.3-1, *Project-Generated Construction Emissions*, presents the anticipated daily short-term construction emissions.

Table 5.3-1
Project-Generated Construction Emissions

Emissions Source	Maximum Daily Emissions (pounds/day)[1]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction-Related Emissions[2]						
Year 1	5.57	24.80	27.30	0.05	3.11	1.91
Year 2	1.20	10.20	12.10	0.02	0.46	0.36
Maximum Daily Emissions	**5.57**	**24.80**	**27.30**	**0.05**	**3.11**	**1.91**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, version 2022.1. Higher emissions between summer and winter are presented as a conservative analysis.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.

Source: Refer to Appendix A , *Air Quality/Greenhouse Gas Emissions/Energy Data*, for detailed model input/output data.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including grading as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading, excavation and construction is expected to be short-term and would cease upon project completion. Most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the Earth's crust, such as dust, are also present, with the amount varying in different locations.

The project would be subject to all required SCAQMD dust control techniques (i.e., daily watering), limitations on construction hours, and adhere to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce PM_{10} and $PM_{2.5}$ concentrations. Further, it is acknowledged that UC ANR implements fugitive dust control practices, through regular use of water trucks, in order to protect the crops during operations. UC ANR would continue to implement these procedures during construction in order to reduce fugitive dust emissions, protecting existing crops on-site. As indicated in Table 5.3-1, total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction. Therefore, emissions associated with the fugitive dust emissions during project construction would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, employee commutes to the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 5.3-1, emissions associated with construction equipment and worker vehicle exhaust during project construction would not exceed the established SCAQMD threshold for all criteria pollutants. Therefore, impacts in this regard would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the SCAQMD, the ROG emissions associated with paving and architectural coating have been quantified with the CalEEMod model. The project would be required to comply with SCAQMD Rule 1113, which provides specifications on painting practices as well as regulation on the ROG content of paint used during all architectural coating activities for the proposed structures. As indicated in Table 5.3-1, ROG emissions would not exceed the SCAQMD threshold during construction; impacts would be less than significant in this regard.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 5.3-1, maximum daily criteria pollutant emissions during project construction would not exceed the SCAQMD thresholds. Thus, impacts due to the total construction related emissions would be less than significant.

NATURALLY OCCURRING ASBESTOS

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, serpentinite and ultramafic rocks are not known to occur within the project area.[1] Thus, there would be no impact in this regard.

OPERATIONS

Long-term air quality impacts would consist of mobile source emissions generated from project-related traffic and emissions from stationary area and energy sources. Emissions associated with each source are detailed in Table 5.3-2, *Project-Generated Operational Emissions*, are discussed below.

Table 5.3-2
Project-Generated Operational Emissions

Emissions Source	Maximum Daily Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer Daily Maximum						
Mobile Source	0.35	0.29	3.27	0.01	0.80	0.21
Area Source	0.43	0.01	0.60	< 0.01	< 0.01	< 0.01
Energy Source[2]	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions[3]	**0.78**	**0.30**	**3.87**	**0.01**	**0.8**	**0.21**
SCAQMD Significance Threshold[4]	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Winter Daily Maximum						

[1] Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, August 2000, https://ww3.arb.ca.gov/toxics/asbestos/ofr_2000-019.pdf, accessed February 22, 2024.

Emissions Source	Maximum Daily Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Source	0.34	0.31	3.02	0.01	0.80	0.21
Area Source	0.33	0.00	0.00	0.00	0.00	0.00
Energy Source[2]	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions[3]	**0.67**	**0.31**	**3.02**	**0.01**	**0.8**	**0.21**
SCAQMD Significance Threshold[4]	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, version 2022.1.
2. According to UC ANR, the project would not consume natural gas during operation. As such, no natural gas use was assumed in the modeling.
3. The numbers may be slightly off from CalEEMod output due to rounding.
4. The SCAQMD significance thresholds was determined using South Coast Air Quality Management District, *South Coast AQMD Air Quality Significance Thresholds*, last updated March 2023.

Source: Refer to Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*, for detailed model input/output data.

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Mobile source emissions were calculated using the project-specific trip generation data provided in the *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited Scope Traffic Study Case No. 00926597-PPA* (Trip Generation Analysis), prepared by Michael Baker International and dated May 24, 2024. The proposed project is anticipated to generate approximately 102 net average daily trips, including 35 a.m. peak hour trips, and 4 p.m. peak hour trips; refer to Appendix E, *Trip Generation Analysis*. As shown in Table 5.3-2, maximum daily emissions generated by vehicle traffic associated with project operation would not exceed established SCAQMD thresholds. As such, impacts in this regard would be less than significant.

Area Source Emissions

Area source emissions would be generated from consumer products, area architectural coatings, and landscaping equipment associated with the development of the proposed project. According to UC ANR, 90 percent of landscaping equipment would be electric. However, as a conservative analysis, this is not accounted for in the modeling. As shown in Table 5.3-2, maximum daily area source emissions during both summer and winter would not exceed established SCAQMD thresholds. Impacts in this regard would be less than significant.

Energy Source Emissions

The primary use of electricity by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, landscaping equipment, and electronics. According to UC ANR, the project would not consume natural gas during operation. As such, no natural gas use was assumed in the modeling. As criteria air pollutant emissions from electricity generation occur at the site of the power plant (off-site), emissions associated with electricity generation were not quantified. Overall, energy source emissions would be zero and would not exceed established SCAQMD thresholds; refer to Table 5.3-2. Impacts in this regard would be less than significant.

Total Operational Emissions

As shown in Table 5.3-2, the total operational emissions for both summer and winter would not exceed established SCAQMD thresholds. Therefore, impacts in this regard would be less than significant.

AIR QUALITY HEALTH IMPACTS

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, O_3 precursors, VOCs and NO_x, affect air quality on a regional scale. Health effects related to O_3 are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

Further, as noted in the Brief of Amicus Curiae by the SCAQMD, the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. [2] As noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD), SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.[3]

The SCAQMD acknowledges that health effects quantification from O_3, as an example is correlated with the increases in ambient level of O_3 in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient O_3 levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_x and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O_3 levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O_3 -related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Thus, as the project would not exceed SCAQMD thresholds for construction and operational air emissions, the project would have a less than significant impact for air quality health impacts.

CUMULATIVE CONSTRUCTION-RELATED IMPACTS

With respect to the proposed project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2022 AQMP pursuant to Clean Air Act mandates. The project would be required to comply with SCAQMD Rule 403 requirements and implement all feasible SCAQMD rules to reduce construction air emissions to the extent feasible. Rule 403 requires that fugitive dust be controlled with the best available control measures to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. In addition, the proposed project would comply with adopted 2022 AQMP emissions control measures. Pursuant to SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403

[2] South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

[3] San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

compliance and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

As discussed above, the project's short-term construction emissions would be below the SCAQMD thresholds and would result in a less than significant impact. Thus, it can be reasonably inferred that the project's construction emissions would not contribute to a cumulatively considerable air quality impact for nonattainment criteria pollutants in the Basin. Thus, a less than significant impact would occur in this regard.

CUMULATIVE OPERATIONAL IMPACTS

As discussed, the proposed project would not result in long-term air quality impacts as emissions would not exceed SCAQMD-adopted operational thresholds. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Furthermore, emission reduction technology, strategies, and plans are constantly being developed and implemented during project operation. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with implementation of the proposed project would be less than significant.

Mitigation Measures: No mitigation is required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The closest sensitive receptors are single-family residences (Portola Springs residential neighborhood) located approximately 125 feet to the southeast of the project site.

In order to identify impacts to sensitive receptors for each development projects, the SCAQMD recommends utilizing Localized Significance Thresholds (LSTs) to evaluate construction and operations impacts (area sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

LOCALIZED SIGNIFICANCE THRESHOLDS

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* for guidance.[4] The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, and/or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. The project site is located within Source Receptor Area (SRA) 20, *Central Orange County Coastal*.

[4] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, June 2003 (revised July 2008).

CONSTRUCTION LST

The SCAQMD's guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day.[5] SCAQMD provides LST thresholds for one-, two-, and five-acre site disturbance areas; SCAQMD does not provide LST thresholds for projects over five acres. According to the CalEEMod output, the project would actively disturb approximately one acre per day. Therefore, the LST thresholds for one acre were utilized for the construction LST analysis. LST values are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. As the nearest sensitive receptors are located 125 feet (38 meters) south to the proposed Engagement Center, the lowest available LST values for 25 meters were used.

Table 5.3-3, *Localized Construction Emissions Significance*, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 20. It is noted that the localized emissions presented in Table 5.3-3 are less than those in Table 5.3-1 because localized emissions include only on-site emissions (e.g., from construction equipment and fugitive dust) and do not include off-site emissions (e.g., from hauling activities). As shown in Table 5.3-3, the project's localized construction emissions would not exceed the LSTs for SRA 20. Therefore, localized impacts to sensitive receptors from project construction would be less than significant.

Table 5.3-3
Localized Construction Emissions Significance

Maximum Emissions	Maximum Daily Emissions (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions[1,2]	24.70	26.40	2.88	1.85
Localized Significance Threshold Mass Rate Screening Criteria[3]	*92*	*647*	*4*	*3*
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Note:
1. Maximum on-site daily emissions for all four pollutants, including NO_x, CO, PM_{10}, and $PM_{2.5}$, occur during grading and building construction phases overlapping in Year 1 (2025).
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. The Localized Significance Threshold Mass Rate Screening Criteria was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately one acre; therefore, the one-acre threshold was used) and Source Receptor Area 20, *Central Orange County Coastal*.

Source: Refer to Appendix A , *Air Quality/Greenhouse Gas Emissions/Energy Data*, for detailed model input/output data.

OPERATIONAL LST

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project does not include includes stationary sources or propose uses that attract mobile sources. Thus, no long-term LST analysis is needed. Operational LST impacts would be less than significant in this regard.

[5] The number of acres represent the total acres traversed by grading equipment. To properly grade a piece of land, multiple passes with equipment may be required. The disturbance acreage is based on the equipment list and days of the grading phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday.

CARBON MONOXIDE HOTSPOTS

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (e.g., adversely affecting residents, school children, hospital patients, and the elderly).

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area under State standards. There has been a decline in CO emissions even though vehicle miles traveled (VMT) on U.S. urban and rural roads have increased; estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions.[6] Three major control programs have contributed to the reduced per-vehicle CO emissions, including exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

According to the SCAQMD *CEQA Air Quality Handbook*, a potential CO hotspot may occur at any location where the background CO concentration already exceeds 9.0 parts per million (ppm), which is the 8-hour California ambient air quality standard. As previously discussed, the site is in SRA 20. Communities within SRAs are expected to have similar climatology and ambient air pollutant concentrations. The nearest monitoring station that monitors CO in SRA 20 is the Mission Viejo station located at 26081 Via Pera, Mission Viejo, approximately 4.55 miles southeast of the project site. The maximum CO concentration at Mission Viejo station was measured at 2.357 ppm in 2022.[7] Given that the background CO concentration does not currently exceed 9.0 ppm, a CO hotspot would not occur at the project site. Therefore, CO hotspot impacts would be less than significant in this regard.

AIR QUALITY HEALTH IMPACTS

As evaluated above, the project's air emissions would not exceed the SCAQMD's LST thresholds, and CO hotpots would not occur as a result of the proposed project. Therefore, the project would not exceed the most stringent applicable Federal or State ambient air quality standards for emissions of NO_X, CO, PM_{10}, or $PM_{2.5}$. It should be noted that the ambient air quality standards are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the ambient air quality standards are purposefully set in a stringent manner to protect children, elderly, and those with existing respiratory problems. Thus, an air quality health impact would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. However, the proposed Engagement Center would be primarily used by University researchers and educators for educational purposes and not as food production (agricultural) purpose. As such, the project would not be identified by the SCAQMD as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by requiring equipment

6 U.S. Environmental Protection Agency, *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed February 21, 2024.

7 California Air Resources Board, *AQMIS2: Air Quality Data*, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed January 16, 2024.

to be shut off when not in use or limiting idling time to no more than five minutes. Compliance with these existing regulations would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also be required to comply with the SCAQMD Rule 1113, which would minimize odor impacts from ROG emissions during architectural coating. Any odor impacts to existing land uses would be short-term and minimal. As such, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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5.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			✓	
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			✓	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

The information presented in this analysis is primarily based on the *Results of a Biological Resources Due Diligence Analysis for the South Coast Research and Extension Center (REC) Engagement Center Project – City of Irvine, Orange County, California* (Biological Resources Report), prepared by Michael Baker International and dated April 25, 2024; refer to Appendix B, *Biological Resources Due Diligence Analysis*.

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?

Less Than Significant Impact With Mitigation Incorporated. A Biological Resources Report was prepared for the project and included a literature review and records search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CIRP), and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation Project Planning Tool (IPaC). The records search encompassed two United Stated Geologic Survey (USGS) 7.5-minute quadrangles, including the *Tustin* and *El Toro, California* quadrangles. In addition, Michael Baker reviewed publicly available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site, including the USFWS Critical Habitat Mapper and Environmental

Conservation Online System, U.S. Department of Agriculture *Custom Soil Resource Report for Orange County and Part of Riverside County*, and historic/current aerial photographs.

A field survey/habitat assessment was also conducted to observe existing biological resource conditions. The entire project site as well as areas within a 500-foot buffer were surveyed (referenced as the survey area); refer to Exhibit 5.4-1, *Vegetation Communities and Other Land Uses*. Based on the field survey, the overall survey area and project site contain a mixture of developed, disturbed, landscaped/ornamental, agricultural fields, eucalyptus - tree of heaven - black locust groves, and natural vegetation communities. The project site consists of developed uses (i.e., an abandoned agricultural irrigation pond) surrounded by agricultural fields, eucalyptus, black locust groves, and disturbed uses. The larger survey area surrounding the project site consists of agricultural fields, eucalyptus, black locust groves, and disturbed uses to the north. Portola Springs residential neighborhood to the east; Modjeska to the south, with the Portola Springs residential neighborhood further to the south; and existing South Coast REC research fields and classroom/research ancillary structures to the west. It is acknowledged that an earthen bottom channel that was historically part of the Round Canyon drainage basin adjoins the project site to the east. This channel has been revegetated as part of mitigation requirements for the Portola Springs community.

As mapped on Exhibit 5.4-1, a total of three natural vegetation communities were observed and mapped within the boundaries of the survey area (off-site to the east of the project site) during the field survey: coyote brush scrub, arroyo willow thickets, and sandbar willow thickets. Additionally, five land cover types were observed within the survey area, including agricultural fields, eucalyptus - tree of heaven - black locust groves, landscaped/ornamental, disturbed, and developed areas. Of the natural vegetation communities observed within the survey area, none were observed within the project site. The following analysis specifically considers potential project impacts to special status plants and wildlife.

SPECIAL-STATUS PLANTS

A total of 35 special-status plant species have been recorded in the USGS *Tustin* and *El Toro, California* 7.5-minute quadrangles by the CNDDB, CIRP, and IPaC; however, none are expected to occur within the project site. Further, no special-status plant species were observed within the survey area during the field survey. Thus, the proposed project would not, either directly or through habitat modifications, result in any impacts to plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

SPECIAL-STATUS WILDLIFE

A total of 41 special-status wildlife species have been recorded in the USGS *Tustin* and *El Toro California* 7.5-minute quadrangles by the CNDDB and IPaC. No special-status wildlife species were observed during the field survey.

Based on the results of the field survey and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, there is a high potential for the project site to support the following California Watch List [WL] species, which are not yet an identified species of concern: Cooper's hawk (*Accipiter cooperii*; a California WL species) and California horned lark (*Eremophila alpestris actia*; a California WL species). Riparian habitat present in the adjoining earthen bottom channel (to the east of the project site) has a moderate potential to support migrant least Bell's vireo (*Vireo bellii pusillus*; a California and Federal endangered species) and yellow-breasted chat (*Icteria virens*; a California Species of Special Concern [SSC]). However, this habitat may not be adequate to support breeding birds. It should be noted that there is no habitat on-site that could support least Bell's vireo and yellow-breasted chat. All other remaining special-status wildlife species identified during reviews of the CNDDB and IPaC either have a low potential to occur or are not expected to occur within the project site based on the Biological Resources Report.

Michael Baker INTERNATIONAL

NOT TO SCALE

06/2024 • JN 198494

SOUTH COAST RESEARCH AND EXTENSION CENTER (REC) ENGAGEMENT CENTER PROJECT
PUBLIC REVIEW DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Vegetation Communities and Other Land Uses

Exhibit 5.4-1

No active nests or birds displaying overt nesting behavior were observed during the field survey; however, nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). Specifically, the MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. To reduce potential impacts to nesting birds (including, but not limited to, the Cooper's hawk and California horned lark) during the nesting bird season (February 1 through August 31 for non-raptors), Mitigation Measure BIO-1 requires a pre-construction nesting bird clearance survey be conducted to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. If the nesting bird clearance survey indicates the presence of nesting migratory native birds (including, but not limited to, the Cooper's hawk and California horned lark), Mitigation Measure BIO-1 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the MBTA.

With implementation of Mitigation Measure BIO-1, the project's potential impacts to special status wildlife species would be reduced to a less than significant level.

Mitigation Measures:

BIO-1 If construction activities are scheduled within the nesting bird season (February 1 through August 31 for non-raptors), a qualified biologist retained by UC ANR, or their designee, shall conduct a pre-construction nesting bird survey for avian species to determine the presence/absence, location, and status of any active nests on or adjacent to the proposed project site. A survey buffer area up to 500 feet shall be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to ensure the reproductive success of birds protected by the Migratory Bird Treaty Act and California Fish and Game Code, a nesting bird survey shall be conducted no more than three days prior to the commencement of project construction if construction occurs between February 1 and August 31. In the event that active nests are discovered, a suitable buffer (distance to be determined by the biologist) shall be established around such active nests, and no construction activities within the buffer shall be allowed until the biologist has determined that the nest(s) is no longer active (i.e., the nestlings have fledged and are no longer dependent on the nest). To further minimize impacts to nesting birds and nesting bird habitat, removal or trimming of on-site vegetation shall be minimized to the extent possible.

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 U.S. Fish and Wildlife Service?

Less Than Significant Impact. Based on the Biological Resources Report, five special-status vegetation communities were identified by the CNDDB as occurring in the USGS *Tustin* and *El Toro*, 7.5-minute quadrangles including Southern Coast Live Oak Riparian Forest, Southern Coastal Salt Marsh, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, and Southern Sycamore Alder Riparian Woodland.

According to the Biological Resources Report, no riparian habitat or other sensitive natural communities are present within the project site. Although the survey area to the east consists of riparian natural vegetation communities (i.e., coyote brush scrub, arroyo willow thickets, and sandbar willow thickets mapped on Exhibit 5.4-1), these communities are not present on the project site or any part of the construction footprint. However, project-related construction activities could still result in adverse impacts to these communities as a result of fugitive dust associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including grading as well as construction activities), which may affect the health of plants if dust coats them heavily enough to block or reduce photosynthesis processes. As detailed in Section 5.3, *Air Quality*, to reduce impacts regarding fugitive dust, the project would be subject to all required South Coast Air Quality Management District (SCAQMD) dust control techniques (i.e., daily watering), limitations on construction hours, and adhere to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce the generation of dust. With adherence to

SCAQMD regulatory requirements, project development would not significantly impact riparian habitat or other sensitive natural communities. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

c) Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. According to the Biological Resources Report, no aquatic features were observed within the project site. Although the project site is currently improved with an agricultural irrigation pond, this basin was drained and decommissioned in 1995. Thus, the site does not currently support State or Federally protected wetlands. As such, the project would not involve direct removal, filling, hydrological interruption, or other direct or indirect impact to wetlands. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. Wildlife corridors and linkages are key features for wildlife movement between habitat patches. Wildlife corridors are generally defined as those areas that provide opportunities for individuals or local populations to conduct seasonal migrations, permanent dispersals, or daily commutes, while linkages generally refer to broader areas that provide movement opportunities for multiple keystone/focal species or allow for propagation of ecological processes (e.g., for movement of pollinators), often between areas of conserved land.

The project site is not located within a known migratory wildlife corridor or native wildlife nursery site.[1] It is acknowledged that an earthen bottom channel is located to the east of the project site and may support special-status wildlife species. However, the earthen bottom channel is largely fragmented by surrounding agricultural, residential, and transportation uses; and thus, provides little, if any, opportunity for wildlife movement. Additionally, existing fencing along the eastern project boundary further restricts access between the project site and the earthen bottom channel. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. Existing perimeter trees present at the South Coast REC property, near the existing intersection of Modjeska and Still Night, may require removal in order to accommodate the proposed intersection improvements. As an entity of the University, the South Coast REC is not subject to municipal regulations such as general plans or municipal codes. However, the removal of street trees would still be subject to the City of Irvine Municipal Code (Irvine Municipal Code) Section 5-7-410, *Tree removal*. Specifically, Irvine Municipal Code Section 5-7-410.A, *Permits for tree removal*, requires projects that result in the removal of any significant tree(s) on public or private land to obtain a Tree Removal Permit. As such, the existing perimeter street trees present at the South Coast REC property, near the existing intersection of Modjeska and Still Night, may be subject to a Tree Removal Permit under Irvine Municipal Code Section 5-7-410.A, if any trees are present in the City's public right-of-way. The project proposes the replacement of any removed ornamental shade trees at a minimum of a one-to-one replacement ratio, to be installed at the new Engagement Center, which would be compliant with Irvine Municipal Code Section 5-7-410.C,

[1] City of Irvine, *City of Irvine – General Plan Update Background Report,* January 2017.

Replacement. Thus, in the event street tree removal is required for trees within the public right-of-way, compliance with Irvine Municipal Code Section 5-7-410.A for a Tree Removal Permit and Irvine Municipal Code Section 5-7-410.C for tree replacement ratios would satisfy Irvine Municipal Code Section 5-7-410 requirements and would not conflict with any local policies or ordinances protecting biological resources. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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?

No Impact. According to the Biological Resources Report, the project site is located within the Coastal Subregion of the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). However, the project site is not located within a designated Reserve, designated Special Linkage Area, or designated Existing Use Area. Further, none of the NCCP/HCP Target or Identified Species (i.e., coastal California gnatcatcher [*Polioptila californica californica*; a federally threatened species and California SSC, coastal cactus wren [*Campylorhynchus brunneicapillus sandiegensis*; a California SSC], and orange-throated whiptail [*Aspidoscelis hyperythra*; a California SSC]) were identified or are expected to occur on-site. Additionally, no suitable habitat for the aforementioned NCCP/HCP Target or Identified Species is located on-site. As such, the project would be consistent with the NCCP/HCP and would not conflict with any local habitat conservation plans. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

5.5 CULTURAL RESOURCES

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

This section is primarily based upon the *Cultural Resources Identification Memorandum for the South Coast Research And Extension Center (REC) Engagement Center Project, City of Irvine, Orange County, California* (Cultural Report) prepared by Michael Baker International and dated April 24, 2024; refer to Appendix C, *Cultural Resources Assessment*.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to in Section 15064.5?

No Impact. As part of the Cultural Report, a South Central Coastal Information Center (SCCIC) records search, literature review and historical map review, historical society consultation, built environment field survey, historical resource evaluation, and buried archaeological site sensitivity analysis were conducted to determine whether the project could result in a significant adverse change to cultural resources in accordance with CEQA. The pedestrian field surveys were conducted on December 12, 2023 and December 13, 2023. The records search of the California Historical Resources Inventory System (CHRIS) was conducted on December 6, 2023 and December 19, 2023 at the SCCIC to identify previous cultural resources studies and previously recorded cultural resources within a 0.25-mile radius of the project site. The CHRIS search results were provided on December 19, 2023, and included a review of the Built Environment Directory, California Inventory of Historic Resources, California Points of Historical Interest, California Historical Landmarks, and Archaeological Determinations of Eligibility for Orange County. The Cultural Report also included a review of available historical United States Geologic Survey 7.5- minute topographic quadrangle maps and consultation request with the Irvine Historical Society.

RECORD SEARCH RESULTS

Based on the records search results, 44 cultural resources were identified within a 0.50-mile radius of the project site, none of which are within the project site. Additionally, the records search results identified six previous cultural resources studies within a 0.25-mile radius of the project site, none of which include the project site. Based on the distances of known cultural resources from the project site and lack of identified cultural resources on-site, archaeological sensitivity for the project site and immediate vicinity is low to moderate. However, no recorded historical resources, pursuant to Section 15064.5 were recorded on-site or in the immediate vicinity. No impacts are anticipated in this regard. Refer to Response 5.5(b) for a discussion of archeological resources.

ON-SITE AGRICULTURAL IRRIGATION PONDAGRICULTURAL IRRIGATION POND HISTORICAL EVALUATION

The existing agricultural irrigation pond on-site was also evaluated for California Register of Historical Resources (CRHR) eligibility in accordance with Section 15064.5 of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code. To be eligible for listing in the CRHR, a property must be at least 50 years of age and possess significance at the local, State, or national level, under one or more of the following criteria:

- **Criterion 1.** It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- **Criterion 2.** It is associated with the lives of persons important in our past;
- **Criterion 3.** It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value;
- **Criterion 4.** It has yielded, or may yield, information important in history or prehistory.

The following includes an evaluation of the existing on-site agricultural irrigation pond for its eligibility with the CRHR based on Criterion 1 through Criterion 4 listed above.

- *Criterion 1* – The agricultural irrigation pond, completed in 1956, is not directly or significantly associated with the development history of Irvine, nor known to have individually made a significant contribution to other broad patterns of local, regional, State, or national culture or history. While the agricultural irrigation pond may have served as a functional component of the agricultural research conducted at the South Coast REC, the agricultural irrigation pond did not have a direct role in the research or discoveries, nor did it influence the later course of educational or agricultural development at the site. Thus, the sole purpose of the pond was to create a more dependable water supply for crop cultivation. As such, this feature is not eligible for listing in the CRHR under Criterion 1.
- *Criterion 2* – While the UC ANR South Coast REC may be linked to scientific advancement in the field of agriculture, independently the agricultural irrigation pond would be unlikely to qualify as the best representation of those achievements. Thus, this feature is not eligible for listing in the CRHR under Criterion 2.
- *Criterion 3* – The agricultural irrigation pond is representative of a typical water storage system from the mid-twentieth century and is not illustrative of any innovations in civil engineering. Additionally, the agricultural irrigation pond is considered a simple structure that is unlikely to qualify as the work of any master, as the individuals tasked with its development undoubtedly carried out a utilitarian design focused solely on practical water supply for the South Coast REC. Further, the agricultural irrigation pond does not possess high artistic characteristics given the resources does not articulate a particular concept of design or aesthetic ideal. As such, this feature is not eligible for listing in the CRHR under Criterion 3.
- *Criterion 4* – The agricultural irrigation pond is not likely to yield valuable information nor possess significant data which would contribute to the understanding of human history given that the property is not and never was the principal source of important information pertaining to significant events, people, engineering, or water retention technology. As such, this feature is not eligible for listing in the CRHR under Criterion 4.

Lacking historic significance, this on-site feature is recommended not eligible for listing in the CRHR. As such, the agricultural irrigation pond is not a historical resource as defined by CEQA Guidelines Section 15064.5(a). Project

implementation would not cause a substantial adverse change in the significance of a historical resource. No impacts would occur in this regard.

***Mitigation Measures*:** No mitigation is required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact With Mitigation Incorporated. As detailed in the Cultural Report, archaeological sensitivity for buried archaeological sites on-site is considered low to moderate based on the lack of previously recorded archaeological sites within the project area, construction of the agricultural irrigation pond, and modern agricultural disturbances in the project area. However, some unanticipated archaeological deposits may be identified given the proximity to previous water sources in the area and the number of prehistoric archaeological sites within 0.50-mile of the project site. Thus, project-related excavation could uncover previously undiscovered archaeological resources during excavation into native soil. In the unlikely event that archaeological resources are encountered during ground-disturbing activities, Mitigation Measure CUL-1 would require all project excavation efforts to halt until a qualified archaeologist is retained by UC ANR, or their designee, and examines and evaluates the find. If the archaeological find is determined to be significant under CEQA, the archaeologist would prepare and implement a data recovery plan, which would include performing technical analyses, report filing with the SCCIC, and providing the recovered material to an appropriate repository for curation, in consultation with a culturally-affiliated Native American if applicable. With implementation of Mitigation Measure CUL-1, the project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines, and impacts would be reduced to less than significant levels.

***Mitigation Measures*:**

CUL-1 The project's grading and construction plans and specifications shall state that, prior to commencement of any ground disturbing activities, a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology, shall be retained for the proposed project. The archaeologist shall be contracted to conduct a Cultural Resources Sensitivity Training for construction personnel prior to the start of excavation activities. The training session shall include a handout and shall focus on how to identify cultural resources encountered during ground-disturbing activities and the procedures to be followed if resources are discovered, including, but not limited to, those outlined below.

In the event that any subsurface cultural resources are encountered during earth-moving activities, all work within 50 feet shall be halted until the qualified archaeologist examines and evaluates the find. The on-site construction supervisor shall redirect work away from the location of the archaeological find. Archaeological resources may consist of prehistoric and/or historical materials. Prehistoric materials can include flaked-stone tools (e.g., projectile points knives, choppers) or obsidian, chert, or quartzite toolmaking debris; cultural darkened soil (i.e., midden soil often containing heat-affected rock, ash, and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars pestles, handstones). Historical materials may include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse. The qualified archaeologist shall oversee the evaluation and recovery of archaeological resources, in accordance with the procedures below and Federal, State, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2. A record of monitoring activity shall be submitted to UC ANR each month and at the end of monitoring. If the archaeological discovery is determined to be significant under the California Environmental Quality Act, the archaeologist shall prepare and implement a data recovery plan. The plan shall include, but not be limited to, the following measures:

- Perform appropriate technical analyses;
- File any resulting reports with the South Central Coastal Information Center; and
- Provide the recovered materials to an appropriate repository for curation, in consultation with a culturally-affiliated Native American, if applicable.

Construction/excavation activities in the halted area(s) shall not resume until the qualified archaeologist states in writing that the proposed activities would not significantly damage any archaeological resources.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact. Due to the level of disturbance in the site vicinity, it is not anticipated that human remains, including those interred outside of formal cemeteries, would be encountered during earth removal or ground-disturbing activities. Nonetheless, if human remains are found, those remains would require proper treatment in accordance with applicable laws. California Resources Health and Safety Code Section 7050.5 through 7055 describe the general provisions for human remains. Specifically, State Health and Safety Code Section 7050.5 requires if any human remains are accidentally discovered during excavation of a site, the County Coroner shall be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. As required by State law, if the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). Following compliance with the aforementioned regulations, impacts related to the disturbance of human remains are less than significant.

Mitigation Measures: No mitigation is required.

5.6 ENERGY

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

REGULATORY FRAMEWORK

California Building Energy Efficiency Standards

The 2022 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6), commonly referred to as "Title 24," became effective on January 1, 2023. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 Title 24 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Title 24 standards.

California Green Building Standards

The 2022 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen, went into effect on January 1, 2023. CALGreen is the first-in-the-nation mandatory green buildings standards code. The California Building Standards Commission developed CALGreen to meet the State's landmark initiative Assembly Bill (AB) 32 goals, which established a comprehensive program of cost-effective reductions of greenhouse gas (GHG) emissions to 1990 levels by 2020. CALGreen was developed to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, and healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the environmental directives of the administration. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.

Senate Bill 100

Senate Bill (SB) 100 (Chapter 312, Statutes of 2018) requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours (kWh) of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; 60 percent by December 31, 2030; and 100 percent by December 31, 2045. The bill requires the California Public Utilities Commission (CPUC), California Energy Commission (CEC), State board or the California Air Resources Board's (CARB), and all other State agencies to incorporate the policy into all relevant planning. In addition, SB 100 requires the CPUC, CEC, and CARB to utilize programs authorized under

existing statutes to achieve that policy and, as part of a public process, issue a joint report to the Legislature by January 1, 2021, and every four years thereafter, that includes specified information relating to the implementation of SB 100.

California Energy Commission Integrated Energy Policy Report

In 2002, the California State Legislature adopted Senate Bill (SB) 1389, which requires the California Energy Commission (CEC) to develop an Integrated Energy Policy Report (IEPR) every two years. SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices, and use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

The CEC adopted the *2023 Integrated Energy Policy Report* (2023 IEPR) on February 14, 2024. The 2023 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California, many of which will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. The 2023 IEPR discusses speeding the connection of clean resources to the electricity grid, the potential use of clean and renewable hydrogen, and the California Energy Demand Forecast to 2040.

University of California Policy on Sustainable Practices

The University of California (UC) Policy on Sustainable Practices (Policy) establishes goals for all UC campuses, five medical centers, and other University properties in nine areas of sustainable practices, including climate protection. The Policy establishes goals in 12 areas of sustainable practices: green building, clean energy, climate protection, transportation, sustainable operations, zero waste, procurement, foodservice, water, health care, performance assessment, and health and well-being. The Policy was most recently updated in April 2024. The 2024 UC Policy on Sustainable Practices revised to replace the cost threshold over which minor renovations need to be LEED certified, which was based on the State California Construction Cost Index (CCCI), with an equivalent cost threshold that UC Office of the President (UCOP) will set annually that is calculated the same way. The 2024 UC Policy on Sustainable Practices also removed references to carbon offset purchases that are no longer used for policy compliance.

METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines Appendix F is an advisory document that assists in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. The analysis below relies upon Appendix F of the CEQA Guidelines, which includes the following criteria to determine whether this threshold of significance is met:

- Criterion 1: The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials maybe discussed.
- Criterion 2: The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- Criterion 3: The effects of the project on peak and base period demands for electricity and other forms of energy.
- Criterion 4: The degree to which the project complies with existing energy standards.
- Criterion 5: The effects of the project on energy resources.
- Criterion 6: The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Quantification of the project's energy usage is presented and addresses Criterion 1. The discussion on construction-related energy use focuses on Criteria 2, 4, and 5. The discussion on operational energy use is divided into

transportation energy demand and building energy demand. The transportation energy demand analysis discusses Criteria 2, 3, and 6, and the building energy demand analysis discusses Criteria 2, 3, 4, and 5.

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. This analysis focuses on two sources of energy that are relevant to the proposed project: electricity and transportation fuel for vehicle trips associated with project construction and operations. The analysis of operational electricity usage is based on the California Emissions Estimator Model version 2022.1 (CalEEMod) modeling results for the project, which quantifies energy use for occupancy. The results of the CalEEMod modeling are included in Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*. It should be noted that the project would not consume natural gas during operations according to UC ANR; therefore, no natural gas use was assumed in the modeling. The project's estimated electricity consumption is based primarily on CalEEMod's default settings for Orange County, and consumption factors provided by Southern California Edison (SCE), the electricity provider for the City and the project site. The amount of operational fuel consumption was estimated using the project's estimated annual vehicle miles traveled (VMT) from CalEEMod outputs, along with fuel efficiency factors and projections for typical annual fuel usage in Orange County obtained from the CARB's latest version of the California EMFAC (short for EMission FACtor) model (EMFAC2021). The estimated construction fuel consumption is based on the project's construction equipment list timing/phasing, and hours of duration for construction equipment.

The project's estimated energy consumption is summarized in Table 5.6-1, *Project-Generated Energy Consumption*. As shown in Table 5.6-1, the project's electricity usage would constitute an approximate 0.0008 percent increase over Orange County's typical annual electricity consumption. The project's construction off-road, construction on-road, and operational on-road fuel consumption would increase the County's consumption by 0.1453 percent, 0.0002 percent, and 0.0017 percent, respectively (**Criterion 2**).

Table 5.6-1
Project-Generated Energy Consumption

Energy Type	Project Annual Energy Consumption[1]	Orange County Annual Energy Consumption[2]	Percentage Increase Countywide[2]
Electricity Consumption	171 MWh	20,243,722 MWh	0.0008%
Fuel Consumption[3]			
• Construction Off-road Fuel Consumption	19,207 gallons	13,217,149 gallons	0.1453%
• Construction On-road Fuel Consumption	1,965 gallons	1,250,175,098 gallons	0.0002%
• Operational On-road Fuel Consumption	22,127 gallons	1,307,863,404 gallons	0.0017%

Notes:
1. As modeled in CalEEMod version 2022.1.
2. The project's increases in electricity consumption are compared to the total consumption in Orange County in 2022 based on data from California Energy Commission: California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/elecbycounty.aspx, accessed January 16, 2024.
3. The project increases in off-road construction and on-road construction fuel consumption are compared with the projected Countywide fuel consumption in 2025 (first year of construction); the increase in on-road operational fuel consumption is compared with the projected Countywide fuel consumption in 2026 (opening year). Countywide fuel consumption data sources are from the CARB: EMFAC2021 for on-road fuel consumption, and Off-Road Database for off-road fuel consumption.

Source: Refer to Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*, for assumptions used in this analysis.

CONSTRUCTION

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during grading, paving, building construction, and architectural coatings. Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that heavy-diesel equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with latest U.S. Environmental Protect Agency (EPA) and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction (**Criterion 4**).

Substantial reduction in energy inputs for construction materials can be achieved by selecting green building materials composed of recycled materials that require less energy to produce than non-recycled materials.[1] The integration of green building materials can help reduce environmental impacts associated with the extraction, transport, processing, fabrication, installation, reuse, recycling, and disposal of these building industry source material.[2] The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. As indicated in Table 5.6-1, the project's fuel consumption from construction off-road sources would be approximately 19,207 gallons, which would increase fuel use in the County by 0.1453 percent. Also indicated in Table 5.6-1, the project's fuel consumption from construction on-road sources would be approximately 1,965 gallons, which would increase fuel use in the County by 0.0002 percent. As such, construction would have a nominal effect on the local and regional energy supplies (**Criterion 2**). It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sits in the region or State (**Criterion 5**). Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. As such, a less than significant impact would occur in this regard.

OPERATIONS

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. Table 5.6-1 provides an estimate of the daily fuel consumed by vehicle traveling to and from the project site. Based on the project-specific trip generation data provided in the *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited Scope Traffic Study Case No. 00926597-PPA* (Trip Generation Analysis), prepared by Michael Baker International and dated May 24, 2024, the proposed project would generate approximately 102 average daily trips, including 35 a.m. peak hour trips, and 4 p.m. peak hour trips; refer to Appendix E, *Trip Generation Analysis*. As indicated in Table 5.6-1, project operational daily trips are estimated to consume approximately 22,127 gallons of fuel per year, which would increase the County's automotive fuel consumption by 0.0017 percent. The project does not propose any unusual features that would result in excessive long-term operational fuel consumption (**Criterion 2**).

The key drivers of transportation-related fuel consumption are commuting distance and many personal choices on when and where to drive for various purposes. Those factors are outside of the scope of the design of the proposed project. However, the project would provide new on-site bus drop-off lane, bicycle parking spaces, and electric vehicle

[1] California Department of Resources Recycling and Recovery, *Green Building Materials*, https://www.calrecycle.ca.gov/greenbuilding/materials#Material, accessed January 16, 2024.
[2] Ibid.

parking spaces, which would promote alternative mode of transportation and reduce transportation fuel consumption (**Criterion 4** and **Criterion 6**).

Therefore, fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. A less than significant impact would occur in this regard.

Building Energy Demand

The CEC developed 2024 to 2040 forecasts for energy consumption and peak demand in support of the 2023 IEPR for each of the major electricity and natural gas planning areas and the State based on the economic and demographic growth projections. CEC forecasted baseline electricity consumption grows at a rate of about 1.7 percent annually through 2040.[3] The natural gas consumption grows at a rate of about 0.2 percent annually through 2035.[4] As shown in Table 5.6-1, operational energy consumption of the project would represent approximately 0.0008 percent increase in electricity consumption over the current Countywide usage, which would be significantly below CEC's forecasts and the current Countywide usage. Therefore, the project would be consistent with the CEC's energy consumption forecasts. As such, the project would not require additional energy capacity or supplies (**Criterion 2**). Additionally, the project would consume energy during the same time periods as other commercial developments and would consume energy during normal business hours. As a result, the project would not result in unique or more intensive peak or base period electricity demand **(Criterion 3)**.

As detailed in Section 2.3, *Project Characteristics*, the proposed Engagement Center would be required to comply with current Title 24 Building Energy Efficiency Standards, which provides minimum efficiency standards related to various building features, including appliances, space heating and cooling equipment, building insulation and roofing, and lighting. In addition, The project would exceed the California Building Code (CBC) energy requirements by at least 20 percent and meet or exceed whole-building energy performance targets per Table 1 of the *University of California – Policy on Sustainable Practices*. As currently proposed, the development would be designed and constructed to a minimum Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) Gold rating (**Criterion 4**).

Furthermore, the electricity provider, SCE, is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 100 percent of total procurement by 2045. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The proposed Engagement Center would install solar-ready roof. The increase in reliance of such energy resources further ensures that new development projects will not result in the waste of the finite energy resources (**Criterion 5**).

Therefore, the project would not cause wasteful, inefficient, and unnecessary consumption of building energy during project operation, or preempt future energy development or future energy conservation. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

[3] California Energy Commission, *2023 Integrated Energy Policy Report, page 130*, February 14, 2024.
[4] Based on the 2023 IEPR, the gas forecast is updated every two years, in odd years. As such, the natural gas consumption shown here is based on the California Energy Commission, *Final 2022 Integrated Energy Policy Report Update, page 140*, May 10, 2023.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Less than Significant Impact. Applicable State and regional plans for renewable energy and energy efficiency include the California Energy Commission's IEPR, Title 24 standards, and CALGreen standards; applicable local plans include the *University of California Policy on Sustainable Practices*.

As discussed above, operational energy consumption of the project would represent approximately 0.0008 percent increase in electricity consumption over the current Countywide usage, which would be significantly below CEC's Statewide consumption forecasts in the 2023 IEPR Update; refer to Table 5.6-1. Further, according to UC ANR, the project would exceed the most current Title 24 (2022 Title 24) and CALGreen (2022 CALGreen) standards by 20 percent and meet or exceed whole-building energy performance targets per Table 1 of the *University of California – Policy on Sustainable Practices*. The project would also comply with other aspects of the *University of California Policy on Sustainable Practices*; refer to Table 5.8-4, *Consistency with the University of California Policy on Sustainable Practices* in Section 5.8, *Greenhouse Gas Emissions*. Compliance with the most current Statewide plan (i.e., IEPR), Statewide standards (Title 24 and CALGreen), and University's policies would ensure project conformance with the State's energy reduction goals. As such, the proposed project would result in less than significant impacts associated with renewable energy or energy efficiency plans.

Mitigation Measures: No mitigation is required.

5.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) 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.				✓
2) Strong seismic ground shaking?			✓	
3) Seismic-related ground failure, including liquefaction?				✓
4) Landslides?				✓
b. Result in substantial soil erosion or the loss of topsoil?			✓	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			✓	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

1) 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.

No Impact. Southern California, including the project area, is subject to the effects of seismic activity due to the active faults that traverse the region. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone.

According to the California Department of Conservation's *Earthquake Zones of Required Investigation* (online map), the project site is not located within an Alquist-Priolo Earthquake Fault Zone.[1] Further, according to the United States Geological Survey's (USGS's) *U.S. Quaternary Faults* (online map), the nearest active fault is the San Joaquin Hills blind thrust fault located approximately 3.2 miles southwest of the project site.[2]

As the project site is not located within an Alquist-Priolo Earthquake Fault Zone, no impacts pertaining to potential rupture of a known earthquake fault would occur.

Mitigation Measures: No mitigation is required.

2) Strong seismic ground shaking?

Less Than Significant Impact. Southern California has numerous active seismic faults subjecting people and structures to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for people and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. Both primary and secondary hazards can pose a threat to the project site as a result of the project's proximity to active regional faults. Nonetheless, the greatest damage from earthquakes results from ground shaking. Ground shaking is generally most severe near quake epicenters and generally becomes weaker further out from the epicenter.

UC ANR minimizes potential ground shaking hazards by:

- Reviewing and approving all draft building plans for compliance with the California Building Code (CBC), which includes specific structural seismic safety provisions;
- Upgrading or replacing existing buildings not adequately prepared to withstand seismic hazards;
- Complying with the *University of California Seismic Safety Policy*, which requires anchorage for seismic resistance of nonstructural building elements such as furnishings, fixtures, material storage facilities, and utilities that could create a hazard if dislodged during an earthquake; and
- Incorporating seismic related emergency procedures into departmental emergency response plans.

The project site would likely experience strong seismic ground shaking during the project's lifetime as expected for the southern California region. Nonetheless, the project would comply with UC ANR's programs and procedures as discussed above to minimize potential ground shaking hazards. Further, a detailed site-specific geotechnical investigation would be conducted by a licensed Professional Geologist during the project design phase, and any recommendations intended to reduce potential ground shaking hazards within the site-specific geotechnical investigation would be required to be implemented in accordance with the CBC. Upon compliance with existing seismic design requirements of the CBC and other requirements imposed by UC ANR, the project would not directly or indirectly cause potential substantial adverse effects with respect to strong seismic ground shaking, and impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

[1] California Department of Conservation, *Earthquake Zones of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed Mach 6, 2024.

[2] United States Geological Survey, *U.S. Quaternary Faults*, *https://doi.org/10.5066/F7S75FJM*, accessed January 30, 2023.

3) Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction is a response to severe groundshaking that can occur in loose soils and near surface ground water. This transformation from solid state to quicksand, as a response to seismically-induced groundshaking, can cause structures supported on the soils to tilt or settle as the supporting capabilities of the soils diminish. Water saturated clay-free sediments generally are expected to have a high susceptibility to liquefaction.

According to the California Department of Conservation, the project site is not located in a Liquefaction Zone.[3] Specifically, the project site is not located within areas where historical occurrence of liquefaction, local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. As such, no impacts pertaining to potential seismic-related ground failure, including liquefaction, are anticipated to occur.

Mitigation Measures: No mitigation is required.

4) Landslides?

No Impact. Earthquake-induced landslides on steep slopes occur in either bedrock or soils and can result in undermining of buildings, severe foundation damage, and collapse. Although earthquake activity does induce some landsliding, most slides occur from the weight of water-saturated soil and rock exceeding the shear strength of the underlying material.

According to the California Department of Conservation, the project is not mapped in a Landslide Zone.[4] Specifically, the project site is not located within areas considered susceptible to seismically-induced landslides. The project site is not located within areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. As such, no impacts pertaining to landslides are anticipated to occur.

Mitigation Measures: No mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Erosion is a process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and may occur at the project site where bare soil is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses. Soil disturbance would temporarily occur during project construction due to earth-moving activities. Disturbed soils would be susceptible to high rates of erosion from wind and rain, resulting in sediment transport via storm water runoff from the project site. In addition, the project site includes nominal portions of identified Prime Farmland, which would include topsoil for the purpose of agriculture. However, proposed earthwork/grading activities would be balanced on-site and would not require the export of soil any existing on-site soils. Therefore, the project would not result in the loss of topsoil on-site.

SOIL EROSION DURING CONSTRUCTION

Grading and earthwork activities associated with project construction activities would expose soils to potential short-term erosion by wind and water. Excavation and grading activities for the project would be subject to compliance with

[3] California Department of Conservation, *Earthquake Zones of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed Mach 6, 2024.
[4] California Department of Conservation, *Earthquake Zones of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed Mach 6, 2024.

requirements under the CBC. Additionally, as detailed in Section 5.10, *Hydrology and Water Quality*, the proposed project would comply with applicable water quality standards developed by the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB) for stormwater through required permits, including the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit, which would control pollutants contained in runoff generated from UC properties.[5] Compliance with the NPDES requirements, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP) would reduce the volume of sediment-laden runoff discharging from the site. The SWPPP must list Best Management Practices (BMPs) that the discharger would implement to mitigate potential pollutants in stormwater runoff and the locations of those BMPs at the construction site. BMPs for construction activities may include measures to control pollutants at particular sources, such as fueling areas, trash storage areas, outdoor materials storage areas, and outdoor work areas. The implementation of BMPs would reduce the potential for sediment and storm water runoff containing pollutants from entering receiving waters. Therefore, with compliance with NPDES requirements and the Stormwater General Construction Permit, impacts pertaining to erosion during construction would be less than significant.

OPERATIONS

The proposed project would construct a new Engagement Center, which would include both pervious and impervious surfaces. All pervious surfaces would be landscaped, minimizing erosion potential, or have similar erosion potential as the existing condition. New landscaping would also incorporate drainage control and stormwater management via biofiltration within in-ground planters, bioswales, permeable pavers, and other low-impact design (LID) features. Thus, erosion or siltation impacts as a result of operation of the project would be less than significant. Therefore, development of the proposed project would not increase exposure of on-site soils to soil erosion conditions, compared to the existing condition, during project operations. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. Refer to Responses 4.7(a)(3), 4.7(a)(4), and 4.7(d) for a discussion concerning liquefaction, landslides, and collapse (from expansive soils), respectively. Impacts with regards to liquefaction, landslides and collapse would be less than significant.

LATERAL SPREADING

Lateral spreading is the lateral movement of sloping saturated deposits. As detailed above, the project site is not located in a Liquefaction Zone. According to the USGS's topographic map, the project site is situated on a relatively level terrain with elevations ranging from 440 to 480 feet above mean sea level.[6] The project site is also not located near steep slopes where instability may occur. Based on the risk pertaining to on-site liquefaction (which also involves saturated deposits), the site's elevations, and the relatively flat and stable terrain, lateral spreading is not anticipated to occur on-site.

Although lateral spreading is not anticipated to occur on-site, a detailed site-specific geotechnical investigation would be required to be conducted by a licensed Professional Geologist during the project design phase. Per UC ANR's programs and procedures, any recommendations intended to minimize potential lateral spreading, if identified, within the site-specific geotechnical investigation would be required to be implemented in accordance with the CBC. Therefore, less than significant impacts would occur in this regard.

[5] State Water Resources Control Board, *Order No. R8-2009-0030 NPDES No. CAS618030*, 2010.
[6] United States Geological Survey, *7.5-Minute Topographic Map of the Lake Forest Quadrangle*, 2022.

SUBSIDENCE/COLLAPSE

Subsidence is the downward settling of surface materials caused by natural or artificial removal of underlying support. Land subsidence would occur from one or more of several causes including withdrawal of fluids (oil, gas, or water) or the application of water to moisture-deficient unconsolidated deposits. Subsidence is a relatively slow process that may continue for several decades.

As discussed, a detailed site-specific geotechnical investigation would be required to be conducted by a licensed Professional Geologist during the project design phase. Per UC ANR's programs and procedures, any recommendations intended to minimize potential ground hazards, including subsidence and collapse, if identified, within the site-specific geotechnical investigation would be required to be implemented in accordance with the CBC. Therefore, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Expansive soils are defined as soils possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet).

According to the *Irvine General Plan* (General Plan) Seismic Element, the soils on the project site are characterized as "shallow alluvium over and abutting bedrock".[7] Therefore, it is not anticipated that on-site site would be of significant clay particles. Additionally, a geotechnical report was prepared for an adjacent site (North Irvine Staff Housing Geotechnical Data Report) located in the South Coast REC (at the northern portion of the REC) in 2021.[8] According to this report, this adjacent site's on-site surficial clayey soils have expansion index values ranging from approximately 5 to 51, indicating a very low to medium potential for expansion. Due to the proximity (approximately 1,500 feet) of this adjacent site to the project site, it could be reasonably inferred that on-site soils would be of similar character.

CBC includes provisions for construction on expansive soils. Proper fill selection, moisture control, and compaction during construction can prevent these soils from causing significant damage. Expansive soils can be treated by removal (typically the upper three feet below finish grade) and replacement with low expansive soils, lime-treatment, and/or moisture conditioning. It is noted that all development at the South Coast REC are required to undergo analysis of the soil conditions applicable to the development site in question as part of a detailed site-specific geotechnical investigation conducted by a licensed Professional Geologist during the project design phase. The analysis would provide recommendations to prepare the site for development to avoid the hazards associated with expansive soils. Typical measures to treat expansive soils involve removal, proper fill selection, and compaction. The project would be required to follow any recommendations intended to minimize potential hazards associated with expansive soils, if identified, within the site-specific geotechnical investigation in accordance with CBC. Therefore, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

[7] City of Irvine, *Irvine General Plan, Seismic, Figure D-3, Seismic Response Areas*, July 2015.

[8] Ninyo & Moore, *Geotechnical Data Report, North Irvine Staff Housing Study Area, University of California, Irvine, Irvine,* California, December 17, 2021.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. No septic tanks or alternative wastewater disposal systems would be constructed as part of the project. Impacts related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would not occur.

Mitigation Measures: No mitigation is required.

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

No Impact. The City's General Plan mapped known fossil occurrences within the City, where the project site is located. The locality information and past fossil production in adjacent areas was used to develop zones of similar paleontological potential or sensitivity. Four paleontological sensitivity zones were developed to group rocks with similar paleontological potential. Each zone reflects the potential for the discovery of significant fossil resources during development of a site. The four zones include: no sensitivity (areas in this zone contain exposed volcanic rock); low sensitivity (areas in this zone typically have altered or geologically young rocks exposed at the surface); and moderate sensitivity (areas within this zone contain sedimentary rocks with limited histories of producing significant fossils). According to the City's General Plan Figure E-2, *Paleontological Sensitivity Zones*, the project site is located in areas with low sensitivity.[9] As such, no impacts are anticipated to occur in this regard.

Mitigation Measures: No mitigation is required.

[9] City of Irvine, *Irvine General Plan, Cultural Resources, Figure E-2, Paleontological Sensitivity Zones*, July 2015.

5.8 GREENHOUSE GAS EMISSIONS

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

GLOBAL CLIMATE CHANGE

California is a substantial contributor of global greenhouse gases (GHGs), emitting approximately 381.3 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) per year.[1] Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, CH_4, and nitrous oxide (N_2O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of January 2024, the highest monthly average concentration of CO_2 in the atmosphere was recorded at 243 ppm.[2]

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent (CO_2e)[3] concentration is required to keep global mean warming below 2 degrees Celsius (°C), which in turn is assumed to be necessary to avoid dangerous climate change.

REGULATORY FRAMEWORK

Various Statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and

1 California Air Resources Board, *California Greenhouse Gas Emissions for 2000 to 2021: Trends of Emissions and Other Indicators,* https://ww2.arb.ca.gov/ghg-inventory-data, accessed January 16, 2024.

2 Scripps Institution of Oceanography, *The Keeling Curve, Carbon Dioxide Concentration at Mauna Loa Observatory*, https://scripps.ucsd.edu/programs/keelingcurve/, accessed January 16, 2024.

3 Carbon Dioxide Equivalent (CO_2e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation is necessary to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Executive Order S-3-05

Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Senate Bill 32

Signed into law on September 2016, Senate Bill (SB) 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030.

California Building Energy Efficiency Standards (Title 24)

The *2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings* (California Code of Regulations, Title 24, Part 6), commonly referred to as "Title 24," became effective on January 1, 2023. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 Title 24 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Title 24.

CARB Scoping Plan

On December 11, 2008, CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million $MTCO_2e$ under a business-as-usual (BAU)[4] scenario. This is a reduction of 42 million $MTCO_2e$, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

[4] Based on the Scoping Plan, "Business-as-Usual" (BAU) scenario refers to GHG emissions that would be expected to occur in the absence of existing reductions policies. Note that there is significant controversy as to what BAU means. In determining

In December 2017, CARB approved the *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. This update focuses on implementation of a 40 percent reduction in GHGs by 2030 compared to 1990 levels. To achieve this, the updated Scoping Plan draws on a decade of successful programs that addresses the major sources of climate changing gases in every sector of the economy.

On December 15, 2022, CARB released the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan), which identifies the strategies achieving carbon neutrality by 2045 or earlier. The 2022 Scoping Plan contains the GHG reductions, technology, and clean energy mandated by statutes. The 2022 Scoping Plan was developed to achieve carbon neutrality by 2045 through a substantial reduction in fossil fuel dependence, while at the same time increasing deployment of efficient non-combustion technologies and distribution of clean energy. The plan would also reduce emissions of short-lived climate pollutants (SLCPs) and would include mechanical CO_2 capture and sequestration actions, as well as emissions and sequestration from natural and working lands and nature-based strategies. Under 2022 Scoping Plan, by 2045, California aims to cut GHG emissions by 85 percent below 1990 levels, reduce smog-forming air pollution by 71 percent, reduce the demand for liquid petroleum by 94 percent compared to current usage, improve health and welfare, and create millions of new jobs. This plan also builds upon current and previous environmental justice efforts to integrate environmental justice directly into the plan, to ensure that all communities can reap the benefits of this transformational plan.

Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, the Regional Council of Southern California Association of Governments (SCAG) formally adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments – Connect SoCal* (2020-2045 RTP/SCS). The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing GHGs from autos and light-duty trucks by 19 percent by 2035 (compared to 2005 levels). Specially, these strategies are:

- Focus growth near destinations and mobility options;
- Promote diverse housing choices;
- Leverage technology innovations;
- Support implementation of sustainability policies; and
- Promote a green region.

Furthermore, the 2020-2045 RTP/SCS discusses a variety of land use tools to help achieve the state-mandated reductions in GHG emissions through reduced per capita vehicle miles traveled (VMT). Some of these tools include center focused placemaking, focusing on priority growth areas, job centers, transit priority areas, as well as high quality transit areas and green regions.

The most recent RTP/SCS (Connect SoCal 2024) was approved by SCAG's Regional Council in April 2024. Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies, and strategies for achieving the region's shared goals through 2050. Connect SoCal 2024 sets forth a forecasted regional development pattern which, when integrated with the transportation network, measures, and policies, will reduce GHG emissions from automobiles and light-duty trucks and achieve the GHG emissions reduction target for the region set by the CARB. In addition, Connect SoCal 2024 is supported by a combination of transportation and land use strategies that outline how the region can achieve California's GHG-emission-reduction goals and federal Clean Air Act requirements. These are articulated in a set of Regional Strategic Investments, Regional Planning Policies, and Implementation Strategies. The Regional Planning Policies are a resource for County Transportation Commissions (CTCs) and local jurisdictions, who can refer to specific policies to demonstrate alignment with the RTP/SCS when seeking resources from State or

the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

federal programs. The Implementation Strategies articulate priorities for SCAG efforts in fulfilling or going beyond the Regional Planning Policies.

University of California Policy on Sustainable Practices

The *University of California Policy on Sustainable Practices* (Policy) establishes goals for all the University campuses, five medical centers, and other University properties in nine areas of sustainable practices, including climate protection. The Policy establishes goals in 12 areas of sustainable practices: green building, clean energy, climate protection, transportation, sustainable operations, zero waste, procurement, foodservice, water, health care, performance assessment, and health and well-being. The Policy was most recently revised in April 2024. These revisions replaced the cost threshold over which minor renovations need to be LEED certified, which was based on the State California Construction Cost Index (CCCI), with an equivalent cost threshold that UC Office of the President (UCOP) will set annually that is calculated the same way. The 2024 UC Policy on Sustainable Practices also removed references to carbon offset purchases that are no longer used for policy compliance.

Second Nature Carbon Commitment

The University of California is a signatory of Second Nature's Carbon Commitment, formerly known as the American College and University President's Climate Commitment (ACUPCC). This commitment focuses on reduction of GHG emissions with the goal of reaching carbon neutrality as soon as possible.

Energy Service Unit

Energy Service Unit (ESU) supports the University's diverse asset base and helps to chart a path to carbon neutrality with increased procurement transparency. Program areas include wholesale electric, retail load (e.g., campus energy efficiency and renewable energy), natural gas and biogas procurement and development, management of environmental attributes (e.g., carbon allowances), University legislative and regulatory representation on facility issues, and the purchased utility database.

METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

Amendments to CEQA Guidelines Section 15064.4 were adopted to assist lead agencies in determining the significance of the impacts of GHG emissions and gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. This section recommends certain factors to be considered in the determination of significance (i.e., the extent to which a project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHGs). The amendments do not establish a threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), so long as any threshold chosen is supported by substantial evidence (CEQA Guidelines Section 15064.7(c)). The California Natural Resources Agency has also clarified that the CEQA Guidelines amendments focus on the effects of GHG emissions as cumulative impacts, and therefore GHG emissions should be analyzed in the context of CEQA's requirements for cumulative impact analyses (CEQA Guidelines Section 15064(h)(3)).[5,6] A project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply

[5] California Natural Resources Agency, *Final Statement of Reasons for Regulatory Action*, pp. 11-13, 14, 16, December 2009, https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf, accessed September 22, 2022.

[6] State of California Governor's Office of Planning and Research, *Transmittal of the Governor's Office of Planning and Research's Proposed SB97 CEQA Guidelines Amendments to the Natural Resources Agency*, April 13, 2009, https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/C01.pdf, accessed September 22, 2022.

with an approved plan or mitigation program that provides specific requirements to avoid or substantially lessen the cumulative problem within the geographic area of the project.[7]

In 2008, South Coast Air Quality Management District (SCAQMD) developed and recommended two types of GHG thresholds: (1) separate numerical thresholds for residential projects (3,500 $MTCO_2e$), commercial projects (1,400 $MTCO_2e$), and Mixed Use projects (3,000 $MTCO_2e$); or (2) a singular numerical threshold for all non-industrial projects (3,000 $MTCO_2e$). These SCAQMD thresholds were developed using substantial evidence by the SCAQMD GHG Working Group (a group of various resource agencies, cities, counties, utilities, and environmental groups) with the objective of capturing 90 percent of GHG emissions from larger projects above the screening threshold and allowing smaller projects to be implemented without further investigation of possible mitigative elements. Additionally, the long-term goal of Executive Order S-3-05 to reduce statewide GHG emissions to 80 percent below 1990 levels by 2050 formulated the basis of the SCAQMD recommendation, which is also consistent with analysis published by the CAPCOA in its 2008 White Paper on CEQA and Climate Change. SCAQMD's GHG Working Group consensus "clearly states that it is at the lead agency's discretion to apply the appropriate threshold to the project for CEQA review. In other words, SCAQMD's recommendation is that the lead agency will need to decide which threshold is most appropriate."

UC ANR has not adopted a threshold of significance for assessing impacts related to GHG emissions. Similarly, SCAQMD also has not adopted significance criteria or thresholds for assessing GHG emissions that is applicable to the project.

Since there is not an adopted and applicable numerical threshold of significance for GHG emissions, the methodology for evaluating the project's impacts related to GHG emissions focuses on its consistency with Statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the project's GHG-related impacts on the environment. Notwithstanding, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the project using recommended air quality models, as described below. The primary purpose of quantifying the project's GHG emissions is to satisfy CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the project's GHG emissions impacts are not based on the amount of GHG emissions resulting from the project. Further, for informational purposes, the University has determined to demonstrate potential project-related GHG impacts quantitatively by comparing project-generated GHG emissions with SCAQMD's recommended threshold for non-industrial projects (3,000 $MTCO_2e$).

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

Less Than Significant Impact.

PROJECT-RELATED GREENHOUSE GAS EMISSIONS

Project-related GHG emissions include emissions from direct and indirect sources. The proposed project would result in direct and indirect emissions of CO_2, N_2O, CH_4, and refrigerants, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these forms of GHG emissions. Direct project-related GHG emissions include emissions from construction activities, mobile sources, area sources, and refrigerants,

7 California Code of Regulations Title 14 Section 15064(h)(3).

while indirect sources include emissions from energy consumption, water demand, and solid waste generation.[8] It should be noted that according to UC ANR, the project would not consume natural gas during operation. As such, no natural gas use was assumed in the modeling.

The amount of GHG emissions that would be attributable to the new Engagement Center is calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1. CalEEMod relies upon trip generation rates and project specific land use data to calculate emissions. Project-specific trip generation data was provided in the *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited Scope Traffic Study Case No. 00926597-PPA* (Trip Generation Analysis), prepared by Michael Baker International and dated May 24, 2024. Table 5.8-1, *Project-Generated Greenhouse Gas Emissions*, presents the estimated project-related emissions of CO_2, N_2O, CH_4, refrigerants, and the CO_2e of these GHGs emissions. Refer to Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*, for the CalEEMod outputs and results.

Table 5.8-1
Project-Generated Greenhouse Gas Emissions

Source	CO_2	CH_4	N_2O	Refrigerants	CO_2e
	Metric Tons/year[1]				
Direct Emissions					
Construction (amortized over 30 years)	9.24	<0.01	<0.01	<0.01	9.28
Mobile Source	139.00	0.01	0.01	0.24	141.00
Area Source	0.28	<0.01	<0.01	0.00	0.28
Refrigerants	0.00	0.00	0.00	0.01	0.01
Total Direct Emissions[2]	*148.52*	*0.01*	*0.01*	*0.26*	*150.57*
Indirect Emissions					
Energy[3]	0.00	0.00	0.00	0.00	0.00
Water	2.35	0.02	<0.01	0.00	3.07
Solid Waste	1.63	0.16	0.00	0.00	5.72
Total Indirect Emissions[2]	*3.98*	*0.18*	<0.01	*0.00*	*8.79*
Total Project-Related Emissions[2]	***159.36 MTCO2e/year***				

Notes:
1. Emissions calculated using California Emissions Estimator Model Version 2022.1.1 (CalEEMod) computer model.
2. Totals may be slightly off due to rounding.
3. UC ANR participates in the UC Clean Power Program's Direct Access program. As such, 100 percent of energy used at South Coast REC would be considered clean energy by 2025.

Source: Refer to Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*, for detailed model input/output data.

Direct Sources

Construction Emissions. Construction GHG emissions are typically summed and amortized over the lifetime of the new Engagement Center (assumed to be 30 years), then added to the operational emissions.[9] As shown in Table 5.8-1, the proposed project would result in approximately 9.28 $MTCO_2e$ when amortized over 30 years (278.40 $MTCO_2e$ total).

Mobile Sources. Mobile source emissions were calculated using the project-specific trip generation data provided in the *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited*

[8] "Direct" GHG emissions refer to activities that result in active, localized GHG emissions (e.g., burning fuels where such activity occurs), while "indirect" GHG emissions refer to activities that result in GHG emissions elsewhere (e.g., water being transported using electricity; electricity being generated thousands of miles away and directed to where water needs to be transported.)

[9] The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold,* October 2008).

Scope Traffic Study Case No. 00926597-PPA (Trip Generation Analysis), prepared by Michael Baker International and dated May 24, 2024; refer to Appendix E, Trip Generation Analysis. The proposed project is anticipated to generate approximately 102 net average daily trips, including 35 a.m. peak hour trips, and 4 p.m. peak hour trips. Based on CalEEMod outputs, the proposed project would directly result in 141.00 $MTCO_2e$ per year of mobile source-generated GHG emissions; refer to Table 5.8-1.

Area Source. Area source emissions were calculated using CalEEMod and project-specific land use data. Project-related area sources include exhaust emissions from landscape maintenance equipment. According to UC ANR, 90 percent of landscaping equipment would be electric. However, as a conservative analysis, this is not accounted for in the modeling. Nonetheless, the project would directly result in 0.28 $MTCO_2e$ per year from area source emissions; refer to Table 5.8-1.

Refrigerants. Refrigerants are substances used in equipment for air conditioning and refrigeration. Most of the refrigerants used today are HFCs or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate. The proposed new Engagement Center would result in 0.01 $MTCO_2e$ per year of GHG emissions from refrigerants; refer Table 5.8-1.

Indirect Sources

Energy Consumption. The project would participate in UC Clean Power Program's Direct Access Program. With participation in this program, the electricity provided to the site would be 100 percent clean with no emissions. According to UC ANR, the project would not consume natural gas during operation. As such, no natural gas use was assumed in the modeling. The new Engagement Center would indirectly result in zero emission per year due to energy consumption; refer to Table 5.8-1.

Water Demand. The new Engagement Center would utilize ultra-low flow fixtures, automatic senor controls, reduced flow aerators at all new fixtures to meet or exceed current CALGreen Water Efficiency measures and as required for Leadership in Energy and Environmental Design (LEED) certification, reclaimed water provided by the local water district, draught-tolerant landscaping. Furthermore, the researchers would also assist in the development of reclaimed water management strategies. However, these measures were not included in CalEEMod for a more conservative analysis. Emissions from indirect energy impacts due to water supply would result in 3.07 $MTCO_2e$ per year; refer to Table 5.8-1.

Solid Waste. Solid waste associated with operations of the proposed new Engagement Center would result in 5.72 $MTCO_2e$ per year; refer to Table 5.8-1.

Total Project-Related Sources of Greenhouse Gases

As shown in Table 5.8-1, the total project-related GHG emissions from direct and indirect sources combined would total 159.36 $MTCO_2e$ per year. For informational purposes, it should be noted that project-related GHG emissions would not exceed the SCAQMD threshold of 3,000 $MTCO_2e$ per year for non-industrial projects. Nonetheless, the primary purpose of quantifying the project's GHG emissions is to satisfy CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions; the significance of the project's GHG emissions impacts are not based on the amount of GHG emissions resulting from the project.

Since there is not an adopted and applicable numerical threshold of significance for GHG emissions, the methodology for evaluating the project's impacts related to GHG emissions focuses on its consistency with Statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. The following analysis evaluates

consistency with such plans in order to determine the significance of the project's GHG-related impacts on the environment.

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

The GHG plan consistency is based on the project's consistency with the 2022 Scoping Plan, the 2020-2045 RTP/SCS, and the University of California (UC) Policy on Sustainable Practices (Policy). On a statewide level, the 2022 Scoping Plan provides measures to achieve SB 32 targets. On a regional level, SCAG's 2020-2045 RTP/SCS contains measures to achieve VMT reductions required under SB 375. On the local level, the University of California (UC) Policy on Sustainable Practices (Policy) establishes goals for all the University campuses, five medical centers, and other University properties in nine areas of sustainable practices, including climate protection.

Consistency With the 2022 Scoping Plan

The 2022 Scoping Plan identifies reduction measures necessary to achieve the goal of carbon neutrality by 2045 or earlier. Actions that reduce GHG emissions are identified for each AB 32 inventory sector. Provided in Table 5.8-2, *Consistency with the 2022 Scoping Plan: AB 32 GHG Inventory Sectors*, is an evaluation of applicable reduction actions/strategies by emissions source category to determine how the project would be consistent with or exceed reduction actions/strategies outlined in the 2022 Scoping Plan.

Table 5.8-2
Consistency with the 2022 Scoping Plan: AB 32 GHG Inventory Sectors

Actions and Strategies	Project Consistency Analysis
Smart Growth / Vehicles Miles Traveled (VMT)	
Reduce VMT per capita to 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	**Consistent.** Based on data provided in the Trip Generation Analysis and as detailed in Section 4.17, *Transportation*, given that the project's net daily trips of 102 is below the 250-trip threshold used by the City of Irvine, the project meets the screening criteria and would result in a less than significant VMT impact. Additionally, the proposed Engagement Center would be designed to accommodate bicycle and pedestrian connectivity to the surrounding area, which would promote alternative modes of transportation to reduce VMT. The project would be consistent with this action.
New Residential and Commercial Buildings	
All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030	**Consistent**. The project would not consume natural gas. Further, the project would install high efficiency lighting as well as energy efficient appliances. The project would be consistent with this action.
Non-combustion Methane Emissions	
Divert 75% of organic waste from landfills by 2025	**Consistent**. SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. The project would comply with local and regional regulations and recycle or compost 75 percent of waste by 2025 pursuant to SB 1383. The project would be consistent with this action.
Source: California Air Resources Board, *2022 Scoping Plan*, November 16, 2022.	

Consistency with the 2020-2045 RTP/SCS

Table 5.8-3, *Consistency with the 2020-2045 RTP/SCS*, shows the project's consistency with these five strategies found within the 2020-2045 RTP/SCS. As shown therein, the proposed project would be consistent with the GHG

emission reduction strategies contained in the 2020-2045 RTP/SCS. As mentioned above, the latest 2024-2050 RTP/SCS (Connect SoCal 2024) was adopted on April 4, 2024. However, CARB concluded that the technical methodology SCAG used to quantify the GHG emission reductions for the Connect SoCal 2024 does not operate accurately.[10] SCAG is currently working on updating the technical methodology and resubmitting for CARB's review. Until CARB approves the methodology, the Connect SoCal 2024 is not a fully adopted document, especially from the GHG reduction perspective of the proposed strategies. As such, the consistency analysis relies upon the 2020-2045 RTP/SCS.

Table 5.8-3
Consistency with the 2020-2045 RTP/SCS

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Focus Growth Near Destinations and Mobility Options		
• Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets • Plan for growth near transit investments and support implementation of first/last mile strategies • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking)	**Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.**	**Consistent.** Transit Priority Areas (TPAs) are defined in the 0.5-mile radius around an existing or planned major transit stop or an existing stop along a High-Quality Transit Corridor (HQTC). A HQTC is defined as a corridor with fixed route bus service frequency of 15 minutes (or less) during peak commute hours. The project is not located in a TPA or a HQTC; the nearest bus stops are approximately 2 miles away near Jefferson Road to the north or near Alton Parkway to the south. Although the project is not located within a TPA or a HQTC, the project would provide bicycle parking spaces and electric vehicle parking spaces in accordance with Leadership in Energy and Environmental Design (LEED) certification, which would promote alternative modes of transportation. As such, the project would be consistent with the strategy.
Promote Diverse Housing Choices		
• Preserve and rehabilitate affordable housing and prevent displacement • Identify funding opportunities for new workforce and affordable housing development • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions	**PGA, Job Centers, HQTAs, NMA, TPAs, Livable Corridors, Green Region, Urban Greening.**	**Not Applicable.** The project would not involve residential development.
Leverage Technology Innovations		
• Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing	**HQTA, TPAs, NMA, Livable Corridors.**	**Consistent.** In compliance with sustainable practices included the University's Design Guidance, UC Policy on Sustainable

[10] California Air Resources Board, *RE: CARB Review of Southern California Association of Governments' 2024 SCS Senate Bill 375 Greenhouse Gas Emissions Draft Technical Methodology*, March 29, 2024. https://ww2.arb.ca.gov/sites/default/files/2024-04/SCAG%20memo%20final.pdf, accessed, April 23, 2024.

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space • Improve access to services through technology—such as telework and telemedicine as well as other incentives such as a "mobility wallet," an app-based system for storing transit and other multi-modal payments • Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation		Practices, and CALGreen, the project would provide bicycle parking spaces and electric vehicle parking spaces in accordance with LEED certification requirement. Additionally, the project would exceed current Title 24 Standards by 20 percent, provide a solar roof, produce on-site renewable energy, and would not include natural gas use. Also, the project would participate in UC Clean Power program's Direct Access Program, which would provide clean electricity to the project site. Further, South Coast REC provides flexibility regarding staff commute that would effectively reduce VMT; currently, two 2 staff live on-site, two staffs carpool to work utilizing plug-in hybrids, and roughly 10 to 12 staff members work remotely for two days each week. Additionally, the South Coast REC provides a small fleet of hybrid vehicles for staff to utilize for business purposes. Overall, the project would be consistent with this reduction strategy.
Support Implementation of Sustainability Policies		
• Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space • Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region • Continue to support long range planning efforts by local jurisdictions • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy	**Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.**	**Consistent.** As previously discussed, the project would provide bicycle parking spaces and electric vehicle parking spaces in accordance with LEED certification requirement in compliance with sustainable practices included the University's Design Guidance, UC Policy on Sustainable Practices, and CALGreen. Additionally, the project would exceed current Title 24 Standards by 20 percent. Thus, the project would be consistent with this reduction strategy.
Promote a Green Region		
• Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards • Support local policies for renewable energy production,	**Green Region, Urban Greening, Greenbelts and Community Separators.**	**Consistent.** The proposed project is not anticipated to interfere with regional wildlife connectivity or reduce agricultural land. The project would be consistent with the land use envisioned for the site. The project

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
reduction of urban heat islands and carbon sequestration • Integrate local food production into the regional landscape • Promote more resource efficient development focused on conservation, recycling and reclamation • Preserve, enhance and restore regional wildlife connectivity • Reduce consumption of resource areas, including agricultural land • Identify ways to improve access to public park space		would be required to comply with the most current regional and local energy efficient standards, which would help reduce energy consumption and reduce GHG emissions. Thus, the project would support resource efficient development that reduces energy consumption and GHG emissions. The project would be consistent with this reduction strategy.
Source: Southern California Association of Governments, *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy – Connect SoCal*, September 3, 2020.		

Consistency with University of California Policy on Sustainable Practices

The proposed project would be subject to the *University of California – Policy on Sustainable Practices* (Policy). The Policy establishes goals in nine areas including: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmental preferable purchasing, sustainable foodservice, and sustainable water systems. Table 5.8-4, *Consistency with the University of California Policy on Sustainable Practices*, discusses the proposed project's consistency with the applicable goals and policies.

Table 5.8-4
Consistency with the University of California Policy on Sustainable Practices

Goals/Policies/Objectives	Project Consistency Analysis
University of California Policy on Sustainable Practices	
A. Green Building Design 1) New Buildings a) At a minimum, all new building projects, other than acute care facilities, will be designed, constructed, and commissioned to outperform the California Building Code (CBC) energy-efficiency standards by at least 20% or meet the whole-building energy performance targets listed in Table 1 of Section V.A.1. Additionally, whenever possible within the constraints of program needs and standard budget parameters, the University will strive to design, construct, and commission buildings that outperform CBC energy efficiency standards by 30% or more or meet the whole-building energy performance stretch targets listed in Table 1 of Section V.A.1. c) New building or major renovation projects must not use onsite fossil fuel combustion (e.g., natural gas) for space and water heating (except those projects connected to an existing campus central thermal infrastructure). Projects unable to meet this requirement will document the rationale for this decision, as described in Section V.A.1.d. d) All new buildings will at a minimum achieve a USGBC LEED "Gold". Additionally, whenever possible within the constraints of program needs and standard budget parameters, all new buildings will strive to achieve	**Consistent.** The new Engagement Center would be designed per the University's Green Building Design Sustainable Practices Policy. Accordingly, the energy performance of the proposed building would outperform minimum compliance with the California Energy Code (CEC) by 20 percent. The development would be designed and constructed to a minimum LEED Building Design and Construction (BD+C) Gold rating. Specially, the new Engagement Center would utilize ultra-low flow fixtures, automatic sensor controls, and reduced flow aerators at all new fixtures, to meet or exceed current California Green Building Standards Code—Part 11, Title 24, California Code of Regulations (CALGreen) Water Efficiency measures and as required for LEED Certification. High-efficiency lighting systems would be installed into all buildings, and adaptive light layering would be utilized for task, accent, and ambient lighting to allow lighting levels to be safely reduced under multiple circumstances. Additionally, high-efficiency domestic hot water (DHW) systems would be installed in all buildings. Furthermore, the proposed Engagement Center would not consume any natural gas on-site. As such, the project would be consistent with the goal.

Goals/Policies/Objectives	Project Consistency Analysis
certification at a USGBC LEED "Platinum" rating. This provision applies to all building projects submitting Preliminary Drawing after January 1, 2024 (per section V.A.1.a). Projects submitted prior to that date have the option to follow the old standard of achieving LEED Silver and striving for Gold. f) All new building projects will achieve at least five points within the available credits in LEED-BD+C's Water Efficiency and Sustainable Sites: Rainwater Management categories (in support of section III.I) and prioritize earning waste reduction and recycling credits (per section V.F.).	
B. Clean Energy The University of California is committed to reducing its greenhouse gas emissions by reducing energy use and switching to clean energy supplies. 1) Energy Efficiency: Each location will implement energy efficiency actions in buildings and infrastructure systems to reduce the location's energy use intensity by an average of at least 2 % annually. 2) On-campus Renewable Electricity: Campuses and health locations will install additional on-site renewable electricity supplies and energy storage systems whenever cost-effective and/or supportive of the location's Climate Action Plan or other goals. 3) Off-campus Clean Electricity: By 2025, each campus and health location will obtain 100% clean electricity. The UC Clean Power Program will provide 100% clean electricity to participating locations.	**Consistent.** As discussed above, the energy performance of the proposed building would outperform minimum compliance with the CEC by 20 percent. In accordance with CALGreen standards, the project would include solar facilities either in the form of panels mounted on the roof of the Engagement Center, as a parking shade structure, or panels that also provide shaded growing space for sensitive/high value crops. Furthermore, the Engagement Center would not consume natural gas on-site. As such, the project would be consistent with the goal.
C. Climate Action The University of California recognizes the urgency of the climate crisis and the responsibility of public universities to lead in reducing emissions. The policy describes UC's commitments to reduce operational greenhouse gas (GHG) emissions supporting California's aggressive climate goals to address the climate crisis while mitigating impacts on vulnerable populations. For purposes of this section, the term campus includes the related health location. 1) Total Emissions a) Locations will achieve at least 90% reduction in total emissions (Scopes 1,2, and 3) by no other than calendar year 2045 relative to a 2019 baseline year. b) After 2045, any residual emissions beyond the 90% reduction will be negated by carbon removal. 2) Scope 1 Emissions UC will prioritize direct to reduce Scope 1 emissions: a) Informed by the decarbonization studies currently under development, before 2025, each UC location will set and submit to the UC Office of the President Scope 1 GHG reduction targets for calendar years 2030, 2035, and 2040. All percent-reduction targets will be set relative to a 2019 baseline year. b) Given the urgency of the climate crisis, locations will set the most aggressive targets feasible. Both	**Consistent.** As shown in Table 5.8-1, the project would emit 159.36 $MTCO_2e$ per year. Additionally, the new Engagement Center would install solar facilities in the forms of panels mounted on the roof, as a parking shade structure, or panels that also provide shaded growing space for sensitive/high value crops. Furthermore, the project would not consume any natural gas on-site. TUC ANR participates in UC Clean Power Program's Direct Access program. Through participation in the program, the new Engagement Center would use clean energy, which has zero emissions from energy sources. As discussed above, the new Engagement Center would outperform minimum compliance with the CEC by 20 percent. The development would be designed and constructed to a minimum LEED Building Design and Construction (BD+C) Gold rating. As such, the project would not conflict the policy's sustainable practice on Climate Protection.

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collectively and individually, all locations will work to secure funding to meet targets. c) While near-term targets are being developed for years 2030 and beyond, each location will incrementally reduce GHG emissions from the on-site combustion of fossil fuels relative to emissions in 2019. These reductions will be reported to the UC Office of the President annually. d) In lieu of purchasing voluntary offsets and to further accelerate on-site actions, beginning in 2025 through 2030, each campus and the UC Office of the President will allocate funds equal to \$25/$MTCO_2e$ for all remaining Scope 1 and Scope 2 emissions. These funds will be used to achieve direct emissions reductions as described in the Procedures Section V.C.5 or to support climate justice or community benefit programs. The price per ton will increase by 5% each year beginning in 2026. e. Beginning in 2025, each campus and the UC Office of the President (UCOP) will use UCOP-procured biomethane as a transition fuel to partially replace fossil gas. UC's use of UCOP-supplied biomethane will conclude before 2040. UC locations will report annual Scope 1 emissions to UCOP and the impact that biomethane use has on those emissions. 3) Scope 2 Emissions Campuses and the UC Office of the President will purchase 100% clean electricity beginning in 2025. Lawrence Berkeley National Laboratory will follow a separate federal requirement to source 100% of electricity from carbon-free sources by 2030. 4) Scope 3 Emissions Locations will set Scope 3 emission reduction targets with respect to a 2019 baseline year, to include emission sources from business travel, commuting, and disposal and treatment of solid waste. At a minimum, Scope 3 emissions reduction targets will align with the State of California's goals and policies to achieve climate neutrality by 2045 or sooner. 5) Climate Action Plans a) Each UC location will prepare an updated climate action plan (CAP) to establish and achieve the above GHG emission reduction goals. b) The climate action plans will be adopted by campus leadership and submitted to the UC Office of the President prior to 2026, with implementation to begin immediately. University of California – Policy on Sustainable Practices Sustainable Practices 13 of 48 c) In order to integrate environmental justice, each location will incorporate the "University of California's Framework for Incorporating Environmental & Climate Justice into Climate Action" and its evaluations into climate action planning. Climate action plans will also integrate adaptation and resilience considerations. d) Climate action plans will be updated as needed to incorporate new scientific insights and technological advances; reflect applicable laws, policies, and	

Goals/Policies/Objectives	Project Consistency Analysis
established global commitments; consider State and regional electricity supply issues; and address social and cultural shifts around climate action. e) Climate action plans will evaluate a broad range of climate solutions and will prioritize selected actions based on cost-effectiveness and climate justice considerations in addition to other location priorities. 6) Carbon Offsets a) The University will prioritize direct reductions of its covered scope 1, 2, and 3 emissions. Counting carbon offsets toward a location's GHG reduction targets will be limited to: i. California Carbon Offsets purchased to meet regulatory requirements of the California Air Resource Board. ii. Direct carbon removals used to negate residual emissions (not to exceed 10% per section III.C.1.). Voluntary offsets purchased to meet obligations under the California Environmental Quality Act, the LEED green building certifications, or other purposes will not count toward a location's GHG reduction targets. Voluntary offsets purchased to meet obligations under the California Environmental Quality Act, the LEED green building certifications, or other purposes will not count toward a location's GHG reduction targets.	
D. Sustainable Transportation The University will implement transportation programs and greenhouse gas (GHG) emissions reduction strategies that reduce the environmental impacts from commuting, fleet and business air travel related to achieving the Climate Protection Section of this Policy (see Section III.C.). 1) Each location will reduce GHG emissions from its fleet and report annually on its progress. Locations will implement strategies to reduce emissions from University-owned or operated fleet vehicles to align with UC's climate action goals (as outlined in section III.C). To support this goal, each location will ensure that: a) After July 1, 2023, zero-emission vehicles, plug-in hybrid, or dedicated clean transportation fueled vehicles will account for at least 50% of all vehicle acquisitions (including both leased and purchased vehicles). b) All sedans and minivan acquisitions will be zero-emission or plug-in hybrid vehicles, except for public safety vehicles with special performance requirements. c) In applications where zero-emission vehicles are not available, regardless of vehicle size class, the use of clean transportation fuels and other low-emission fuels will be prioritized. d) Vehicle acquisitions plans should meet the State's goal (outlined in Executive Order N-79-20) that all new passenger cars and light-duty trucks (under 8,500 lbs.) acquired after January 1, 2035, and all medium-and heavy-duty vehicles acquired or operated after January 1, 2045, will be zero-emission.	**Consistent.** The new Engagement Center would provide bus drop-off location, bicycle parking, and electric vehicle charging stations, which would promote alternative modes of transportation. As such, the project would be consistent with the goal.

Goals/Policies/Objectives	Project Consistency Analysis
2) The University recognizes that single-occupant vehicle (SOV) commuting is a primary contributor to commute-related GHG emissions and localized transportation impacts. a) By 2025, each location will strive to reduce its percentage of employees and students commuting by SOV by 10% relative to its 2015 SOV commute rates. b) By 2050, each location will strive to have no more than 40% of its employees and no more than 30% of all employees and students commuting to the location by SOV. 3) Recognizing that flexible work arrangements, including telecommuting, are a low-cost, effective way to reduce emissions and carbon footprint, each location should review and update local employee telecommute and flexible work policies, guidelines, procedures, and other applicable documents to normalize and promote telecommuting options and other flexible scheduling, as aligned appropriately based on business needs. 4) Consistent with the State of California goal of increasing alternative fuel – specifically electric – vehicle usage, the University will promote purchases and support investment in alternative fuel infrastructure at each location. a) By 2025, each location will strive to have at least 4.5% of commuter vehicles be zero-emissions vehicles (ZEV). b) By 2050, each location will strive to have at least 30% of commuter vehicles be ZEV.	
Source: University of California, *Policy on Sustainable Practices*, April 10, 2024.	

In summary, the project would not conflict the goals and policies set in the 2022 Scoping Plan, the 2020-2045 RTP/SCS, and the *University of California Policy on Sustainable Practices*. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs, and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Refer to Response 5.8(a).

Mitigation Measures: No mitigation is required.

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5.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. Exposure of the public or the environment to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes particularly by untrained personnel, a transportation accident, environmentally unsound disposal methods, or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

CONSTRUCTION

Project construction could expose construction workers and the public to temporary hazards related to the transport, use, and maintenance of construction materials (i.e., oil, diesel fuel, and transmission fluid), and/or handling/transport of import/export of soils. However, these activities would be short-term, and the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. All project construction activities would demonstrate compliance with the applicable laws and regulations by the U.S. Environmental Protection Agency (U.S. EPA), State, County, and the City governing the use, storage, and transportation of hazardous materials/waste,

ensuring that all potentially hazardous materials are used and handled in an appropriate manner. Impacts concerning the routine transport, use, or disposal of hazardous materials during project construction would be less than significant.

OPERATIONS

The project proposes the construction of a new Engagement Center to support existing programs at the South Coast REC. No changes pertaining to the use/handling/storage of hazardous substances for the purposes of agricultural production would result from the proposed project, compared to the existing condition. The extent of hazardous materials that would be routinely utilized on-site include basic cleaning products along with pesticides typically used for landscape maintenance. Thus, there is limited potential for activities of this nature to cause a significant hazardous condition. Compliance with applicable laws and regulations by the U.S. EPA and State governing the use, storage, and transportation of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur. Specifically, the project is subject to compliance with existing hazardous materials regulations, which are codified in California Code of Regulations Titles 8, 22, 26, and 49, as well as the enabling legislations set forth in Health and Safety Code Chapter 6.95. Both the Federal and State governments require that any business storing or handling a regulated substance which exceeds the applicable threshold quantity register with the County of Orange as a manager of regulated substances and prepare a Risk Management Plan. Businesses would be required to submit their plans to the Certified Unified Program Agency (CUPA), in this case the County of Orange, Environmental Health Division, which would make the plans available to emergency response personnel. As such, following compliance with existing Federal, State, and local regulations pertaining to hazardous materials, impacts concerning the routine transport, use, or disposal of hazardous materials during project operations would be less than significant.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. One of the means through which human exposure to hazardous substance could occur is through accidental release. Incidents that result in an accidental release of hazardous substance into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, the hazardous substances can migrate into the soil or enter a local stream or channel causing contamination of soil and water. Human exposure of contaminated soil, soil vapor, or water can have potential health effects on a variety of factors, including the nature of the contaminant and the degree of exposure.

CONSTRUCTION

Construction Equipment

During project construction, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures including proper handling of hazardous materials, refueling vehicles off-site, maintaining proper storage containers, and installing best management practices (BMPs) that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law including the Hazardous Waste Control Act, California Division of Occupational Safety and Health (Cal/OSHA) requirements, Resources Conservation and Recovery Act (RCRA), and the Emergency Planning and Community Right-to-Know Act (EPCRA). Compliance with existing laws and regulations would ensure impacts resulting in significant hazard to the public or the environment through accidental conditions during construction would be less than significant.

Grading Activities

Construction activities could also result in accidental conditions involving existing on-site contamination. The following analysis considers current uses of the project site, project area, and adjacent properties, which may have impacted soil, soil gas, and/or groundwater underlying the project site.

South Coast REC

The South Coast REC has been utilized for agricultural production/education since 1956, and is still primarily used for this purpose today; this has resulted in a long period of pesticide use.[1] While such agricultural practices could result in soil degradation and water quality impacts, previous Environmental Site Assessments have determined that the toxicity of soils within the South Coast REC do not exceed U.S. EPA Regional Screening Levels (RSLs), Department of Toxic Substances Control Screening Levels (DTSC SLs), or San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (Tier 1 ESLs), when screened for residential uses, which is considered to be the most conservative threshold for screening purposes.[2] As such, impacts would be less than significant in this regard.

Marine Corps Air Station (MCAS) El Toro

The former MCAS El Toro air station, decommissioned in 1999, was once considered a major site of substantial contamination in the City, but has undergone extensive remediation over the past two decades.[3] While the extent of contamination from the air station could impact the project site given its proximity (0.8-mile to the west), previous Environmental Site Assessments have determined that the toxicity of soils within the South Coast REC do not exceed UU.S. EPA RSLs, DTSC SLs, or San Francisco Bay RWQCB Tier 1 ESLs, when screened for residential uses.[4,5] As such, it is not anticipated that any contaminated soil, soil gas, or groundwater contamination has resulted from former air station uses which would present a concern during project grading activities. As such, impacts would be less than significant in this regard.

Proposed Engagement Center

According to the California Environmental Protection Agency, the project site is not listed pursuant to Government Code Section 65962.5.[6] As such, it is not anticipated that any contaminated soil, soil gas, or groundwater would present a concern during project grading activities. Thus, no impact would result in this regard.

Conclusion

Overall, with adherence to existing regulations related to hazardous materials, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials during construction.

OPERATIONS

Refer to Response 5.9(a), above, for a description of long-term operational impacts related to proposed development at the site. Upon adherence to existing regulations related to hazardous materials, the proposed project would not

1 Kimley-Horn and Associates, Inc., *Phase I Environmental Site Assessment, University of California Irvine, North Irvine Housing, 7400 Irvine Boulevard, Irvine, Orange County, CA*, August 2021.
2 Ninyo & Moore, *Phase II Environmental Site Assessment, Proposed University of California Irvine North Irvine Housing, 7400 Irvine Boulevard, Irvine, Orange County, CA, 92612*, December 20, 2021.
3 City of Irvine, *City of Irvine – General Plan Update Background Report*, January 2017.
4 Kimley-Horn and Associates, Inc., *Phase I Environmental Site Assessment, University of California Irvine, North Irvine Housing, 7400 Irvine Boulevard, Irvine, Orange County, CA*, August 2021.
5 Ninyo & Moore, *Phase II Environmental Site Assessment, Proposed University of California Irvine North Irvine Housing, 7400 Irvine Boulevard, Irvine, Orange County, CA, 92612*, December 20, 2021.
6 California Environmental Protection Agency, *Cortese List Data Resources*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed February 14, 2024.

create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials during operations.

Mitigation Measures: No mitigation is required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. The project site is located within one-quarter mile of Portola Springs Elementary School, located approximately 0.2-mile east of the site at 12100 Portola Springs. As stated above, upon adherence to existing laws and regulations related to construction activities and operational safety, impacts pertaining to the release of hazardous materials during project construction and operations would be less than significant. Thus, potential impacts to an existing or proposed school would be less than significant.

Mitigation Measures: No mitigation is required.

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?

No Impact. Government Code Section 65962.5 requires the DTSC and State Water Resources Control Board (SWRCB) to compile and update a regulatory sites list (pursuant to the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Health and Safety Code Section 116395. Government Code Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations, to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste.

According to the California Environmental Protection Agency, the project site is not listed pursuant to Government Code Section 65962.5.[7] Thus, no impact would result in this regard.

Mitigation Measures: No mitigation is required.

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 or excessive noise for people residing or working in the project area?

No Impact. John Wayne Airport is located approximately 8.3 miles to the northwest of the project site. Additionally, the project site is not located within the vicinity of a private airstrip or related facilities. Therefore, project implementation would not expose people residing or working in the project area to excessive airport noise levels or safety hazards. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact With Mitigation Incorporated. Based on the *City of Irvine Evacuation Management Zone: Mashburn Basin 6I* map, Modjeska adjacent to the project site is designated as an emergency management zone. The project proposes a new connection to the project site at the intersection of Modjeska and Still Night, which

[7] California Environmental Protection Agency, *Cortese List Data Resources*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed February 14, 2024.

is currently a signalized three-leg intersection. As detailed in Section 5.19, *Utilities and Service Systems*, the project would connect to existing utilities present along Modjeska. As such, construction of the circulation and utility improvements along Modjeska would require partial lane closures. While lane closures would be temporary, the proposed project would be required to comply with Mitigation Measure TRA-1 which requires a Transportation Management Plan (TMP); refer to Section 5.17, *Transportation*. As such, impacts concerning impairment or physical interference with an adopted emergency response plan or emergency evacuation plan would be less than significant with implementation of Mitigation Measure TRA-1.

Mitigation Measures: Refer to Mitigation Measure TRA-1.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. Refer to Response 4.20(a).

Mitigation Measures: No mitigation is required.

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5.10 HYDROLOGY AND WATER QUALITY

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

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The Santa Ana RWQCB oversees permits at the South Coast REC.

Impacts related to water quality typically range over three different periods: 1) during the earthwork and construction phase, when the potential for erosion, siltation, and sedimentation would be the greatest; 2) following construction, prior to the establishment of ground cover, when the erosion potential may remain relatively high; and 3) following completion of the project, when impacts related to sedimentation would decrease markedly, but those associated with urban runoff would increase.

Similarly, development of the proposed project would have the potential to generate stormwater runoff pollutants during construction and post-construction activities that could significantly impact downstream water quality, if not properly controlled.

CONSTRUCTION

Potential sources of water quality impacts during construction of the proposed project would be from activities associated with grading and paving, building construction, architectural painting, and project earthwork. Pollutants associated with these construction activities that could result in water quality impacts may include soils, debris, other materials generated during site clearing and grading, fuels and fluids associated with construction equipment, and paints and other hazardous materials. These pollutants could impact water quality if washed, blown, or tracked off site.

The proposed project would comply with applicable water quality standards developed by the SWRCB and RWQCB for stormwater through required permits, including the General Construction Storm Water Permit, which would control pollutants contained in runoff generated from the South Coast REC.[1] The proposed project would be required to comply with the General Construction Storm Water Permit program, which would require implementation of construction control measures specified in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list Best Management Practices (BMPs) that the discharger would implement to mitigate potential pollutants in stormwater runoff and the locations of those BMPs at the construction site. BMPs for construction activities may include measures to control pollutants at particular sources, such as fueling areas, trash storage areas, outdoor materials storage areas, and outdoor work areas. BMPs are also used during treatment of the pollutants at these particular source areas.

In addition to the BMPs, the SWPPP is required to contain: a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. It should be noted that the project would ultimately discharge into Marshburn Basin, which is not a water body listed on the 303(d) list for sediment.[2]

Overall, compliance with NPDES requirements and the Construction General Permit would reduce short-term construction-related impacts to water quality to less than significant levels.

OPERATION

Under existing conditions, runoff from the South Coast REC generally drains north into Marshburn Basin, owned and operated by Orange County Flood Control (OCFC), located adjacent to the north of the South Coast REC. Runoff from the project site specifically flows from the eastern boundary of the project site, then west (parallel to Lambert Road), then north (along Irvine Boulevard), discharging to Marshburn Basin.

The project proposes to construct a new Engagement Center, inclusive of surface parking and both ornamental landscaping and landscaped areas to support ongoing research conducted on-site, and develop a new internal access road. Stormwater discharges would be regulated by the municipal separate storm sewer system (MS4) Permit issued by the Santa Ana RWQCB for the OCFC. The MS4 Permit prohibits non-stormwater discharges in the storm drain system and aims to reduce the discharge of pollutants to the maximum extent practicable through the implementation of BMPs and other control strategies.[3] The project proposes to develop an underground detention basin within the Engagement Center. The exact location and design of the stormwater infrastructure would be determined following further hydrologic investigation during the project design phase. Proposed infrastructure would be designed to carry

1 State Water Resources Control Board, *Order No. R8-2009-0030 NPDES No. CAS618030*, 2010.

2 State Water Resources Control Board, *California 2020-2022 Integrated Report (Map)*, https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=6cca2a3a1815465599201266373cbb7b, accessed February 29, 2024.

3 Orange County Public Works, *Regional Stormwater Program*, https://ocerws.ocpublicworks.com/service-areas/oc-environmental-resources/oc-watersheds/regional-stormwater-program, accessed March 7, 2024.

rainfall from a 25-year storm per standards of the OCFC, similar to existing conditions. New landscaping would also incorporate drainage control and stormwater management via biofiltration within in-ground planters, bioswales, permeable pavers, and other low-impact design (LID) features. Specific details regarding source control and treatment BMPs for water quality control would be determined during the project design phase. Following compliance with project-specific BMPs consistent with the MS4 Permit, long-term water quality impacts would be less than significant. Further, it is acknowledged that the Engagement Center would provide on-site research opportunities for staff and students pertaining to the urban watershed, landscape horticulture, and organic waste management. This may include testing of the effectiveness of stormwater BMPs/LID features (such as swales, subsurface storage under surface parking areas, permeable surfaces in parking lots, and other hardscape features.

Mitigation Measures: No mitigation is required.

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

No Impact. The proposed project does not require groundwater use. The project would connect to the existing potable and recycled water mains located at the intersection of Walking Stick and Modjeska and operated by Irvine Ranch Water District (IRWD). As discussed in Section 5.19, *Utilities and Service Systems*, based on IRWD's *2020 Urban Water Management Plan* (2020 UWMP), the City would be capable of providing adequate water supply to its service area under a normal supply and demand scenario, single dry-year supply and demand scenario, and multiple dry-year supply and demand scenario through 2040.[4] Thus, the IRWD UWMP accounts for increased demand as growth within the City occurs. Given the nominal size of the new buildings (approximately 13,750 square feet), the project is consistent with the City's overall planned growth within the project area and, as such, would be consistent with the assumptions of the UWMP for the project site. Therefore, the proposed project would not substantially decrease the City's water supply, including groundwater supplies, or interfere substantially with groundwater recharge. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

1) Result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. Soil disturbance would temporarily occur during project construction due to earth-moving activities. Disturbed soils would be susceptible to high rates of erosion from wind and rain, resulting in sediment transport via storm water runoff from the project site.

The project would be subject to compliance with the requirements set forth in the NPDES Stormwater General Construction Permit for construction activities; refer to Response 4.10(a). Compliance with the NPDES requirements, including the preparation of a SWPPP would reduce the volume of sediment-laden runoff discharging from the site. The implementation of BMPs would reduce the potential for sediment and storm water runoff containing pollutants from entering receiving waters. Therefore, with compliance with NPDES requirements and the Stormwater General Construction Permit, project implementation would not substantially alter the existing drainage pattern of the site during the construction process such that substantial erosion or siltation would occur. Impacts pertaining to erosion during construction would be less than significant.

[4] Irvine Ranch Water District, *2020 Urban Water Management Plan*, June 2021.

The project proposes to develop an underground detention basin within the Engagement Center. The exact location and design of the stormwater infrastructure would be determined following further hydrologic investigation during the project design phase. Proposed infrastructure would be designed pursuant to the MS4 Permit and designed to carry rainfall from a 25-year storm per standards of the OCFC, similar to existing conditions. New landscaping would also incorporate drainage control and stormwater management via biofiltration within in-ground planters, bioswales, permeable pavers, and other LID features. Thus, erosion or siltation impacts as a result of operation of the project would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The proposed development would increase impervious areas on site. However, as discussed in Response 4.10(a), the quantity of stormwater discharge under post-development conditions would be similar to existing conditions as the proposed infrastructure would comply with the MS4 permit (per OCFC requirements) and would be designed to carry rainfall from a 25-year storm. Additionally, the project site is not located within areas of potential flooding according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project area.[5] Therefore, it is not anticipated that the project would increase surface runoff in a manner that would result in on- or off-site flooding, and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

3) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. Refer to Responses 4.10(a) and 4.10(c)(1), above. The proposed development would increase impervious areas on site, but the quantity of stormwater discharge under post-development conditions would be similar to existing conditions upon compliance with regulations imposed by OCFC for the purpose of the MS4 permit. Therefore, the development is not expected to exceed the capacity of the existing/planned stormwater drainage systems. Thus, impacts pertaining to the capacity of the stormwater drainage system would be less than significant.

Mitigation Measures: No mitigation is required.

4) Impede or redirect flood flows?

No Impact. According to the FEMA Flood Insurance Rate Map for the project area, the project site is located outside of the 100-year flood zone.[6] As such, no flood flow related impacts would result.

Mitigation Measures: No mitigation is required.

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

No Impact. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

5 Federal Emergency Management Agency, *Flood Insurance Rate Map #06059C0305J*, effective December 3, 2009.
6 Ibid.

As discussed above, the project site is not located in a flood hazard zone. The project site is also not located within a dam inundation zone.[7] Further, the project site is not located in proximity to any enclosed body of water and is located approximately 10.7 miles east of the Pacific Ocean. As such, no impact would occur pertaining to flood hazard, tsunami, or seiche zones.

Mitigation Measures: No mitigation is required.

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

No Impact. As discussed in Response 5.10(b), the proposed project does not require groundwater use. Furthermore, the project site is not located within an area with an applicable groundwater management plan.[8] Thus, the project is not subject to the requirements of a groundwater management plan. The proposed project would comply with the Storm Water Management Plan and NPDES permit. Therefore, in compliance with the applicable plans and permits, the proposed project would not conflict with a water quality control plan or groundwater management plan. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

[7] City of Irvine, *City of Irvine – General Plan Update Background Report, Figure 7-4b, Dam Inundation*, January 2017.

[8] Department of Water Resources, *Sustainable Groundwater Management Act Data Viewer*, https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#boundaries, accessed February 28, 2024.

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5.11 LAND USE AND PLANNING

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

a) Physically divide an established community?

No Impact. A significant impact could occur if implementation of the project would result in physical barriers that change the connectivity between areas of a community to the extent that persons are physically separated from other areas of the community. The project site is located in the southeast corner of the South Coast REC. The project proposes the clearing of a former agricultural irrigation pond and construction of a new Engagement Center as well as internal circulation improvements at the existing South Coast REC. The proposed project would support existing programming at the South Coast REC and would not disrupt the land use pattern of the surrounding community, either on- or off-site. No roadways, driveways, bikeways, or pedestrian pathways would be removed as part of the project, and no separation of uses or disruption of access between land use types would occur. As such, the proposed project would not physically divide an established community. Therefore, no impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. The project site is located in the South Coast REC, which is managed by the University and serves as a representative site for agricultural and horticultural research. As an entity of the University, the South Coast REC is not subject to municipal regulations such as general plans or municipal codes. The new Engagement Center would support existing programming at the South Coast REC and would be consistent with the land management practices of the South Coast REC. Therefore, the proposed project would not conflict with any land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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5.12 MINERAL RESOURCES

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

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?

No Impact. The California Geological Survey is responsible for classifying land into Mineral Resource Zones (MRZ) under the Surface Mining Control and Reclamation Act based on the known or inferred mineral resource potential of that land. Lands designated MRZ-1 do not contain significant mineral deposits, lands designated MRZ-2 contain significant mineral deposits, and lands designated MRZ-3 lack available data to determine if significant mineral deposits are present. The City of Irvine primarily consists of lands designated MRZ-1 and MRZ-3; no areas have been designated MRZ-2 (i.e., of the greatest importance to the State, or regionally significant).[1] Portions of the project site are located within areas classified as MRZ-1, MRZ-3, or areas that have not been classified. No mineral resources of value to the region and the residents of the State are identified within the project site.[2,3] As such, implementation of the proposed project would not result in the loss of availability of a known mineral resource of value in the State, region, or local area. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. Refer to Response 5.12(a). According to the California Geologic Energy Management Division (CalGEM), there was a dry hole well located within the undeveloped land greater than 100 feet to the east of the proposed Engagement Center. However, this well has been plugged and abandoned and no recorded oil fields are present on-site or in the vicinity. As such, the project would not result in the loss of availability of a mineral resource recovery site. No impact would occur in this regard.[4]

Mitigation Measures: No mitigation is required.

1 City of Irvine, *General Plan Update Background Report*, revised January 2017.
2 Ibid.
3 Miller, R.V., *Update of Mineral Land Classification of Portland Cement Concrete Aggregate in Ventura, Los Angeles, and Orange Counties, California, Part III - Orange County*, 1995.
4 California Geologic Energy Management Division, Well Finder, https://maps.conservation.ca.gov/doggr/wellfinder/, accessed November 30, 2023.

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5.13 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b. Generation of excessive groundborne vibration or groundborne noise levels?			✓	
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear de-emphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately three dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10 p.m. and 7 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA. Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

REGULATORY FRAMEWORK

Although University of California (University) is not subject to municipal regulations, since the project site is located in the City of Irvine, the City's noise standards are relevant to the proposed project in establishing guidelines and evaluating impacts, given the site's adjacency to the City's jurisdiction. The University typically pursues consistency with local plans and policies where feasible. Furthermore, City regulations are relevant for addressing University development projects that would affect adjacent noise-sensitive land uses in the City.

City of Irvine General Plan

The City of Irvine General Plan Element F, *Noise*, identifies sources of noise and provide objectives and policies that ensure that noise from various sources does not create an unacceptable noise environment. The City of Irvine Exterior and Interior Noise Levels are shown in Table 5.13-1, *City of Irvine General Plan Interior and Exterior Noise Standards*. These standards are for assessment of long-term vehicular traffic noise impacts. The City has exterior noise criteria for outdoor living areas associated with residential uses and requires that interior areas of new residential homes not exceed 45 dBA CNEL and that exterior active use areas not exceed 65 dBA CNEL. Other short-term noise impacts (e.g., construction activities or on-site stationary sources) are regulated by the City's Noise Ordinance.

Table 5.13-1
City of Irvine General Plan Interior and Exterior Noise Standards

Land Use Category	Uses	Energy Average (CNEL)	
		Interior[1]	Exterior[2]
Residential[3]	Single-Family, Multiple-Family	45[3], 55[4]	65[7]
	Mobile Home	-	65[5]
Commercial Regional Family	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial retail, Bank, Restaurant, Movie theater	55	-
	Office building, Research & development Professional office, City office building	50	-
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	-
	Gymnasium (Multipurpose)	50	-
	Health Clubs	55	-
	Manufacturing, Warehousing, Wholesale, Utilities	65	-
Institutional	Hospital, School classrooms	45	65
	Church, Library,	45	-
Open Space	Parks	-	65

Notes:
1. Interior environment excludes bathrooms, toilets, closets, and corridors.
2. Outdoor environment limited to private yard of single-family or multi-family residences private patio which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
3. Noise level requirement for closed windows. Mechanical ventilating system or other means of natural ventilation must be provided pursuant to Appendix Chapter 12, Section 1208 of the Uniform Building Code (UBC).
4. Noise level requirement for open windows, if they are necessary to meet natural ventilation requirement.
5. Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.
6. Except those areas affected by aircraft noise.
7. Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

Source: City of Irvine, *City of Irvine General Plan*, *Element F, Noise, Table F-1, Interior and Exterior Noise Standards Energy Average (CNEL)*, July 2015.

City of Irvine Municipal Code

The City's Noise Ordinance (Title 6, Division 8, Chapter 2, Section 6-8-204, *General provision*, of the Irvine Municipal Code [Irvine Municipal Code]) also provides exterior and interior noise limit thresholds for certain periods of time. Table 5.13-2, *City of Irvine Noise Ordinance Noise Standards*, presents noise standards published in Section 6-8-204 of the Noise Ordinance.

Table 5.13-2
City of Irvine Noise Ordinance Noise Standards

Noise Zone	Exterior or Interior	Time Period	Noise Levels (dBA) for a Period Not Exceeding				
			30 min	15 min	5 min	1 min	0 (anytime)
I: All hospitals, libraries, churches, schools, and residential properties	Exterior	7:00 a.m. – 10:00 p.m.	55	60	65[1]	70	75
		10:00 p.m. – 7:00 a.m.	50	55	60	65[1]	70
	Interior	7:00 a.m. – 10:00 p.m.			55	60	65
		10:00 p.m. – 7:00 a.m.	-	-	45	50	55
II: All professional office and public institutional properties.	Exterior	Any time	55	60	65	70	75
	Interior	Any time	-	-	55	60	65
III: All commercial properties excluding professional office properties.	Exterior	Any time	60	65	70	75	80
	Interior	Any time	-	-	55	60	65
IV: All industrial properties.	Exterior	Any time	70	75	80	85	90
	Interior	Any time	-	-	55	60	65

Notes:
1. This standard does not apply to multi-family residence private balconies. Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notice to all future tenants regarding potential noise impacts.
2. It shall be unlawful for any person at any location within the City to create any noise or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the noise level when measured on any property within designated noise zones either within or without the City to exceed the applicable noise standard.
3. Each of the noise standards specified above shall be reduced by five dBA for impact, or predominant tone noise or for noises consisting of speech or music.
4. In the event that the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.

Source: City of Irvine, *City of Irvine Municipal Code*, *Title 6, Division 8, Chapter 2, Section 6-8-204*, codified through Ordinance No. 20-02, enacted February 11, 2020.

Construction Noise

Irvine Municipal Code Section 6-8-205(A) indicates that construction activities may occur between 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making, or are involved with, material deliveries, loading, transfer of materials, equipment service, maintenance of any devices or appurtenances for (or within) any construction project in the City, shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take into consideration the potential impact upon the community. No construction activity would be permitted outside of these hours, except in emergencies including maintenance work on the City rights-of-way that might be required.

Exemptions

The following activities shall be exempted from the provision of this chapter:

1. School bands, school athletic and school entertainment events, provided said events are conducted on school property or authorized by special permit from the City.

2. Activities otherwise lawfully conducted on public parks, public playgrounds and public or private school grounds.

EXISTING CONDITIONS

Sensitive Receptors

Sensitive populations are more susceptible to the effects of noise than are the general population. Land uses considered sensitive by the State of California include schools, playgrounds, athletic facilities, hospitals, rest homes, rehabilitation centers, long-term care and mental care facilities. Generally, a sensitive receptor is identified as a location where human populations (especially children, senior citizens, and sick persons) are present. Land uses less sensitive to noise are business, commercial, and professional developments. Noise receptors categorized as being least sensitive to noise include industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, and transit terminals. These types of land use often generate high noise levels. Moderately sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, and outpatient clinics.

The closest sensitive receptors are single-family residences (Portola Springs residential neighborhood) located approximately 125 feet to the south of the project site.

Stationary Sources

The project site is located within an urbanized area. Primary sources of stationary noise in the project vicinity are urban-related residential activities (e.g., mechanical equipment and parking areas). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Mobile Sources

Most of the existing noise near the project area is generated from vehicular sources traveling along Irvine Boulevard and Modjeska.

Noise Measurements

Two short-term noise measurements were taken on February 14, 2024, between the hours of 12:00 p.m. and 1:00 p.m. The results of the measurements are included in Appendix D, *Noise Data*. The noise measurement sites were chosen because they are representative of typical existing noise exposure at the nearest sensitive receptors to the project site. Short-term (L_{eq}) measurements are considered representative of the noise levels in the project vicinity throughout the day. As shown in Table 5.13-3, *Short-Term Noise Measurements*, short-term noise levels during the daytime ranged from 47.4 to 49.0 dBA L_{eq}.

Table 5.13-3
Short-Term Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
NM-1	In front of 194 Pathway	47.4	34.2	66.1	12:15 p.m.
NM-2	Along the sidewalk of Hollow Tree, next to 116 Hollow Tree	49.0	35.6	63.4	12:39 p.m.
Notes: L_{eq} = Equivalent Sound Level; L_{min} = Minimum Noise Level; L_{max} = Maximum Noise Level					
Source: Michael Baker International, 2024; refer to Appendix D, *Noise Data*.					

Meteorological conditions consisted of clear skies, warm temperatures (approximately 62 degrees Fahrenheit), with light wind speeds (<5 miles per hour), and low humidity. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters.

SIGNIFICANCE THRESHOLDS

Construction

To evaluate whether the project will generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold was utilized from the Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH). As a division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3-dBA increase, the exposure time is cut in half. For the purposes of this analysis, the lowest, most conservative construction noise level threshold of 85 dBA L_{eq} was used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential project-related construction noise level impacts at the nearby sensitive receiver locations.

Operational

A project would result in a significant impact if project-related operational noise levels exceed the established noise level threshold as outlined in the City's Noise Ordinance; refer to Table 5.13-2. Additionally, the Federal Interagency Committee on Noise (FICON) determined that new noise sources that exceed the existing ambient noise level would result in an increase in annoyance for nearby sensitive receptors. The closest sensitive receptors to the project site are the single-family residential units located approximately 125 feet south of the project site. As such, FICON established guidance that would be used to consider the impacts of project-generated noise. The guidance FICON utilizes are based on aircraft noise studies.

A project would result in a significant impact if the following criteria were met:

1. If the existing ambient noise levels is less than 60 dBA CNEL, a significant impact would occur if a project would increase the ambient noise levels by 5 dBA CNEL or more.

2. If the existing ambient noise levels is between 60 to 65 dBA CNEL, a significant impact would occur if a project would increase the ambient noise levels by 3 dBA CNEL or more.

3. If the existing ambient noise levels is greater than 65 dBA CNEL, a significant impact would occur if a project would increase the ambient noise levels by 1.5 dBA CNEL or more.

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

Less Than Significant Impact. It is difficult to specify noise levels that are generally acceptable to everyone; noise that is considered a nuisance to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population.

CONSTRUCTION

Short-Term Construction Noise Impacts

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. The project involves construction activities associated with grading (including filling of the existing agricultural irrigation pond), building construction, paving, and architectural coating applications. The project would be constructed over a duration of approximately 10 months. Ground-borne noise and other types of construction-related noise impacts typically occur during the initial grading phase, which has the potential to create the highest levels of noise. Construction equipment produce maximum noise levels when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites typically operates under less than full power conditions, or partial power. To more accurately characterize construction-period noise levels, the average (L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. These noise levels are typically associated with multiple pieces of equipment simultaneously operating on part power.

The estimated construction noise levels at the nearest noise-sensitive receptors are presented in Table 5.13-4, *Maximum Noise Levels Generated by Construction Equipment*. Noise levels from construction equipment and activities were modelled using the Federal Highway Administration's Roadway Construction Noise Model (RCNM). Construction equipment was based on CalEEMod defaults; refer to Appendix A, *Air Quality/Greenhouse Gas/Energy Modeling Results*. To present a conservative impact analysis, the estimated noise levels were calculated for a scenario in which all heavy construction equipment were assumed to operate simultaneously. Results from RCNM also assumes a clear line-of-sight and no other machinery or equipment noise that would mask project construction noise. The shielding of buildings and other barriers that interrupt line-of-sight conditions would help further reduce noise levels than what is shown in Table 5.13-4. According to the General Noise Assessment methodology prescribed in the FTA *Transit Noise and Vibration Impact Assessment Manual*, noise can be considered as concentrated at the center of the site. In addition, construction activities would occur across the entire project site and therefore the estimated noise levels were also calculated from the center of the project site. The geographic center of the project site is approximately 125 feet from the closest sensitive receptors to the south.

Table 5.13-4
Maximum Noise Levels Generated by Construction Equipment

Phase	Estimated Exterior Construction Noise Level at 125 feet (Boundary of project site) (dBA L_{eq})[1]	Estimated Exterior Construction Noise Level at 1,000 feet (Center of project Site) (dBA L_{eq})[1,2]
Grading	73.1	57.6
Building Construction	73.9	55.9
Paving	73.5	55.4
Architectural Coating	65.7	47.7

Notes:
1. These noise levels conservatively assume the simultaneous operation of all heavy construction equipment at the same precise location. Modeled heavy construction equipment include grader, dozers, and backhoes during the grading phase, forklifts, generator, crane, welders, and backhoes during the building construction phase, pavers, paving equipment, rollers, and backhoes during the paving phase, and air compressor during the architectural coating phase.
2. The distance from the center of the project site was calculated by obtaining the shortest distance from the northeast boundary to the southwest boundary of the project site divided by two (2000 feet divided by two).

Source: Federal Highway Administration, *Roadway Construction Noise Model (RCNM)*, 2006 (see Appendix D).

As shown in Table 4.13-4, construction noise at the nearest receptors surrounding the project site could be exposed to temporary and intermittent noise levels ranging from 65.7 to 73.9 dBA L_{eq} when construction activities occur near the project site boundary and would not have the potential to exceed the NIOSH significance of threshold of 85 dBA. Additionally, as previously stated, construction activities would occur across the entire project site and therefore the estimated noise levels were also calculated from the center of the project site. Therefore, as shown in Table 4.13-4, construction noise would be approximately 47.7 to 57.6 dBA L_{eq} from the center of the project site at 1,000 feet and would not exceed the recommended exposure limit of 85 dBA averaged over an eight-hour per day. Therefore, construction noise impacts would be less than significant.

Construction Trip Noise Impacts

Construction activities would also cause increased noise along access routes to and from the project site due to movement of equipment and workers, as well as haul trips. Project related construction noise would generate a maximum of 15 worker trips per day and 3 vendor trips per day. As a result, mobile source noise would increase along access routes to and from the project site during construction. However, mobile traffic noise from construction trips would be temporary and would cease upon project completion.

According to the California Department of Transportation (Caltrans), a doubling of traffic (100 percent increase) on a roadway would result in a perceptible increase in traffic noise levels (3 dBA).[1] The nearest roadway segment of the project vicinity currently experiences minimum 21,000 ADT along Irvine Boulevard (between Sand Canyon Road and Alton Parkway).[2] The project's construction trips would be nominal and not double existing traffic volumes, and any increase in traffic noise levels would thus be imperceptible. Therefore, short-term haul truck noise impacts from construction traffic would be less than significant.

1 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol,* September 2013.
2 City of Irvine, *Average Daily Traffic Flow*, https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=21099, accessed February 2, 2024.

OPERATIONS

Mobile Noise

The proposed project may result in additional vehicular traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. Specifically, the project proposes a new entry at the intersection of Modjeska and Still Night, which is currently a signalized three-leg intersection. This ingress/egress point would connect to a proposed internal access road, directing traffic to either the existing South Coast REC structures along Irvine Boulevard (to the west), or the new Engagement Center (to the east). Per the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, a doubling in roadway traffic volumes is required to generate any noticeable increase in roadway noise levels.[3] Based on data provided in the *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited Scope Traffic Study Case No. 00926597-PPA* (Trip Generation Analysis), prepared by Michael Baker International and dated May 24, 2024, the project would generate approximately 102 average daily trips (ADT). As previously discussed, the nearest roadway segment of the project vicinity currently experiences minimum 21,000 ADT along Irvine Boulevard (between Sand Canyon Road and Alton Parkway).[4] As such, although the proposed project would result in additional vehicular traffic on adjacent roadways, the project's trip generation (approximately 102 ADT) would not double existing traffic volumes along nearby roadways and any increase in traffic noise along local roadways related to project implementation would be imperceptible. Project-related traffic noise impacts would be less than significant.

Stationary Noise

The proposed project would construct a new Engagement Center to support existing South Coast REC programming. The Engagement Center would include approximately 13,750 square feet of building space, including a conference center, demonstration kitchen, classrooms, audio/video (AV) technical center, and ancillary uses. Connecting the conference center and kitchen/classroom building would be an approximately 22,000 square-foot, partially covered outdoor plaza to be used for overflow of larger events; refer to Exhibit 2-3b, *Conceptual Site Plan – Proposed Engagement Center*. Additionally, the Engagement Center would include a 1.25-acre outdoor space to the west of the conference center as part of the University's Master Gardener program; refer to Exhibit 2-3b. This space would include a range of landscapes for the purpose of food and water education. These outdoor spaces have the potential to gather crowds and become a source of stationary noise. Overall, stationary noise sources during project operation would include mechanical equipment and outdoor gathering areas.

Mechanical Equipment

Heating Ventilation and Air Conditioning (HVAC) units typically generate noise levels of approximately 66 dBA L_{eq} at 3 feet from the source.[5] The closest sensitive receptors are the single-family residences located approximately 125 feet from the project site boundary and 170 feet south from the proposed building where HVAC units would be located. At the distance of 170 feet, HVAC noise levels would be approximately 31 dBA L_{eq}, which is below City's exterior daytime and nighttime standards of 55 dBA L_{eq} and 50 dBA L_{eq}, respectively, for residential properties in accordance with the City's Noise Ordinance (refer to Table 5.13-2). This noise level is also lower than existing ambient noise level near the residences (49.0 dBA L_{eq} as described in Table 5.13-3) and would not increase the existing ambient noise levels by 5 dBA. It should be noted that noise from stationary sources are typically intermittent and short in duration. Further, all stationary noise activities would be required to comply with the California Building Code and Uniform Building Code requirements pertaining to noise attenuation. Overall, the nearest sensitive receptors would not be directly exposed to substantial noise from on-site mechanical equipment and impacts would be less than significant in this regard.

3 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

4 City of Irvine, *Average Daily Traffic Flow*, https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=21099, accessed February 2, 2024.

5 Berger, Elliott H., et al., *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, June 26, 2015.

Outdoor Gathering Areas

Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at one meter (3.28 feet) away for raised normal speaking.[6] This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members.[7] Therefore, crowd noise would be approximately 62 dBA at one meter from the source (i.e., the outdoor gathering areas).

Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source. Within the proposed project boundaries, crowds have the potential to gather at proposed outdoor areas including the 22,000 square-foot, partially covered outdoor plaza, and the 1.25-acre outdoor space; refer to Exhibit 2-3b. The nearest sensitive receptors are the single-family residences located approximately 125 feet south of the proposed outdoor gathering area (i.e., the partially covered outdoor plaza). At this distance, crowd noise would be approximately 30 dBA at the single-family residences and would not exceed the City's exterior daytime and nighttime standards of 55 dBA L_{eq} and 50 dBA L_{eq}, respectively, for residential properties in accordance with the City's Noise Ordinance (refer to Table 5.13-2). This noise level is also lower than existing ambient noise level near the residences (49.0 dBA L_{eq} as described in Table 5.13-3) and would not increase the existing ambient noise levels by 5 dBA. It should be noted that noise from stationary sources are typically intermittent and short in duration. Additionally, a majority of the noise from the proposed outdoor gathering areas would be shielded by the proposed demonstration kitchen/classrooms located north of Modjeska, which would provide a minimum attenuation of 15 dBA.[8] It should also be noted that the on-site programming would coincide with the same hours of operation currently held by the South Coast REC: core staff on-site from 7:00 a.m. to 4:00 p.m., classes held between 9:00 a.m. and 2:00 p.m., and twice-monthly events held from 6:00 to 9:00 p.m. As such, crowd noise during project operation would mostly occur during the day and no later than 9:00 p.m. during the twice-monthly events. Therefore, impacts would be less than significant in this regard.

Overall, all stationary noise activities would be required to comply with the California Building Code and Uniform Building Code requirements pertaining to noise attenuation. Stationary noise impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measure is required.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

CONSTRUCTION

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This

6 M.J. Hayne, et al, *Prediction of Crowd Noise*, Acoustics, November 2006.
7 Ibid.
8 Federal Highway Administration, *Roadway Construction Noise Model User's Guide, Appendix A: Best Practices for Calculating Estimated Shielding for Use in the RCNM*, January 2006.

distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. The Caltrans' *Transportation and Construction Vibration Manual* identifies various vibration damage criteria for different building classes. As the nearest structure with sensitive receptors are the single-family residences, the evaluation uses the Caltrans architectural damage threshold for continuous vibrations at residential buildings of 0.5 inch-per-second (in/sec) PPV. Typical vibration produced by construction equipment is illustrated in Table 5.13-5, *Typical Vibration Levels for Construction Equipment*.

Table 5.13-5
Typical Vibration Levels for Construction Equipment

Equipment	Reference Peak Particle Velocity at 25 Feet (in/sec)	Approximate Peak Particle Velocity at 125 Feet (in/sec)
Vibratory Roller	0.210	0.0358
Large Bulldozer	0.089	0.0152
Loaded Trucks	0.076	0.0129
Small Bulldozer/Tractors	0.003	0.0005

Notes:
Calculated using the following formula:
$PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$
where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual, Table 7-4 Vibration Source Levels for Construction Equipment*, September 2018.

Construction activities are anticipated to occur up to the project boundary line. The nearest structures with sensitive receptors are located 125 feet to the south of the project site. As indicated in Table 5.13-5, vibration velocities at the nearest structures would range from 0.0005 to 0.0358 inch/second PPV at a distance of 125 feet and would not exceed the Caltrans threshold of 0.5 in/sec for residential buildings. Therefore, short-term construction would not expose receptors to significant groundborne vibrations, and impacts would be less than significant in this regard.

OPERATIONS

Operation of the project would not include or require equipment, facilities, or activities that would result in perceptible groundborne vibration. According to the FTA, it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. As such, it can be reasonably inferred that the operations of the project would not create perceptible vibration impacts to the nearest sensitive receptors. A less than significant impact would occur pertaining to vibration impacts from operation of the project.

Mitigation Measures: No mitigation measure is required.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The nearest airport to the project site is the John Wayne Airport in the City of Santa Ana, approximately 8.2 miles to the southwest. According to the *Airport Environs Land Use Plan for John Wayne Airport* (AELUP), the project site is located outside of the Airport Impact Zones, AELUP Notification Area, Federal Aviation Regulation Part

77 Notification Area, and Airport Safety Zones.[9] Additionally, the project site is not located within the vicinity of a private airstrip or related facilities. Therefore, project implementation would not expose people residing or working in the project area to excessive airport noise levels or safety hazards. No impacts would occur in this regard.

Mitigation Measures: No mitigation measure is required.

[9] Orange County Airport Land Use Commission, *Airport Environs Land Use Plan for John Wayne Airport*, April 17, 2008.

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5.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. A project could induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). No residential uses would be developed as part of the project. Therefore, the project would not induce direct population growth in the City through new housing development.

The project proposes a new Engagement Center at the existing South Coast REC. The proposed Engagement Center is intended to provide a space for existing programs provided by the South Coast REC, which are currently hosted elsewhere in the community and region. It is anticipated that the proposed project would staff four additional employees and 1-2 additional researchers, and increase community attendance (students/visitors) by 10-20 percent over time, which conservatively equates to six new students. Employment opportunities resulting from the project could directly increase the City's population, as employees (and their families) may choose to relocate to the City; the same applies to new students attending programs at the Engagement Center. Estimating the number of future employees and students who may choose to relocate to the City would be highly speculative, since many factors influence personal housing location decisions (e.g., family income levels and the cost and availability of suitable housing in the local area). Further, many project employees and students could already live in the area. Given the project would only add four employees and six students to the project site, this increase would result in a nominal indirect impact on population growth and housing demand, if any. Thus, the proposed project would not induce substantial unplanned population growth within the City, either directly or indirectly. Impacts in the regard would be less than significant.

Mitigation Measures: No mitigation is required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. There is no existing permanent housing on-site. It is acknowledged that four residences are present at the South Coast REC for the purpose of staff housing. Notwithstanding, the project would be constructed on the former agricultural irrigation pond within the existing South Coast REC and would not impact existing housing at the South Coast REC. Project implementation would not displace any existing housing or persons. Thus, the project would not necessitate the construction of replacement housing elsewhere an no impacts related to substantial housing displacement would occur.

Mitigation Measures: No mitigation is required.

5.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
1) Fire protection?			✓	
2) Police protection?			✓	
3) Schools?			✓	
4) Parks?			✓	
5) Other public facilities?			✓	

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:

1) Fire protection?

Less Than Significant Impact. The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services to the South Coast REC and project site. The primary responder, OCFA Fire Station #27, is located 0.15-mile east of the project site at 12400 Portola Springs.

OCFA would continue to provide fire protection services to the project site. The proposed project would include all necessary ingress and egress for traffic circulation and emergency response and would comply with all applicable requirements for construction, access, water mains, fire flows, and life safety requirements, as enforced through the University of California (UC) Fire Marshall at UC Davis. In addition, the proposed project would be required to comply with applicable safety and fire protection regulations, including California building and fire codes, as enforced by the UC Fire Marshall. as such, the project would be required to comply with all permit requirements, which may include a Fuel Modification Program, if requested by the UC Fire Marshall. As discussed in Section 5.14, *Population and Housing*, project implementation could result in a nominal population increase. This nominal increase would not result in the need for new fire protection facilities, the construction of which would result in significant adverse effects, in order to maintain acceptable response times, service ratios, or other performance objectives. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

2) Police protection?

Less Than Significant Impact. The UC Irvine Police Department and the Irvine Police Department provide police protection to the South Coast REC. The Irvine Police Department has implemented geographic policing in an effort to develop greater ownership and a higher level of commitment between their officers and the community members.[1] The geographic policing plan enhances customer service and facilitates more positive interaction between police and the community served. In support of geographic policing, the Irvine Police Department is organized into three service areas: University, Crossroads, and Portola. Each area is assigned an Area Commander who has "24/7" responsibility for each of the three service areas as it relates to traffic, crime, and quality of life issues. The South Coast REC is covered by the Portola Team, which includes Patrol Officers, Traffic Officers, Detectives, School Resource Officers, Supervisors (Sergeants), Animal Services Officers, and Public Safety Assistants. The Irvine Police Department is located at City Hall (1 Civic Center Plaza, Irvine). The nearest police substation (Spectrum Substation) is located approximately 8.8 miles to the west of the project site at 71 Spectrum Center Drive, Irvine. In addition, the site is served by the UC Irvine Police Department located at 410 East Peltason Drive, Irvine, California. The UC Irvine Police Department provides contemporary law enforcement services including patrol, traffic, investigations, community engagement, crime prevention and suppression, and security services to a daily population of more than 50,000 people, including the South Coast REC.

Development of the proposed project would result in a nominal increase in employees/students at the project site, compared to the existing condition. This nominal increase is not anticipated to result in the need for additional officers in the Portola team and would not require the construction of additional police service facilities. The proposed project would implement security features, such as external building and surface parking security lighting. The proposed project would include all necessary ingress and egress to ensure emergency access. Impacts to police services would be less than significant.

Mitigation Measures: No mitigation is required.

3) Schools?

Less Than Significant Impact. Irvine is served by the Irvine Unified School District (IUSD), Saddleback Valley Unified School District, Santa Ana Unified, and Tustin Unified. Most of the City is within IUSD boundaries. In addition to public schools, Irvine is home to many private schools–Montessori schools, alternative education, and schools affiliated with religious denominations.[2]

The project would construct a new Engagement Center to support existing programming at the South Coast REC. The intent of the proposed project is to support the University's existing education program at the South Coast REC. As discussed, project could result in a nominal increase in employees and students. However, this nominal increase would not result in new faculty housing or a substantial increase in student enrollment for kindergarten through 12th grade. Therefore, the demand for schools would not substantially increase and the project's new Engagement Center would support existing faculty and students at the South Coast REC. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

4) Parks?

Less Than Significant Impact. The project does not propose new or physically altered parks or recreational facilities. The City of Irvine offers an extensive variety of recreational facilities and services in parks or other locations in the project area. The nearest park to the project site is the Orange County Great Park, a regional park located 1.45 miles west of the project site. There are approximately 38 neighborhood parks and 19 community parks; other existing park

1 City of Irvine, *Geographic Area – Portola*, https://legacy.cityofirvine.org/ipd/geo/portola.asp, accessed February 29, 2024.
2 City of Irvine, *City of Irvine – General Plan Update Background Report,* January 2017.

amenities include approximately 81 athletic fields, 124 sports courts, pools, gymnasiums, and many other recreational facilities with opportunities for public rental and/or drop-in use.[3]

The project is not expected to substantially impact the City's existing parks or recreational facilities. Although the project could result in a nominal increase in employees and students at the South Coast REC, this increase would not result in substantial population growth, nor generate substantial demands for parkland or other recreational facilities. Less than significant impacts related to park services and facilities would occur.

Mitigation Measures: No mitigation is required.

5) Other public facilities?

Less Than Significant Impact. Other public services that could potentially be impacted by the project include public libraries. Library services for the City of Irvine are provided by the Orange County Public Library (OCPL). OCPL operates three public library branches in the City that provide various programs and services, including children's activities, programs for teenagers, and resources related to careers. The closest public library to the project site is the Heritage Park Regional Branch, located at 14361 Yale Ave, approximately 3.2 miles northwest of the site. As discussed, the project's nominal increase in employees and students at the South Coast REC would not result in a substantial demand for library services. Therefore, less than significant impacts related to other public facilities (such as library services) would occur.

Mitigation Measures: No mitigation is required.

[3] City of Irvine, *City of Irvine Athletic Fields*, https://www.cityofirvine.org/athletics-sports/athletic-fields, accessed March 8, 2024.

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5.16 RECREATION

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

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

Less Than Significant Impact. Refer to Response 5.15(a)(4). The project would not result in a substantial increase in demand for parks or other recreational facilities. The project could result in a nominal increase in employment and students within the City. However, as concluded in Response 5.14(a), unplanned direct and indirect population growth impacts would be less than significant. As such, project is not anticipated to result in a substantial increase in 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. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. Refer to Response 4.15(a)(4). The project does not include recreational facilities, nor would it require the construction or expansion of existing recreational facilities. No impacts to recreational facilities would occur.

Mitigation Measures: No mitigation is required.

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5.17 TRANSPORTATION

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

This section is primarily based upon the *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited Scope Traffic Study Case No. 00926597-PPA* (Trip Generation Analysis), prepared by Michael Baker International and dated May 24, 2024; refer to Appendix E, *Trip Generation Analysis*.

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The project site is located in the South Coast REC, which serves as a representative site for agricultural and horticultural research. The proposed project would construct a new Engagement Center that would support existing programming at the South Coast REC. As an entity of the University, the South Coast REC is not subject to municipal regulations such as general plans or municipal codes. However, the proposed project would be subject to the *University of California – Policy on Sustainable Practices* (Policy), which establishes goals in 13 areas of sustainable practices including transportation. As discussed in Sections III.D and V.D, *Sustainable Transportation*, of the Policy, the University includes goals and procedures for transportation to implement sustainability efforts through sustainable business practices. The following goals related to transportation apply to the proposed project:

- Each location will reduce GHG emissions from its fleet and report annually on its progress. Locations will implement strategies to reduce emissions from University-owned or operated fleet vehicles to align climate action goals. Carbon neutral fleets can be achieved if vehicles produce no tailpipe emissions, use a clean transportation fuel, and/or if carbon offsets are purchased. To support this goal, each location will ensure that:
    - After July 1, 2023, zero-emission vehicles, plug-in hybrid, or dedicated clean transportation fueled vehicles will account for at least 50 percent of all vehicle acquisitions (including both leased and purchased vehicles).
    - All sedans and minivan acquisitions will be zero-emission or plug-in hybrid vehicles, except for public safety vehicles with special performance requirements.
    - In applications where zero-emission vehicles are not available, regardless of vehicle size class, the use of clean transportation fuels and other low-emission fuels will be prioritized.
- The University recognizes that single-occupant vehicle (SOV) commuting is a primary contributor to commute-related GHG emissions and localized transportation impacts.

- By 2025, each location will strive to reduce its percentage of employees and students commuting by SOV by 10 percent relative to its 2015 SOV commute rates.

- By 2050, each location will strive to have no more than 40 percent of its employees and no more than 30 percent of all employees and students commuting to the location by SOV.

- Recognizing that flexible work arrangements, including telecommuting, are a low-cost, effective way to reduce emissions and carbon footprint, each location should review and update local employee telecommute and flexible work policies, guidelines, procedures, and other applicable documents to normalize and promote telecommuting options and other flexible scheduling, as aligned appropriately based on business needs.

- Consistent with the State of California goal of increasing alternative fuel (specifically electric) vehicle usage, the University will promote purchases and support investment in alternative fuel infrastructure at each location.

  - By 2025, each location will strive to have at least 4.5 percent of commuter vehicles be zero-emissions vehicles (ZEV).

  - By 2050, each location will strive to have at least 30 percent of commuter vehicles be ZEV.

The new Engagement Center would include a bus drop-off location, bicycle parking, and electric vehicle charging stations, which would promote alternative modes of transportation. As discussed in Section 5.8, *Greenhouse Gas Emissions*, in compliance with sustainable practices included the University's Design Guidance, UC Policy on Sustainable Practices, and California Green Building Standards Code—Part 11, Title 24, California Code of Regulations (CALGreen), the project would provide bicycle parking spaces and electric vehicle parking spaces in accordance with LEED certification requirements. Further, South Coast REC provides flexibility with regard to its staffing that would effectively reduce VMT; currently, two 2 employees live on-site, two employees carpool to work utilizing plug-in hybrids, and roughly 10 to 12 employees work remotely for two days each week. Additionally, South Coast REC provides a small fleet of hybrid vehicles for staff to utilize for business purposes. As such, the project would be consistent with these goals. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy regarding transportation and impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The State of California Governor's Office of Planning and Research (OPR), in implementing Senate Bill (SB) 743, issued proposed updates to the CEQA guidelines in November 2017 that amends the Appendix G question for transportation impacts to delete reference to vehicle delay and level of service (LOS) and instead refer to Section 15064.3, subdivision (b)(1) of the CEQA Guidelines asking if the project would result in a substantial increase in vehicle miles traveled (VMT). The California Natural Resources Agency certified and adopted the revisions to the CEQA Guidelines in December of 2018, and as of July 1, 2020, the provisions of the new section are in effect Statewide. Concurrently, OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR's Technical Advisory), dated December 2018, which provides non-binding recommendations on the implementation of VMT methodology which has significantly informed how VMT analyses are conducted in the State. The University has adopted the CEQA guidelines making VMT the primary metric for evaluating transportation impacts.

To evaluate the project's potential transportation impact, this analysis uses recommendations from the Technical Advisory. Prior to conducting a full VMT analysis, a screening evaluation is carried out to determine if the project may be assumed to cause a less than significant transportation impact. If the project does not meet one of the screening criteria, a VMT analysis is carried out where the project VMT rate is compared to the applicable threshold of significance. Feasible mitigation measures are identified if the project is found to cause a significant transportation impact.

According to OPR's Technical Advisory, small projects that generate less than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Table 5.17-1, *Project Trip Generation*, details the project's trip generation based on the Trip Generation Analysis provided in Appendix E. As shown, the project is anticipated to generate approximately 102 net average daily trips, including 35 trips in the a.m. peak hour and four trips in the p.m. peak hour during an average weekday.

Table 5.17-1
Project Trip Generation

Project Use[1]	Average Daily Trips			AM Peak Hour[2]			PM Peak Hour[3]		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Employee Trips	6	6	12	0	0	0	0	4	4
Workshop/ Classrooms	40	40	80	35	0	35	0	0	0
Visitors	5	5	10	0	0	0	0	0	0
NET TOTAL PROJECT TRIPS	**51**	**51**	**102**	**35**	**0**	**35**	**0**	**4**	**4**

Notes:
1. Trip generation developed based on site specific information provided by site operator for new activities only. Classroom hours shown.
2. AM peak hour assumes highest hour during the peak period of adjacent streets between 7:00 a.m. and 9:00 p.m.
3. PM peak hour assumes highest hour during the peak period of adjacent streets between 4:00 a.m. and 6:00 p.m.

Source: Michael Baker International, *University of California Agricultural and Natural Resources South Coast Research and Extension Center – Limited Scope Traffic Study Case No. 00926597-PPA*, May 24, 2024; refer to Appendix E.

As shown in Table 5.17-1, the proposed project is anticipated to generate approximately 102 average weekday daily trips. Given that the project's net daily trips of 102 is below the 110-trip threshold identified by OPR's Technical Advisory, the project meets the screening criteria and would result in a less than significant VMT impact.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The project does not propose changes to the City's circulation system, such as sharp curves or dangerous intersections, and would not introduce incompatible uses to area roadways (e.g., farm equipment or trucking facilities). Under existing conditions, primary pedestrian and vehicular access to the South Coast REC is provided by two ingress/egress access points along Irvine Boulevard. However, currently there is no paved access to the proposed Engagement Center site from the existing ingress/egress access points. As such, the project proposes a new entry at the intersection of Modjeska and Still Night, which is currently a signalized three-leg intersection. This ingress/egress point would connect to a proposed internal access road, directing traffic to either the existing South Coast REC structures along Irvine Boulevard (to the west), or the new Engagement Center (to the east); refer to Exhibit 2-2, *Site Vicinity*. The proposed entry and internal circulation improvements would not result in hazardous traffic conditions and would be subject to the review and approval by the City's Traffic Engineer and Orange County Fire Authority for compliance with applicable design and safety standards. Further, it is acknowledged that UC ANR would be required to obtain a permit from the City of Irvine for transportation improvements along Modjeska and would be required to comply with all conditions imposed in order to ensure proposed intersection improvements meet the City of Irvine's safety standards for intersections. Thus, impacts related to hazards due to geometric design features or incompatible uses would be less than significant.

Mitigation Measures: No mitigation is required.

d) Result in inadequate emergency access?

Less Than Significant Impact With Mitigation Incorporated. As detailed above in Response 5.17(c), primary pedestrian and vehicular access to the South Coast REC is provided by two ingress/egress access points along Irvine Boulevard. The project proposes a new entry at the intersection of Modjeska and Still Night, which is currently a signalized three-leg intersection. This ingress/egress point would connect to a proposed internal access road, directing traffic to either the existing South Coast REC structures along Irvine Boulevard (to the west), or the new Engagement Center (to the east); refer to Exhibit 2-2. The portion of the proposed access road leading to the Engagement Center would be paved, while the portion leading to the existing South Coast REC structures would be gravel. The proposed entry would be required to comply with City design standards and emergency access standards through the City's permit process. Vehicle access would also include fire department access in compliance with Orange County Fire Authority (OCFA) requirements and standards. Although construction activities would temporarily impact adjacent roadway right-of-way (e.g., through partial lane closures in order to install utilities and roadway improvements), the proposed project would be required to comply with Mitigation Measure TRA-1 which requires a Transportation Management Plan (TMP) to include potential measures such as construction signage, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and the need for a construction flagperson to direct traffic during heavy equipment use, among others. The TMP would ensure emergency access is maintained during short-term construction activities. Following implementation of Mitigation Measure TRA-1, impacts would be reduced to less than significant levels.

Mitigation Measures:

TRA-1 Prior to the initiation of construction and during preparation of contractor specifications, UC ANR, or their designee, shall prepare a Traffic Management Plan (TMP). The TMP shall include measures such as construction signage, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and the need for a construction flagperson to direct traffic during heavy equipment use. The TMP shall specify that one direction of travel in each direction must always be maintained for the surrounding roadways throughout project construction. The TMP shall be incorporated into project specifications for verification prior to the start of construction.

5.18 TRIBAL CULTURAL RESOURCES

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

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources (CRHR) or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

On February 19, 2016, the California Natural Resources Agency proposed to adopt and amend regulations as part of AB 52 implementing Title 14, Division 6, Chapter 3 of the California Code of Regulations, CEQA Guidelines, to include consideration of impacts to tribal cultural resources pursuant to Government Code Section 11346.6. On September 27, 2016, the California Office of Administrative Law approved the amendments to Appendix G of the CEQA Guidelines, and these amendments are addressed within this environmental document.

In compliance with AB 52, the University of California, Agriculture and Natural Resources (UC ANR) distributed letters notifying each tribe (identified pursuant to a recommended list of tribes provided by the Native American Heritage Commission [NAHC]) for the purposes of AB 52 of the opportunity to consult with UC ANR regarding the proposed project. The letters were distributed by mail on December 5, 2023. Notified tribes include the Gabrieleno Band of Mission Indians – Kizh Nation, Gabrieleno-Tongva San Gabriel Band of Mission Indians, Gabrielino Tongva Indians of California Tribal Council, Juaneno Band of Mission Indians, Juaneno Band of Mission Indians Acjachemen Nation – Belardes, Juaneno Band of Mission Indians Acjachemen Nation 84A, La Jolla Band of Luiseno Indians, Pala Band of

Mission Indians, Pauma Band of Luiseno Indians, Santa Rosa Band of Cahuilla Indians, and Soboba Band of Luiseno Indians.

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

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

No Impact. As detailed in Response 4.5(a), no historic resources listed or eligible for listing in a State or local register of historic resources are located on the project site. Therefore, no impacts related to known historic tribal cultural resources defined in Public Resources Code Section 5020.1(k) would occur.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated. As noted above, UC ANR distributed letters to potentially affected Native American tribes which have cultural or traditional affiliation with the project area (identified pursuant to a recommended list of tribes provided by the NAHC) in accordance with AB 52. The letters were distributed by mail on December 5, 2023. The 30-day response period for AB 52 consultation concluded on January 5, 2024. UC ANR did not receive any communications or requests for consultation. As such, consultation efforts pursuant to AB 52 concluded. As discussed in Section 5.5, *Cultural Resources*, archaeological sensitivity for buried archaeological sites on-site is considered low to moderate based on the lack of previously recorded archaeological sites within the project area, construction of the agricultural irrigation pond, and modern agricultural disturbances in the project area. Nonetheless, project-related construction could uncover previously undiscovered tribal cultural resources during excavation into native soil. In the unlikely event that tribal cultural resources are encountered during ground-disturbing activities, Mitigation Measure CUL-1 would require all project construction efforts to halt until a qualified archaeologist is retained by UC ANR, or their designee, and examines and evaluates the find. If the archaeological find is determined to be significant under CEQA, the archaeologist would prepare and implement a data recovery plan, which would include performing technical analyses, report filing with the South Central Coastal Information Center, and providing the recovered material to an appropriate repository for curation, in consultation with a culturally-affiliated Native American if applicable. With implementation of Mitigation Measure CUL-1, the project would not cause a substantial adverse change in the significance of a tribal cultural resource pursuant to subdivision (c) of Public Resources Code Section 5024.1, and impacts would be reduced to less than significant levels.

Mitigation Measures: Refer to Mitigation Measure CUL-1.

5.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?			✓	

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

Less Than Significant Impact. Implementation of the project would require utilities services, including water, wastewater treatment, storm water infrastructure, electrical, and telecommunications facilities. As such, the following analysis is provided.

WATER

The South Coast REC is served by the Irvine Ranch Water District (IRWD). IRWD provides potable and recycled water to the area. The proposed project would connect to the existing water and recycled water mains within Modjeska right-of-way, at the intersection of Walking Stick. According to IRWD's *2020 Urban Water Management Plan* (2020 UWMP), the City's projected water demand by 2040 would be 87,637 acre-feet per year (AFY) in a normal year. The UWMP includes an analysis of water supply reliability projected through 2040. Based on the analysis, the City would be capable of providing adequate water supply to its service area under a normal supply and demand scenario, single dry-year supply and demand scenario, and multiple dry-year supply and demand scenario through 2040.[1] Thus, the IRWD UWMP accounts for increased demand as growth within the City occurs, including the project site.

[1] Irvine Ranch Water District, *2020 Urban Water Management Plan*, June 2021.

Given the nominal size of the new Engagement Center (approximately 13,750 square feet), the project would be consistent with the overall growth assumptions of the UWMP for the project site. Further, the project would utilize ultra-low flow fixtures, automatic sensor controls, and reduced flow aerators at all new fixtures, to exceed current California Green Building Standards Code—Part 11, Title 24, California Code of Regulations (CALGreen) Water Efficiency measures by 20 percent and as required for Leadership in Energy and Environmental Design (LEED) Certification. High-efficiency domestic hot water (DHW) systems would be installed in all buildings. The project would install appropriate fire department connections, domestic water and recycled water laterals, backflow devices, and isolation and shut off valves for connection to the new buildings on-site as required by UC ANR and the Orange County Fire Authority (OCFA). As such, other than those on-site facilities and lateral connection improvements proposed as part of the project, no other construction of new or expanded water facilities that could result in substantial environmental impacts would result.

WASTEWATER

IRWD would also provide wastewater treatment services to the project site. The IRWD provides sewage collection and treatment and produces tertiary-treated recycled water. Wastewater is treated at the Michelson Water Reclamation Plant (MWRP). The MWRP has the capacity to treat 28 million gallons per day (mgd) of wastewater and has sufficient capacity accommodate current and future demands.[2] Given the nominal size of the new Engagement Center (approximately 13,750 square feet), the MWRP is anticipated to have adequate capacity to treat the wastewater generated from the project. The project proposes to connect to an existing gravity main within Modjeska right-of-way, at the intersection of Walking Stick. No other construction of new or expanded wastewater facilities that could result in substantial environmental impacts would result. A less than significant impact would occur in this regard.

STORMWATER

As discussed in to Section 5.10, *Hydrology and Water Quality*, the overall drainage patterns within the project site would remain similar to existing conditions. The project proposes to develop an underground detention basin within the Engagement Center. The exact location and design of the stormwater infrastructure will be determined following further hydrologic investigation during the project design phase. New landscaping would also incorporate drainage control and stormwater management (such as biofiltration within planters, bioswales, permeable pavers, and other low-impact design [LID] features). Therefore, other than those on-site facilities proposed as part of the project, no other construction of new or expanded stormwater facilities that could result in substantial environmental impacts would result. Impacts related to stormwater facilities would be less than significant.

DRY UTILITIES

Electricity would be provided by Southern California Edison; there are existing distribution lines on the southern side of Modjeska as well as on South Coast REC (less than 1,000 feet from the existing agricultural irrigation pond). No natural gas would be used on site. To ensure that the Engagement Center is energy efficient and easy to maintain, the development would be designed and constructed to a minimum Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) Gold rating. The project would exceed the California Building Code (CBC) energy requirements by at least 20 percent and meet or exceed whole-building energy performance targets per Table 1 of the *University of California – Policy on Sustainable Practices*. High-efficiency lighting systems would be installed into all buildings, and adaptive light layering would be utilized for task, accent, and ambient lighting to allow lighting levels to be safely reduced under multiple circumstances. In accordance with CALGreen standards, the project would include solar facilities either in the form of panels mounted on the roof of the Engagement Center, as a parking shade structure, or panels that also provide shaded growing space for sensitive/high value crops. As such, the project would not require new or expanded dry utilities, other than those proposed on-site to support the project. Impacts in this regard would be less than significant.

[2] City of Irvine, *City of Irvine – General Plan Update Background Report*, January 2017.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. As discussed in Response 5.19(a), based on IRWD's 2020 UWMP, the City would be capable of providing adequate water supply to its service area under a normal supply and demand scenario, single dry-year supply and demand scenario, and multiple dry-year supply and demand scenario through 2040.[3] Thus, the IRWD UWMP accounts for increased demand as growth within the City occurs. Given the nominal size of the new buildings (approximately 13,750 square feet), the project is consistent with the City's overall planned growth within the project area and, as such, would be consistent with the assumptions of the UWMP for the project site. '

The project would implement the *University of California Policy on Sustainable Practices*, including compliance with the Green Building Design section. The project would also be required to comply with water efficiency and water conservation standards in the current *California Building Energy Efficiency Standards for Residential and Nonresidential Buildings* (California Code of Regulations, Title 24, Part 6) and current California Green Building Standards Code.[4,5] The project would utilize recycled water, ultra-low flow fixtures, automatic sensor controls, and reduced flow aerators at all new fixtures, as required for LEED Certification. Furthermore, the proposed project would include water-efficient features, such as low flow plumbing fixtures, irrigation to reduce water consumption, and low-water use vegetation for landscaping. The irrigation system would meet or exceed the State's Model Efficient Landscape Ordinance and UC ANR's requirements for water-efficient landscapes, as well as LEED standards. UC ANR continues to work with IRWD to reduce domestic water demand consistent with UC ANR's sustainability goals. Therefore, the proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Project impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. The MWRP has the capacity to treat 28 mgd of wastewater and has sufficient capacity accommodate current and future demands.[6] Given the nominal size of the new Engagement Center (approximately 13,750 square feet), the MWRP is anticipated to have adequate capacity to treat the wastewater generated from the project. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

3 Irvine Ranch Water District, *2020 Urban Water Management Plan*, June 2021.

4 California Energy Commission, *2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings: For the 2022 Building Energy Efficiency Standards Title 24, Part 6, and Associated Administrative Regulations in Part 1*, updated December 23, 2022.

5 California Building Standards Commission, *2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen)*, effective January 1, 2023.

6 City of Irvine, *City of Irvine – General Plan Update Background Report*, January 2017.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact. The Frank R. Bowerman Landfill is permitted to receive a daily maximum of 11,500 tons per day and has enough projected capacity to serve residents and businesses until approximately 2053.[7] This facility is in compliance with the California Integrated Waste Management Act of 1989 (Assembly Bill 939), which requires each jurisdiction to maintain 15 years of solid waste disposal capacity. As stated, the project is consistent with the City's overall planned growth for the area. Based on this and the availability of disposal capacity for the area, the project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. The University of California is not subject to Assembly Bill 939 or other local agency regulations pertaining to solid waste management. Nonetheless, the University of California has adopted the *University of California Policy on Sustainable Practices* that requires UC facilities and campuses to undertake aggressive programs to reduce solid waste generation and disposal. The proposed project would meet the requirements of the *University of California Policy on Sustainable Practices*, including compliance with the Green Building Design section. Therefore, the proposed project and would not violate solid waste regulations and impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

[7] County of Orange, *Frank R. Bowerman Landfill*, https://oclandfills.com/landfills/frank-r-bowerman-landfill, accessed February 29, 2024.

5.20 WILDFIRE

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

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. According to the California Department of Forestry and Fire's *High Fire Hazard Severity Zone (FHSZ) Viewer*, the project site is not located in a State responsibility area (SRA) or lands classified as a Very High Fire Hazard Severity Zone (VHFHSZ).[1] However, the nearest area designated SRA is located approximately 0.75-mile to the east of the project site and the nearest area designated as a Local Responsibility Area (LRA) is located approximately 0.25-mile to the south.[2]

As discussed in Section 5.15, *Public Services*, the project would include all necessary ingress and egress for traffic circulation and emergency response and would comply with all applicable requirements for construction, access, water mains, fire flows, and life safety requirements. In addition, the proposed project would be required to comply with the University of California (UC) Fire Marshall's (or their designee's) regulatory requirements for the proposed project, which may include a Fuel Modification Program as well as appropriate fire permit(s).

Mitigation Measures: No mitigation is required.

1 California Department of Forestry and Fire Protection, *FHSZ Viewer*, https://egis.fire.ca.gov/FHSZ/, accessed October 24, 2022.

2 Ibid.

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

Less Than Significant Impact. Refer to Response 5.20(a). The South Coast REC is surrounded by dense, residential development and other built infrastructure such as roadways. The project would replace an existing agricultural irrigation pond with approximately 13,750 square feet of building space to support existing programs at the South Coast REC. The project does not propose any housing and would not result in permanent occupants. As such, due to the nature of the project and the existing adjacent development, the proposed project would not result in exposure to wildfire risks, including pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.

Nonetheless, given the project site's proximity to the SRA and VHFHSZ, it is acknowledged that the UC Fire Marshall, or their designee, may require a Fuel Modification Plan, as part of the Permit process during the design phase. Landscaped areas adjacent to new structures would be required to be dedicated for permanent vegetation management activities. The Fuel Modification Program would bring fire-safe landscaping and construction features together to improve community safety and reduce property loss during wildfire emergencies. Fuel Modification areas would be maintained for a successful long-term outcome. Furthermore, the permit would cover the timing of plans for construction, plan criteria needed for approval, plant lists for the zones, new construction inspection requirements, and introductory maintenance information.

In conclusion, the project is surrounded by urban development, does not propose habitable structures, and would not result in additional occupants on site. Further, the project site does not have excessive slopes or other factors that would exacerbate fire risk. As such, the project would not exacerbate wildfire risks, and thereby expose project occupants to impacts related to wildfire. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Refer to Response 5.20(a). As discussed in Section 5.15, *Public Services*, the project would install water, wastewater, storm drain, and dry utilities, connecting the proposed Engagement Center to the existing infrastructure in Modjeska. In addition, the project proposes a new entry at the intersection of Modjeska and Still Night, which is currently a signalized three-leg intersection. This ingress/egress point would connect to a proposed internal access road, directing traffic to either the existing South Coast REC structures along Irvine Boulevard (to the west), or the new Engagement Center (to the east); refer to Exhibit 2-2, *Site Vicinity*. Proposed infrastructure would be required to comply with the California Fire Code and would not exacerbate existing fire risk in the project area. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. Refer to Response 5.20(a). Given the project site's proximity to the SRA and VHFHSZ, implementation of the project would not involve changes to slope in the area and would improve drainage on-site. No impacts associated with downslope flooding or landslides are anticipated.

Mitigation Measures: No mitigation is required.

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
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 which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

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

Less Than Significant Impact With Mitigation Incorporated. As discussed in Section 5.4, *Biological Resources*, no special-status plant or wildlife species occur within the project site. However, due to the potential for nesting birds protected under the Migratory Bird Treaty Act (MBTA) to be present on site, implementation of Mitigation Measure BIO-1, would be required. Mitigation Measure BIO-1 requires a pre-construction nesting bird clearance survey be conducted to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. If the nesting bird clearance survey indicates the presence of nesting migratory native birds, Mitigation Measure BIO-1 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the MBTA. With implementation of Mitigation Measure BIO-1, the project's potential impacts to special status species would be reduced to a less than significant level. As such, the project would not 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, or reduce the number or restrict the range of a rare or endangered plant or animal.

As described within Sections 5.5, *Cultural Resources*, and Section 5.18, *Tribal Cultural Resources*, there are no known historical, archaeological, or tribal cultural resources within the project site. However, given the project site's proximity to previous water sources in the area and the number of prehistoric archaeological sites within 0.5-mile of the project site, unanticipated archaeological deposits may be uncovered during construction. As such, implementation of Mitigation Measure CUL-1 would require all project construction efforts to halt until a qualified archaeologist is retained

by UC ANR, or their designee, and examines and evaluates the find. If the archaeological find is determined to be significant under CEQA, the archaeologist would prepare and implement a data recovery plan, which would include performing technical analyses, report filing with the SCCIC, and providing the recovered material to an appropriate repository for curation, in consultation with a culturally-affiliated Native American if applicable. Adherence to Mitigation Measure CUL-1, the project would not eliminate important examples of the major periods of California history or prehistory.

As discussed within Section 5.7, *Geology and Soils*, the project site is located in an area of low paleontological sensitivity. As such, the project would not eliminate important examples of prehistory pertaining to paleontological resources and no impacts are anticipated in this regard.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant Impact With Mitigation Incorporated. A significant impact may occur if a proposed project, in conjunction with related projects, would result in impacts that are less than significant when viewed separately, but would be significant when viewed together. As concluded in Sections 5.1 through 5.20, the proposed project would not result in any significant and unavoidable impacts in any environmental categories; it is anticipated that project impacts would be less than significant with implementation of existing regulatory requirements and/or project-specific mitigation measures (including Mitigation Measures BIO-1, CUL-1 and TRA-1). While land within the South Coast REC, located northwest of the project site, is planned for future University of California, Irvine (UCI) student housing, no significant cumulative effects associated with this development are anticipated because no resources would be adversely affected by the project, or the project effects would be localized and of limited extent. As such, the project would not significantly contribute to cumulatively considerable effects, and impacts would be less than significant with adherence to applicable mitigation measures.

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

Less Than Significant Impact With Mitigation Incorporated. Previous sections of this Initial Study reviewed the project's potential impacts related to aesthetics, air quality, geology and soils, greenhouse gas emissions, hydrology/water quality, noise, and other issues. As concluded in previous sections, the project would result in less than significant environmental impacts with implementation of the recommended mitigation measures (including Mitigation Measure TRA-1). Therefore, the project would not result in environmental impacts that would cause substantial impacts on human beings.

5.22 REFERENCES

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6.0 CONSULTANT RECOMMENDATION

Based on the information and environmental analysis contained in the Initial Study/Environmental Checklist, we recommend that the UC ANR prepare a Mitigated Negative Declaration for the South Coast REC Engagement Center Project. We find that the proposed project could have a significant effect on a number of environmental issues, but that mitigation measures have been identified that reduce such impacts to a less than significant level. We recommend that the second category be selected for the University of California's determination (see Section 3.0, *Lead Agency Determination*).

6/6/24
Date

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