University of California San Diego

2018 Long Range Development Plan
Subsequent Environmental Impact Report
La Jolla Campus
April 2025

VOLUME II

Appendix A

Notice of Preparation and Response Letters

CAMPUS PLANNING
9500 GILMAN DR, MAIL CODE 0074
LA JOLLA, CALIFORNIA 92093-0074

February 29, 2024

NOTICE OF PREPARATION – SUBSEQUENT DRAFT ENVIRONMENTAL IMPACT REPORT

Project Title: Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan
Lead Agency: University of California
Project Location: University of California San Diego, La Jolla Campus
County: San Diego

Notice: In accordance with the California Environmental Quality Act (CEQA), the University of California San Diego (UC San Diego) has issued this Notice of Preparation (NOP) to solicit comments on the scope of a Subsequent Environmental Impact Report for the above-named project.

Project Description: The UC San Diego La Jolla Campus Long Range Development Plan (2018 LRDP) is a general land use plan that guides the physical development of the campus. The 2018 LRDP and accompanying Environmental Impact Report (EIR) were adopted and certified, respectively, by the Regents of the University of California in November 2018 (State Clearinghouse No. 2016111019). As a result of an increasing demand for higher education, mandates from the State of California, and UC system-wide requirements to increase enrollment, UC San Diego is experiencing higher rates of admitted students and associated campus population growth than was projected at the adoption of the 2018 LRDP and its accompanying EIR. The proposed Update to the 2018 LRDP (Update) would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. The Update would maintain consistency with the primary goals, objectives, and principles of the 2018 LRDP. For reference, the current 2018 LRDP and accompanying EIR can be viewed online at: https://plandesignbuild.ucsd.edu/planning/lrdp/la-jolla.html.

Updated estimated student, staff, and faculty campus population projections are included in Table 1. Land use development is expected to increase by approximately 30 percent from the projections outlined in the 2018 LRDP. UC San Diego's La Jolla campus is composed of three distinct geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus). The increased density would occur within the West and East Campuses, resulting in potential increase in square footage and height of future development in these locations. Limited land use changes would also be made in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP, and all existing coastal height restrictions at SIO will be maintained.

Table 1: Estimated Campus Population Projections 2018 LRDP vs Update

Category	2018 LRDP (through year 2035)	Update (through year 2040)
Students	42,400	56,000
Staff & Faculty	23,200	40,300
Total Population	**65,600**	**96,300**

CEQA Process: In accordance with Section 15162 of the CEQA Guidelines, UC San Diego will prepare a Subsequent Environmental Impact Report (SEIR) to evaluate and disclose potential environmental impacts associated with approval and implementation of the proposed Update to the 2018 LRDP, as well as changed conditions since the 2018 LRDP EIR was prepared. An SEIR is required when a substantial change is proposed to a project for which an EIR has been previously certified. The SEIR for the Update to the 2018 LRDP will be a program-level environmental assessment that evaluates the effects of implementation of the Update; environmental review of future individual projects would be tiered from this SEIR, pursuant to CEQA Guidelines Sections 15152, 15168(c), and 15183.5. The University of California will serve as the CEQA Lead Agency.

Potential environmental impacts that are anticipated to be addressed in the SEIR include: aesthetics; air quality; biological resources; historical resources; cultural and tribal cultural resources; energy; greenhouse gas emissions; land use and planning; noise; population and housing; public services; recreation; transportation and circulation; utilities and service systems; and wildfire. Environmental issues that were adequately addressed in the 2018 LRDP EIR and are not significantly affected by the Update to the 2018 LRDP or other changed conditions are not anticipated to be evaluated in the SEIR. Finally, the SEIR will include analysis of project alternatives and cumulative effects, as well as new and/or revised mitigation measures, as deemed necessary.

How to Submit Scoping Comments: State law mandates a 30-day scoping period that will extend from February 29, 2024 to March 29, 2024. Your written comments on the scope and analysis of the SEIR must be emailed to env-review@ucsd.edu no later than 5:00 PM on Friday, March 29, 2024. The University requests that comments be provided electronically; however, if a hard copy submittal is necessary, it may be mailed to: University of California San Diego, c/o Lauren Lievers, Campus Planning, 9500 Gilman Drive, MC 0074, La Jolla, CA 92093-0074. Mailed comments must be postmarked by the end of the scoping period.

A Public Scoping Meeting on the Update to the 2018 LRDP SEIR will be held at the UC San Diego campus as detailed below. Written scoping comments will also be accepted at the meeting.

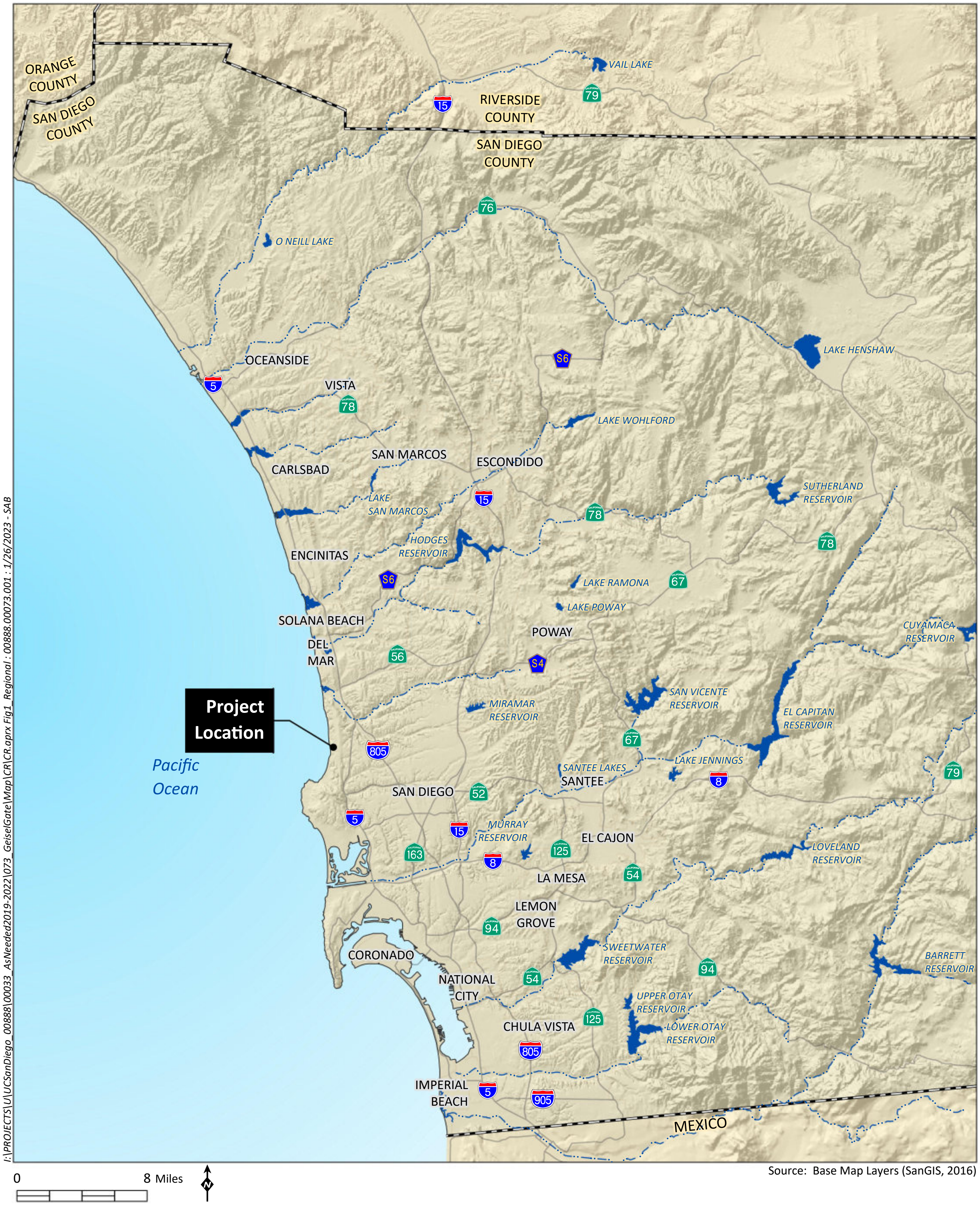
Event: SEIR Public Scoping Meeting
Project: Update to the 2018 LRDP
Date: Wednesday, March 20, 2024
Time: 6:00 p.m.
Location: UC San Diego Faculty Club – Atkinson Pavilion
Directions and parking: Visit https://facultyclub.ucsd.edu/directions/index.html

This NOP is being advertised in the San Diego Union Tribune and via direct email to agencies, organizations, and individuals who have previously requested to receive UC San Diego CEQA notices. More information is also available on the Campus Planning website at https://plandesignbuild.ucsd.edu/planning/lrdp/la-jolla.html. Requests to be added to UC San Diego's electronic CEQA notice distribution list or for translation services related to this notice can be sent to env-review@ucsd.edu.

All public comments received during the scoping period will be considered in the preparation of the Draft SEIR. Upon completion of the Draft SEIR, it will be circulated for a 45-day public review period. Thereafter, the University will prepare written responses to comments on the Draft SEIR and publish the Final SEIR, which will be presented to the UC Regents for certification.

Robert Clossin, AICP
Director, Campus Planning
UC San Diego

Enclosures: Figure 1 Regional Location
Figure 2 Campus Boundary



Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

Source: Aerial (SanGIS, 2023)

HELIX Environmental Planning

Campus Boundary

Figure 2

The San Diego Union-Tribune

PROOF of PUBLICATION

STATE OF CALIFORNIA
County of San Diego

The Undersigned, declares under penalty of perjury under the laws of the State of California: That he/she is the resident of the County of San Diego. That he/she is and at all times herein mentioned was a citizen of the United States, over the age of twenty-one years, and that he/she is not a party to, nor interested in the above-entitled matter; that he/she is Chief Clerk for the publisher of

The San Diego Union-Tribune

a newspaper of general circulation, printed and published daily in the City of San Diego, County of San Diego, and which newspaper is published for the dissemination of local news and intelligence of a general character, and which newspaper at all the times herein mentioned had and still has a bona fide subscription list of paying subscribers, and which newspaper has been established, printed and published at regular intervals in the said City of San Diego, County of San Diego, for a period exceeding one year next preceding the date of publication of the notice hereinafter referred to, and which newspaper is not devoted to nor published for the interests, entertainment or instruction of a particular class, profession, trade, calling, race, or denomination, or any number of same; that the notice of which the annexed is a printed copy, has been published in said newspaper in accordance with the instruction of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

March 3, 2024

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated in the City of San Diego, California
on this 4th of March 2024

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San Diego Union-Tribune
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Notice of Public Scoping Meeting Draft Subsequent Environmental Impact Report for the Update to the UC San Diego La Jolla Campus 2018 Long Range Development Plan

University of California San Diego (UC San Diego) is revising the growth forecast of its La Jolla Campus 2018 Long Range Development Plan (LRDP). The proposed Update to the 2018 LRDP would extend the planning horizon year from 2035 to 2040 and update the previous population and development projections.

In accordance with the California Environmental Quality Act, UC San Diego will prepare a Subsequent Environmental Impact Report (SEIR) to evaluate and mitigate potential environmental impacts associated with approval and implementation of the proposed Update to the 2018 LRDP. The SEIR Notice of Preparation and other information can be viewed at:
https://plandesignbuild.ucsd.edu/planning/lrdp/la-jolla.html

UC San Diego is holding a Scoping Meeting on Wednesday, March 20, 2024 at 6:00pm on the UC San Diego Campus at The Ida and Cecil Green Faculty Club. Members of the public are encouraged to attend. Directions and parking information can be found at: https://facultyclub.ucsd.edu/directions/index.html

Written comments regarding the scope and analysis of the SEIR will be accepted at the meeting or may be emailed to **env-review@ucsd.edu** no later than 5:00pm on Friday, March 29, 2024.

A presentation on the Update to the 2018 LRDP and SEIR process will be provided at the Scoping Meeting. The presentation will also be pre-recorded and available at the above website for those who are unable to attend the meeting in person.
SDUT ad 11649489

California Department of Transportation

DISTRICT 11
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March 27, 2024

11-SD-5
PM R28.4
Update to the La Jolla Campus 2018 Long Range Development Plan
NOP/SCH#2016111019

Ms. Lauren Kahal Lievers
Principal Environmental Planner
Campus Planning
University of California, San Diego
9500 Gilman Drive, Mail Code 0074
La Jolla CA 92093-0074

Governor's Office of Planning & Research

Mar 28 2024

STATE CLEARINGHOUSE

Dear Ms. Lievers:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Notice of Preparation (NOP) for the Update to the La Jolla Campus 2018 Long Range Development Plan for University of California San Diego (UC San Diego) located near Interstate 5 (I-5) and Genesee Avenue in La Jolla. The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans is committed to prioritizing projects that are equitable and provide meaningful benefits to historically underserved communities, to ultimately improve transportation accessibility and quality of life for people in the communities we serve.

We look forward to working with the UC San Diego in areas where the University and Caltrans have joint jurisdiction to improve the transportation network and connections between various modes of travel, with the goal of improving the experience of those who use the transportation system.

Caltrans has the following comments:

Traffic Impact Study

- A Vehicle Miles of Travel (VMT) based Traffic Impact Study (TIS) should be provided for this project. Please use the Governor's Office of Planning and Research Guidance to identify VMT related impacts.[1]

- The TIS may also need to identify the proposed project's near-term and long-term safety or operational issues, on or adjacent any existing or proposed State facilities.

Planning

The Current Long-Range Development plan UC San Diego La Jolla Campus was adopted in 2018. That plan called for a total population of 65,600 (Students, Staff, and Faculty) by 2035 - up from 48,000 in 2015. The Campus previous plan estimate was 65,600 campus population. The Campus new plan would apparently add another 30,700, for a total campus population of approximately 96,300.

The City of San Diego is currently working on the University Community Plan Update (University CPU) and Local Coastal Program Update which establishes an updated vision and objectives that aligns with the General Plan policies, including those proposed and amended by the Blueprint San Diego (SD) Initiative and City of Villages Strategy, as well as recently adopted policy direction from the Climate Action Plan (CAP), Parks Master Plan, and Climate Resilient SD. The University CPU also takes into consideration the Regional Plan.

The University CPU is part of the Blueprint SD Initiative and Hillcrest Focused Plan Amendment (Uptown Community Plan) in which the Draft Program Environmental Impact Report (DPEIR) is out for public review period. Please coordinate with the

[1] California Governor's Office of Planning and Research (OPR) 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

City of San Diego and SANDAG on the future number of student enrollments will be as it relates to the number of housing units being proposed in the University CPU.

Also, please coordinate the traffic studies for both the Update to the La Jolla Campus 2018 Long Ranch Development Plan and the City of San Diego's University CPU traffic studies.

Complete Streets and Mobility Network

Caltrans views all transportation improvements as opportunities to improve safety, access and mobility for all travelers in California and recognizes bicycle, pedestrian and transit modes as integral elements of the transportation network. Caltrans supports improved transit accommodation through the provision of Park and Ride facilities, improved bicycle and pedestrian access and safety improvements, signal prioritization for transit, bus on shoulders, ramp improvements, or other enhancements that promotes a complete and integrated transportation network. Early coordination with Caltrans, in locations that may affect both Caltrans and the UC San Diego is encouraged.

To reduce greenhouse gas emissions and achieve California's Climate Change target, Caltrans is implementing Complete Streets and Climate Change policies into State Highway Operations and Protection Program (SHOPP) projects to meet multi-modal mobility needs. Caltrans looks forward to working with the UC San Diego to evaluate potential Complete Streets projects.

Bicycle, pedestrian, and public transit access during construction is important. Mitigation to maintain bicycle, pedestrian, and public transit access during construction is in accordance with Caltrans' goals and policies.

Land Use and Smart Growth

Caltrans recognizes there is a strong link between transportation and land use. Development can have a significant impact on traffic and congestion on State transportation facilities. In particular, the pattern of land use can affect both local vehicle miles traveled and the number of trips. Caltrans supports collaboration with local agencies to work towards a safe, functional, interconnected, multi-modal transportation network integrated through applicable "smart growth" type land use planning and policies.

The UC San Diego should continue to coordinate with Caltrans to implement necessary improvements at intersections and interchanges where the agencies have joint jurisdiction.

Noise

The applicant must be informed that in accordance with 23 Code of Federal Regulations (CFR) 772, the Department of Transportation (Caltrans) is not responsible for existing or future traffic noise impacts associated with the existing configuration of I-5.

Environmental

Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process. We look forward to the coordination of our efforts to ensure that Caltrans can adopt the alternative and/or mitigation measure for our R/W. We would appreciate meeting with you to discuss the elements of the Environmental Document that Caltrans will use for our subsequent environmental compliance.

An encroachment permit will be required for any work within the Caltrans' R/W prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, CEQA determination or exemption. The supporting documents must address all environmental impacts within the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to fencing, lighting, signage, drainage, guardrail, slopes and landscaping. Caltrans is interested in any additional mitigation measures identified for the project's draft Environmental Document.

Broadband

Caltrans recognizes that teleworking and remote learning lessen the impacts of traffic on our roadways and surrounding communities. This reduces the amount of VMT and decreases the amount of greenhouse gas (GHG) emissions and other pollutants. The availability of affordable and reliable, high-speed broadband is a key component in supporting travel demand management and reaching the state's transportation and climate action goals.

Right-of-Way

- Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.
- Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing D11.Permits@dot.ca.gov or by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions or concerns, please contact Kimberly Dodson, LDR Coordinator, at (619) 985-1587 or by e-mail sent to Kimberly.Dodson@dot.ca.gov.

Sincerely,

Kimberly D. Dodson

KIMBERLY D. DODSON, G.I.S.P.
Acting Branch Chief
Local Development Review

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

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

March 1, 2024

Lauren Lievers
University of California San Diego
9500 Gilman Drive
MC 0074
La Jolla CA 92093

Governor's Office of Planning & Research
Mar 01 2024
STATE CLEARINGHOUSE

Re: 2016111019, Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan Project, San Diego County

Dear Ms. Lievers:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015. If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). Both SB 18 and AB 52 have tribal consultation requirements. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe. (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
a. If part or all of the APE has been previously surveyed for cultural resources.
b. If any known cultural resources have already been recorded on or adjacent to the APE.
c. If the probability is low, moderate, or high that cultural resources are located in the APE.
d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Murphy.Donahue@NAHC.ca.gov.

Sincerely,

Murphy Donahue

Murphy Donahue
Cultural Resources Analyst

cc: State Clearinghouse

San Diego Unified
SCHOOL DISTRICT

Office of Operations Support
Instructional Facilities Planning Department
Tel. (619) 725-7372
IFPD@sandi.net

Ms. Lauren Lievers
UC San Diego Campus Planning
9500 Gilman Drive, #0074
La Jolla, CA 92093

RE: UC San Diego Notice of Preparation of Subsequent EIR - Update to the 2018 LRDP EIR

Dear Ms. Lievers,

We are in receipt of your February 29, 2024, Notification of Preparation of a Subsequent Environmental Impact Report for a proposed update to the UC San Diego La Jolla Campus Long Range Development Plan (LRDP). In response we are submitting this letter as an update to the student generation data previously submitted to you in a letter dated February 27, 2018 (attached) which addressed questions related to the UC San Diego 2018 LRDP.

The Notice of Preparation summary suggests a 30% increase in the development of land uses. Should this intensification apply to land uses generating school-age children we anticipate a potential increase of roughly 600 children in grades K-12, residing in San Diego Unified School District's University City and La Jolla clusters of schools.

Table 4: Expected Number of Children from Implementation of LRDP (information provided by UCSD Planning Staff, 2017)				
Group	**Age in Years**	**Baseline (3-year average 2013-2015, UCSD data)**	**Year 2025 (+ from baseline)**	**Year 2035 (+ from baseline)**
Infant-Preschool	0-4	220	560 (+340)	670 (+450)
Elementary	5-11	125	315 (+190)	380 (+255)
Middle or High	12-18	75	190 (+115)	230 (+155)
Total	**0-18**	**420**	**1,065 (+645)**	**1,280 (+860)**
Total school age only (Elem to High)	***5-18***	***200***	***505 (+305)***	***610 (+410)***

The baseline 3-year average provided by UCSD planning staff in 2017 is representative of current student counts. 199 San Diego Unified students currently reside on UCSD campus.

Update A to Table 4: Expected Number of Children from Implementation of LRDP Update With 30% Increase		
Group	**Age in Years**	**Year 2040 (+ from baseline)**
Infant-Preschool	0-4	891 (+671)
Elementary	5-11	505 (+380)
Middle or High	12-18	306 (+231)
Total	**0-18**	**1,702 (+1,282)**
Total school age only (Elem to High)	***5-18***	***793 (+593)***

In addition to an increase in the number of K-12 students residing on UCSD campus, the definition of "school age" has expanded since the 2018 letter and will increase the number of students served in University City and La Jolla Cluster schools. The California Department of education's requirement to include Universal Transitional Kindergarten (UTK) for children turning 4 years old is in the final stages of implementation in California's public schools. When accounting for the full implementation of UTK in 2026, the projected counts of school age increase to include over 700 additional students' children residing in the University City and La Jolla school clusters.

Update B Table 4: Expected Number of Children from Implementation of LRDP Update ADJUSTED FOR UTK-12 with 30% Increase				
Group	**Age in Years**	**Baseline (3-year average 2013-2015, UCSD data)**	**Current LRDP Year 2035 (+ from baseline)**	**Proposed LRDP Year 2040 (+ from baseline)**
Infant-Preschool	0-3	176	536 (+360)	713 (+537)
Elementary	4-11	169	514 (+345)	683 (+514)
Middle or High	12-18	75	230 (+155)	306 (+231)
Total	**0-18**	**420**	**1,280 (+860)**	**1,702 (+1,282)**
Total school age only (Elem to High)	***5-18***	***244***	***610 (+500)***	***989 (+745)***

In light of these expected increases to the school age population on UCSD campus and the public school facilities necessitated to serve them, we request regular progress updates and opportunities to plan cohesively how the findings of this letter can be addressed.

Sincerely,

Taya Ovaitt
Demographer
Instructional Facilities Planning Department
San Diego Unified School District

(619) 725-7369
tovaitt@sandi.net

Instructional Facilities Planning Department
Sarah Hudson, Demographer
Tel.: (619) 725-7369
shudson@sandi.net

February 27, 2018

Ms. Lauren Kahal
UC San Diego Campus Planning
9500 Gilman Drive, #0074
La Jolla, CA 92093

Dear Ms. Kahal:

We are in receipt of your January 4, 2018 letter requesting school information relating to the UC San Diego 2018 Long Range Development Plan (LRDP), La Jolla Campus. In this letter we address your questions and provide requested information. The information in this letter pertains to the 2017-18 school year. Please note that attendance boundaries are reviewed annually and are subject to change.

District Total Enrollment

San Diego Unified School District total enrollment is as follows:

Table 1: District Total Enrollment, 2015-16 to 2018-19 (projected)				
	2015-16	**2016-17**	**2017-18**	**2018-19 projected**
District-run	107,833	107,083	105,793	104,460
Charter	22,491	22,053	21,319	21,592
Total	130,324	129,136	127,112	126,052
Change		*-1,188*	*-2,024*	*-1,060*

Overall district total enrollment has been on a downward trend since the early 2000s. However, specific areas of the district or particular schools have experienced enrollment growth during the same time period due to residential development and/or resident enrollment increase. University Town Center (UTC) is one of these areas, in particular Doyle Elementary.

Current School Service, Enrollment, and Capacity

The following district-run schools currently serve housing areas of the UC San Diego La Jolla Campus where children may reside.

Mesa Housing and La Jolla del Sol
Doyle Elementary (K-5), 3950 Berino Court, San Diego, CA 92122
Standley Middle (6-8), 6298 Radcliffe Drive, San Diego, CA 92122
University City High (9-12), 6949 Genesee Avenue, San Diego, CA 92122

SIO Housing
Torrey Pines Elementary (K-5), 8350 Cliffridge Avenue, La Jolla, CA 92037
Muirlands Middle (6-8), 1056 Nautilus Street, La Jolla, CA 92037
La Jolla High (9-12), 750 Nautilus Street, La Jolla, CA 92037

Table 2 shows the recent enrollment and estimated program capacity of these schools. Program capacity is a method of analyzing the capacity of a school site which allows for uses other than instruction occurring in classrooms, as well as deficiencies in a school's administrative support space. Program capacity is calculated using current Board-approved class size ratios. Current ratios are 24:1 for K-3; 32.13:1 for 4th-6th; 28.73:1 for 7th-8th; and 29.13:1 for 9th-12th.

Table 2: Estimated Program Capacity and Enrollment of Currently Assigned Schools

School	Estimated Program Capacity	Enrollment Fall 2015	Enrollment Fall 2016	Enrollment Fall 2017	Projected Enrollment Fall 2018
Doyle Elementary	832	890	739	708	687
Torrey Pines Elementary	494	510	501	480	482
Muirlands Middle	1,023	1,076	1,056	1,003	906
Standley Middle	1,143	1,073	1,080	1,038	1,037
La Jolla High	1,530	1,589	1,543	1,513	1,490
University City High	1,994	1,821	1,797	1,872	1,851

At the elementary level:

- Doyle is currently operating at about 80-85% of capacity by design. Beginning in school year 2010-11, enrollment at Doyle began increasing to a high point of 900 in 2014-15. This growth was due to resident enrollment increase and exceeded capacity. Attendance boundary changes were enacted in 2016-17. The southeastern quadrant of the Doyle attendance area was assigned to Spreckels Elementary (west of the 805 freeway, north of Rose Canyon, east of Genesee Avenue, and south of La Jolla Village Drive). Some grandfathering of current Doyle students along with their concurrently enrolled siblings was permitted.
- Torrey Pines is essentially operating at full capacity.

At the middle level:

- Both Muirlands and Standley are operating at around 90% of capacity.

At the high level:

- La Jolla is operating at over 95% of capacity.
- University City is operating at over 90% of capacity.

<u>Assessment of Potential Impact to District Schools and Strategies to Manage Enrollment Growth from Implementation of the UC San Diego LRDP</u>

Students who reside within San Diego Unified School District (SDUSD) have an assigned elementary, middle, and high school based on their home address. Students may apply to attend another school on a space available basis via the School Choice program (https://www.sandiegounified.org/enrollment-options-policies).

Occasionally a school's enrollment grows to the point of approaching capacity. If capacity of a school is reached during a school year, temporary overflow procedures may be implemented to direct newly arriving students to another school. To permanently address an overcrowding situation, there are two primary strategies the district may undertake to ensure space is available for resident students to attend their assigned school.

The first strategy is to reduce non-resident student enrollment. A "resident" student lives within a school's attendance area; a "non-resident" student lives outside a school's attendance area, whether elsewhere within San Diego Unified or outside the district altogether. Non-resident students are admitted via the School Choice program noted above. The district may limit the number of incoming non-resident students offered admission at a particular school. Typically this is done at the entry grade level to a school (Kindergarten, 6^{th}, or 9^{th}).

The second strategy is changes to schools' attendance areas. This takes a portion of the overcrowded school's attendance area and reassigns it to another nearby school with available capacity. Grandfathering is typically offered to currently attending students as well as their siblings. As previously mentioned, attendance boundary changes were already implemented for Doyle Elementary in 2016-17 to relieve overcrowding due to several years of resident enrollment increase.

In addition to the UCSD housing areas addressed in the LRDP, this office is aware of three private residential developments in the immediate vicinity that will also impact district schools:

1) LUX UTC is 560 apartments in four towers located at the southwest corner of La Jolla Village Drive and Genesee Avenue. The first tower is scheduled to open in August 2018 and will include 115 units. This development is within Doyle's current attendance area.
2) Costa Verde Shopping Center Revitalization will include 120 multifamily units and is within Doyle's current attendance area.
3) Westfield UTC Shopping Center remodel will include 300 multifamily units and is within Spreckels Elementary's current attendance area.

Using district data, IFPD staff have tallied the number of currently enrolled students at district schools who reside in the housing areas included in the LRDP. Table 3 presents this information.

Table 3: Enrollment at District Schools of Students Residing in UCSD Housing, 2017-18 School Year

Housing Area	Assigned Schools	Elementary students	Middle students	High students	Total	% attending school within assigned cluster
La Jolla del Sol	Doyle, Standley, University City	19	7	1	27	96%
Mesa Housing	Doyle, Standley, University City	55	12	7	74	86%
SIO Housing	Torrey Pines, Muirlands, La Jolla	2	0	0	2	100%
Total		76	19	8	103	

The current number of students, 103, is a manageable impact upon district schools at this time. However, as discussed below, the LRDP calls for a significant increase in students that will be very difficult for district schools to accommodate.

Staff from the Instructional Facilities Planning Department (IFPD) of SDUSD met with UCSD Planning staff on December 14, 2017. **Information was shared by UCSD Planning staff that over the lifetime of the LRDP (to 2035), the total number of children infant to high school is expected to increase by approximately 850; school age population is expected to increase by 410.** Table 4 details the expected number of children to be generated by implementation of the LRDP.

Table 4: Expected Number of Children from Implementation of LRDP (information provided by UCSD Planning Staff)				
Group	**Age in Years**	**Baseline (3 year average 2013-2015, UCSD data)**	**Year 2025 (+ from baseline)**	**Year 2035 (+ from baseline)**
Infant-Preschool	0-4	220	560 (+340)	670 (+450)
Elementary	5-11	125	315 (+190)	380 (+255)
Middle or High	12-18	75	190 (+115)	230 (+155)
Total	**0-18**	**420**	**1,065 (+645)**	**1,280 (+860)**
Total school age only (Elem to High)	***5-18***	***200***	***505 (+305)***	***610 (+410)***

There is a discrepancy between the baseline number of school age students suggested by UCSD data (200) vs. actual district information on student enrollment (103). This could be because the UCSD figure is an average and slightly outdated (three to five years old), compared to district data which is for the current school year. **Using UCSD data, the increase is expected to be 410 school age students (a 398% increase). Using SDUSD data, the increase will be even greater, +507 (a 492% increase).**

A map provided by UCSD Planning staff shows the majority of children are expected to reside in the housing areas within Doyle Elementary's attendance boundary (and therefore Standley Middle and University City High). A smaller number are expected to reside in housing areas within Torrey Pines Elementary attendance boundary (and therefore Muirlands Middle and La Jolla High). The split appears to be about 85% Doyle/15% Torrey Pines. Estimated student impact on each school is as follows, based on the Year 2025 and Year 2035 figures in Table 4:

- Doyle Elementary
  - 267 students (85% of 315) by 2025
  - 323 students (85% of 380) by 2035
- Torrey Pines Elementary
  - 47 students (15% of 315) by 2025
  - 57 students (15% of 380) by 2035
- Standley Middle and/or University City High
  - 162 students (85% of 190) by 2025
  - 196 students (85% of 230) by 2035
- Muirlands Middle and/or La Jolla High
  - 29 students (15% of 190) by 2025
  - 35 students (15% of 230) by 2035

At this time, IFPD staff anticipates the expected enrollment growth from the LRDP at the middle and high school levels can most likely be accommodated at the assigned district schools without changes to attendance boundaries. The affected middle and high schools currently accept significant numbers of non-resident students at their entry grades (6^{th} and 9^{th}, respectively). The number of non-resident students can be reduced beginning a few years before expected students from the UCSD housing areas will arrive, ensuring space is available.

Elementary level is a significant concern. The enrollment of Doyle Elementary and Torrey Pines Elementary is primarily resident students (82% and 96%, respectively). The figure of 82% at Doyle includes grandfathered students from the boundary change two years ago; those students are mostly in the upper grades now. The past two years Doyle has admitted single digit numbers of non-residents (only the younger siblings of existing non-residents). The strategy of reducing non-resident enrollment to free up space for new resident students will not be effective at these schools.

Doyle Elementary has 37 total classrooms (27 permanent and 10 portable). Twenty-nine classrooms are currently used for instruction. Five classrooms are currently not in use, and three classrooms are used for non-instruction purposes. These eight classrooms if used for instruction and loaded at current class size ratios could accommodate around 190 to 240 students. These classrooms are not sufficient to accommodate the expected student growth from the LRDP (267 to 323 students), not to mention the additional enrollment growth from the private developments mentioned above or other existing housing within Doyle's boundary. It also would increase Doyle's enrollment to levels even higher than before recent boundary changes. Adding additional capacity to Doyle Elementary is not feasible. At its current enrollment Doyle is already among the larger elementary schools within San Diego Unified. Core support facilities such as auditorium, kitchen, bathrooms, library, and parking lots are not designed for a larger enrollment. **Doyle Elementary almost certainly cannot accommodate all of the student enrollment growth expected from the LRDP. Attendance boundary changes are highly likely in order to accommodate the increased enrollment.**

Torrey Pines Elementary has 22 total classrooms (12 permanent and 10 portable). Twenty classrooms are currently used for instruction and two for non-instruction purposes. The two classrooms if used for instruction and loaded at current class size ratios could accommodate around 48 to 64 students, which could hypothetically accommodate the student enrollment growth expected from the LRDP. But this enrollment would exceed program capacity of the school as well as strain core support facilities. It also would not allow for any enrollment growth other than UCSD housing. **Torrey Pines Elementary likely cannot accommodate all of the student enrollment growth expected from the LRDP. Attendance boundary changes are likely in order to accommodate the increased enrollment.**

Schools in the La Jolla High and University City High clusters are geographically isolated by both man-made and natural topographic features (see attached maps). University City's eastern boundary is the 805 freeway, the southern boundary is the 52 highway, and to the west/north it is bounded by the 5 freeway and areas largely without resident populations (UCSD campus, industrial businesses, Torrey Pines State Reserve). In addition, the natural dividing line for many years between elementary school attendance areas was Rose Canyon. Schools in the La Jolla cluster are also similarly isolated. Boundaries are the 5 freeway to the east, Pacific Beach cluster of schools to the south, the Pacific Ocean to the west, and areas without resident population to the north. This isolation limits the possibilities for attendance boundary changes.

The likely strategies to provide sufficient space at the elementary level for the expected growth in students as a result of the LRDP will be:

1. Maintain little to no enrollment of non-resident students at Doyle Elementary and Torrey Pines Elementary
2. Reduce non-resident enrollment at Spreckels Elementary
3. Attendance boundary changes to reassign Mesa Housing (and possibly other residential areas) to Spreckels Elementary instead of Doyle Elementary
4. Attendance boundary changes to reassign SIO housing (and possibly other residential areas) from Torrey Pines Elementary to another La Jolla cluster elementary school, although this is very difficult as all La Jolla cluster elementary schools operate near capacity and have very little non-resident enrollment

As the outer horizon of the LRDP is 17 years from the time of this analysis, it is difficult to say with certainty what the state of district or individual school enrollment will be at that time. It is prudent to assume the significant residential development in the UTC area will continue, and that high resident enrollment at Doyle and Torrey Pines will continue. This office will continue to assess the district's facilities to ensure that additional students resulting from new residential development will be accommodated.

Please keep this office informed about any changes that may occur to the proposed project so that we may conduct additional student generation analysis and evaluate specific school facilities needs. If you have questions about the information in this letter or other school-related issues, you may reach me at 619-725-7369 or email shudson@sandi.net.

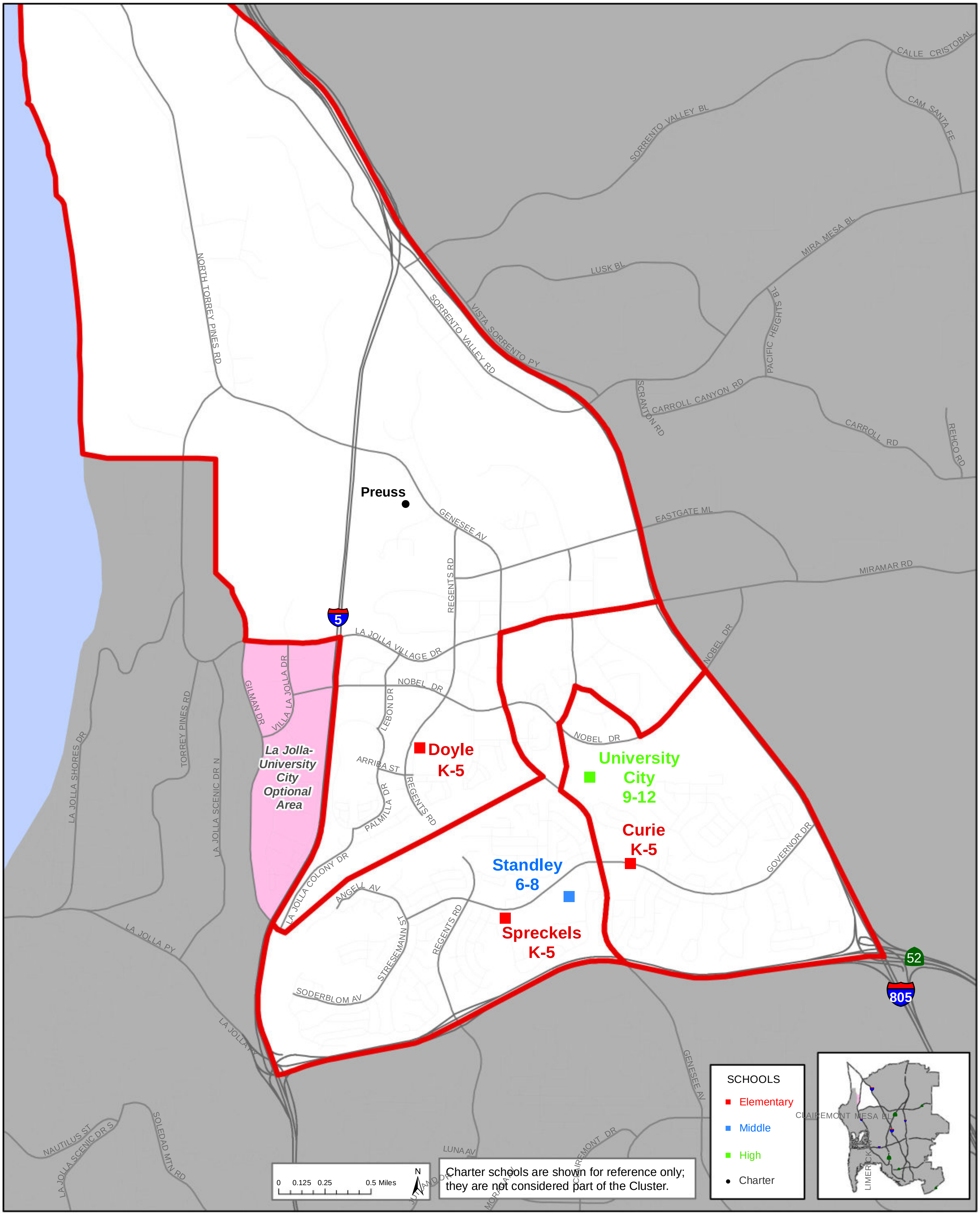
Sincerely,

Sarah M. Hudson

Sarah Hudson
Demographer
Instructional Facilities Planning Department

M:\IFPD - 5494A\Demographics\New Housing and Redev\UTC\UCSD\2018\UCSD Long Range Development Plan La Jolla Campus - SDUSD response.docx

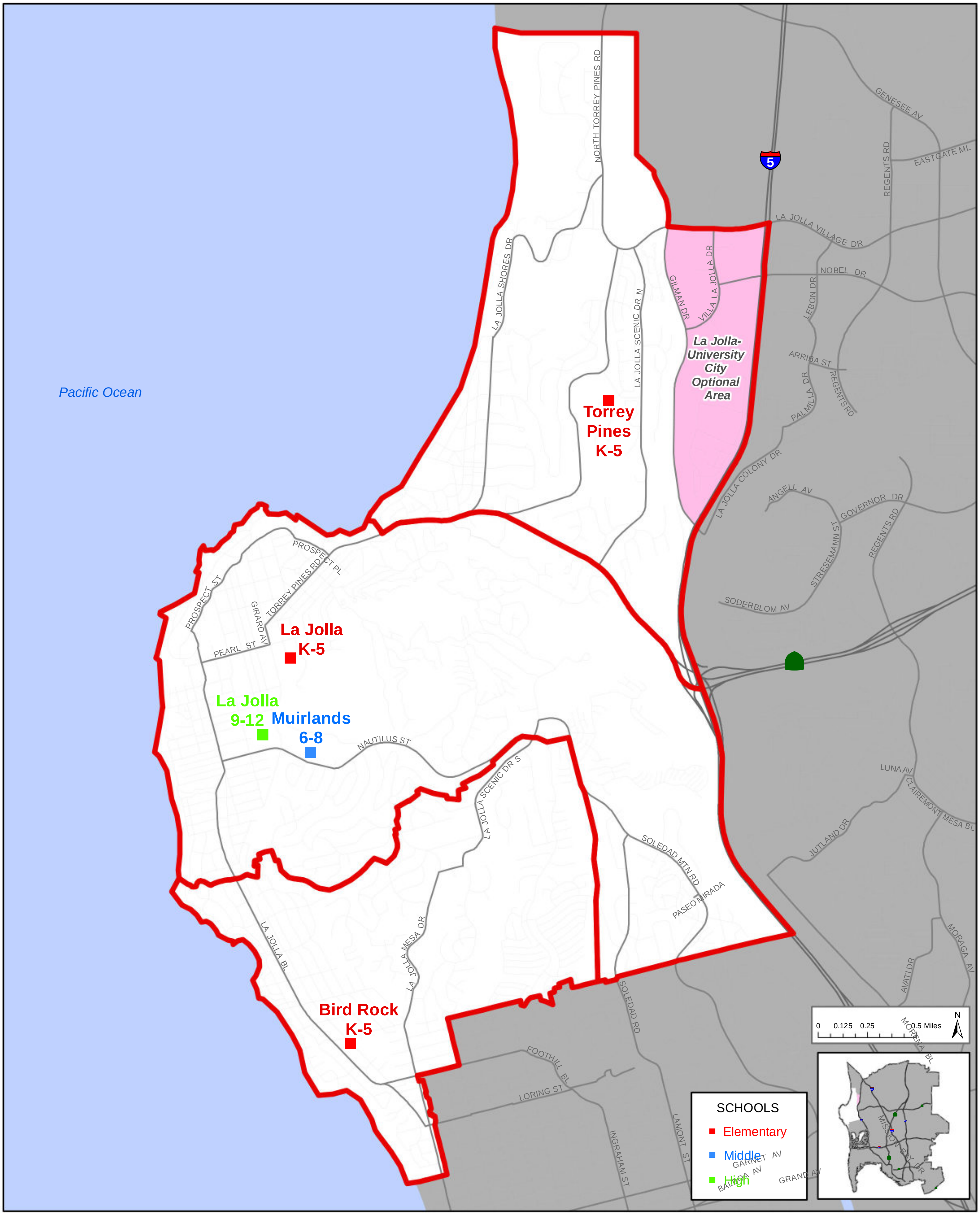
SAN DIEGO UNIFIED SCHOOL DISTRICT
University City High School Cluster, 2017-18



Prepared by Instructional Facilities Planning Department, June 2017

UniversityCityCluster.mxd

SAN DIEGO UNIFIED SCHOOL DISTRICT
La Jolla High School Cluster, 2017-18



Prepared by Instructional Facilities Planning Department, June 2017

LaJollaCluster.mxd

Vanessa Toscano

From: Save Our Heritage Organisation <sohosandiego@aol.com>
Sent: Wednesday, March 27, 2024 8:01 AM
To: ENV-REVIEW
Subject: Scoping comments UCSD La Jolla Campus Development Plan Update
Attachments: UCSDscopingSOHOLetter.pdf

March 27, 2024

Robert Clossen, AICP
Director of Campus Planning
University of California San Diego
env-review@ucsd.edu

Dear Mr. Clossin,

Thank you for the opportunity to provide scoping comments on the UCSD La Jolla Campus 2018 Long Range Development Plan Update.

At the SEIR scoping meeting it was said that UCSD takes pride as "responsive stewards of campus open spaces and natural and biological resources." We all very much appreciate these important commitments. This effort needs to also acknowledge UCSD's ongoing commitment to the preservation of its historical resources.

One significant concern, is that we want to ensure that the updated LRDP will not have adverse effects on the historic Torrey Pines Gliderport or its current and future uses, either through development of the UCSD-owned portion of the gliderport property itself, or through the other campus development that might preclude or encroach upon the aerial approach surfaces to the gliderport. During the 2018 LRDP process, considerable efforts were made by UCSD and local community partners to achieve a solution that maintained the viability of the gliderport property for gliding and soaring and other recreational uses while accommodating UCSD's requirements.

We trust the revised LRDP will maintain this collaborative approach and will provide guidance for the protection of all the historic resources on campus.

Sincerely,
Bruce Coons
Executive Director

See attachment

Save Our Heritage Organisation
Protecting San Diego's architectural and cultural heritage since 1969

March 26, 2024

Robert Clossen, AICP
Director of Campus Planning
University of California San Diego
env-review@ucsd.edu

Dear Mr. Clossin,

Thank you for the opportunity to provide scoping comments on the UCSD La Jolla Campus 2018 Long Range Development Plan Update.

At the SEIR scoping meeting it was said that UCSD takes pride as "responsive stewards of campus open spaces and natural and biological resources." We all very much appreciate these important commitments. This effort needs to also acknowledge UCSD's ongoing commitment to the preservation of its historical resources.

One significant concern, is that we want to ensure that the updated LRDP will not have adverse effects on the historic Torrey Pines Gliderport or its current and future uses, either through development of the UCSD-owned portion of the gliderport property itself, or through the other campus development that might preclude or encroach upon the aerial approach surfaces to the gliderport. During the 2018 LRDP process, considerable efforts were made by UCSD and local community partners to achieve a solution that maintained the viability of the gliderport property for gliding and soaring and other recreational uses while accommodating UCSD's requirements.

We trust the revised LRDP will maintain this collaborative approach and will provide guidance for the protection of all the historic resources on campus.

Sincerely,

Bruce Coons
Executive Director

From: Janie Emerson <jemfocus@aol.com>
Sent: Friday, March 29, 2024 11:59 AM
To: stacy cromidas <cromidas@me.com>
Cc: ENV-REVIEW <env-review@ucsd.edu>
Subject: Re: Responses to the SEIR NOP and March 2024 Scoping Meeting

All sound good to me. Happy to sign with you.

Janie

Happy Easter!!

> On Mar 28, 2024, at 2:13 PM, stacy cromidas <cromidas@me.com> wrote:
>
> All,
> Below are my responses for you consideration.
>
> # Scoping Suggestions for SEIR UCSD
>
> Implement vehicular speed control measures on Muir College Drive/Exploration Way, reducing acceleration noise and emissions and improving safety.
>
> At current Marshall Extension studies site, maintain succulent plants and tall trees and add water feature per 1960's LRDP.
>
> Commit to low allergenicity plants for all projects.
>
> Commit to low rise buildings and tall tree buffer zone along NTP Road from Pangea Lane to Muir College Drive/Exploration Way.
>
> Improve campus wide lane compliance and speed control for PMV's.

PVM's are touted to reduce emissions, but pose significant operational safety and battery issues.

Install low noise and low emissions generators for temporary blackouts at buildings.

Provide a dog park/run where local community, staff and students can exercise their dogs in a reduced noise and low emissions environment.

Protect rare animals and plants at Torrey Pines State Reserve from increased construction traffic and vehicular emissions.

Protect rare animals and plants at the UCSD Scripps Coastal Reserve from increased construction noise and vehicular emissions and accommodate improved public access to this area.

Provide a daily reduced emissions bus schedule to and from campus and La Jolla Village.

Provide a daily reduced emissions bus schedule to and from campus and La Jolla Shores Beach.

Respectfully,
Stacy Cromidas

4653 Carmel Mountain Road • Suite 308-420 • San Diego, CA 92130

Mr. Robert Clossin
Director, UCSD Campus Planning 9500
Gilman Drive # 0057
La Jolla, CA 92093-0057
March 27, 2024

Dear Mr. Clossin,

Thank you for the opportunity to provide a scoping comment associated with the updated UCSD La Jolla Campus 2018 Long Range Development Plan. The revised LRDP seeks to further growth by ~30% while maintaining 19:1 student to faculty ratios and offering 4-year on-campus housing to students. The demands for growth present challenges for both UCSD and the local community. In order to alleviate pressures at existing campuses, yet still continue the critical educational mission of the UC system, one does wonder why additional new campuses aren't also being proposed by the state to help alleviate these issues. Entirely new campuses would improve educational outcomes for a larger population of students across a wider geographic area and help avoid issues with the over-densification of current campus environments – a useful mitigation strategy.

The revised LRDP offers increased density for the west and east campuses, likely in the form of higher dormitories and research buildings. While coastal height restrictions are maintained at SIO, they have traditionally not been maintained elsewhere on campus despite proximity to the coastal zone. Figure 2 of the NOP (https://plandesignbuild.ucsd.edu/_files/planning/UCSD- LaJollaLRDPUpdate-NOP-SEIR.pdf) shows SIO west of the blue coastal zone line. However, previously approved construction of high-rise dormitories to the west of the same coastal zone line on the west side of campus easily exceed 30' coastal height restrictions. These and other new buildings result in local community discord, increased traffic, and diminished aesthetics. As a concerned native resident, I would ask that in the SEIR please focus continued development of high-rise buildings in the region indicated to the east of the blue line in Figure 2 as doing so helps improve community relations.

As noted in the SEIR scoping meeting presentation, UCSD takes pride as "responsive stewards of campus open spaces and natural and biological resources." This stewardship is appreciated. However, such stewardship should also include historical resources. It is hoped for instance that the revised LRDP will have no effect on the historic Torrey Pines Gliderport and its current and future uses either through development of the UCSD-owned portion of the gliderport property itself or through the other campus development that would preclude approach surfaces to the gliderport from the air. During the 2018 LRDP, considerable efforts were made by UCSD and the local community towards a solution that maintains the viability of the gliderport property for gliding and soaring and other recreational uses. It is hoped that the revised LRDP maintains this approach and provides similar awareness and appreciation for other historic resources on campus.

Sincerely,

Gary B. Fogel, Ph.D., Historian, Associated Glider Clubs of Southern California

Appendix B1

Subsequent Air Quality Technical Report

Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan

Subsequent Air Quality Technical Report

March 2025 | 00888.00076.001

Prepared for:

University of California San Diego
Campus Planning
9500 Gilman Drive, MC 0074
La Jolla, CA 92093-0074

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
ADT	average daily trips
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AP-42	U.S. Environmental Protection Agency's Compilation of Air Pollutant Emission Factors
AQIA	Air Quality Impact Analysis
Attainment Plan	2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
BSB	Biomedical Sciences Building
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CO	carbon monoxide
CSV	comma-separated value
DPM	diesel particulate matter
East Campus	eastern area of the campus
EIR	Environmental Impact Report
ft^2	square footage
g/s	grams per second
GHG	greenhouse gas
GSF	gross square feet
HARP2	Hotspots Analysis and Reporting Program version 2
HELIX	HELIX Environmental Planning, Inc.
HI	hazard index
HQ	hazard quotient
HRA	health risk assessment
I-5	Interstate 5
K	Kelvin

ACRONYMS AND ABBREVIATIONS (cont.)

lbs./day	pounds per day
LLG	Linscott, Law, and Greenspan Engineers
LRDP	Long Range Development Plan
m	meter
m/s	meters per second
MEIR	maximum exposed individual resident
MEIW	maximum exposed individual worker
mgd	million gallons per day
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NED	National Elevation Dataset
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less than in diameter
RAQS	Regional Air Quality Strategy
REL	reference exposure level
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SDG&E	San Diego Gas & Electric
SEIR	Subsequent Environmental Impact Report
SIO	Scripps Institution of Oceanography
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_X	sulfur oxides
TAC	toxic air contaminant
TDM	Transportation Demand Management
UC	University of California
USEPA	U.S. Environmental Protection Agency
UTM	Universal Transverse Mercator

ACRONYMS AND ABBREVIATIONS (cont.)

VMT	vehicle miles traveled
VOC	volatile organic compound
West Campus	western area of campus
WWTP	wastewater treatment plant

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EXECUTIVE SUMMARY

This report presents an assessment of potential air quality impacts resulting from implementation of the Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan (Update to the 2018 LRDP) in support of the Subsequent Environmental Impact Report (SEIR). This technical report examines the degree to which the Update to the 2018 LRDP may result in a substantial increase in impacts associated with air quality resources compared to the 2018 LRDP EIR. This report has been prepared to comply with the California Environmental Quality Act (CEQA) Guidelines Section 15162(a) related to subsequent review standards. The report serves as a supplemental analysis to the 2018 LRDP EIR air quality analysis (AECOM 2018) and reflects updates to the CEQA Guidelines that occurred since the 2018 LRDP EIR was certified.

The Update to the 2018 LRDP would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development are proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at the Scripps Institution of Oceanography (SIO) beyond the approved 2018 LRDP. Emissions of criteria pollutants are directly correlated with population and building square footage. Additionally, the extended horizon year of 2040 requires additional analysis.

The 2018 LRDP EIR identified emissions affecting air quality resulting from the construction and operation of development associated with the 2018 LRDP. Mitigation measures AQ-2A and AQ-2B were prescribed to control emissions of particulate matter less than 10 microns in diameter (PM_{10}) generated by construction activities and emissions of nitrogen oxides (NO_X) from off-road construction equipment, respectively. Construction related NO_X and long-term operational PM_{10} associated with implementation of the 2018 LRDP were concluded to remain significant and unavoidable following implementation of prescribed mitigation.

The analysis contained herein for the Update to the 2018 LRDP includes two construction scenarios: projects that would be built by 2030 (2030 Scenario) and projects that would be built between 2030 and 2040 (2040 Scenario). Construction emissions for both scenarios were found to result in potentially significant impacts related to NO_X emissions, similar to the conclusion in the 2018 LRDP EIR. Implementation of 2018 LRDP EIR mitigation measure AQ-2B, revised to require use of Tier 4 Final emissions compliant off-road equipment, would reduce construction period emissions to below the applicable threshold. Construction of development associated with the Update to the 2018 LRDP would result in less than significant impacts with mitigation.

The net increase of operational emissions associated with buildout of the Update to the 2018 LRDP would result in exceedances of the volatile organic compounds (VOC) and carbon monoxide (CO) thresholds, resulting in potentially significant impacts. Implementation of new mitigation measure AQ-2C, requiring the use of electric landscaping equipment, would reduce net operational emissions to a level below the thresholds. Therefore, the net increase in emissions generated during ongoing operations would not result in a substantial increase to impacts previously identified with new mitigation.

The 2018 LRDP EIR included an evaluation of health risks from the impact of toxic air contaminant (TAC) emissions for construction activities and their effects on nearby receptors, and the exposure to TACs for receptors from mobile sources and on-campus stationary sources, such as emergency generators, boilers, turbines, and the crematory. It was concluded that implementation of the 2018 LRDP would not exceed the threshold for on-campus residents and workers but would exceed the thresholds for cancer risks for off-campus residents and workers and off-campus and on-campus sensitive receptors. Thus, this impact was identified as potentially significant. Implementation of mitigation measure AQ-2B would reduce the construction-related health risk associated with implementation of the 2018 LRDP; however, the extent to which mitigation measure AQ-2B would be implemented may vary and full compliance could not be assured. Additionally, there were no feasible mitigation measures available to address operational mobile-source emissions of PM. Therefore, it was concluded that the 2018 LRDP would result in a significant and unavoidable impact related to sensitive receptors being exposed to toxic air contaminant emissions. The analysis contained herein for the Update to the 2018 LRDP includes a similar evaluation of health risks from operation-related TAC emissions. Particulate matter emissions generated during construction of the Update to the 2018 LRDP were determined to be less than those disclosed for the 2018 LRDP; therefore, it is concluded that the Update to the 2018 LRDP would not result in a substantial increase to impacts previously identified. Operational emissions associated with the implementation of the Update to the 2018 LRDP would not exceed the thresholds for cancer risk, non-cancer chronic hazards, or non-cancer acute hazards. Therefore, the Update to the 2018 LRDP would not result in a substantial increase to the significant and unavoidable impacts previously identified, which would remain per the conclusions in the 2018 LRDP EIR.

With implementation of the Update to the 2018 LRDP, the conclusions from the 2018 LRDP EIR remain unchanged for consistency with applicable air quality plans and localized carbon monoxide hotspots. The Update to the 2018 LRDP was found to be consistent with applicable air quality plans and result in carbon monoxide emissions that would be less than applicable standards. As such, these impacts would be less than significant.

Implementation of new mitigation measure AQ-4A would be required to reduce potential odors from the future wastewater treatment plant. With incorporation of measure AQ-4A, the Update to the 2018 LRDP would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

HELIX Environmental Planning, Inc. (HELIX) has completed this air quality technical report in support of the Update to the 2018 University of California (UC) San Diego La Jolla Campus Long Range Development Plan (Update to the 2018 LRDP) Subsequent Environmental Impact Report (SEIR). This technical report examines the degree to which the Update to the 2018 LRDP may result in significant adverse impacts associated with air quality compared to the 2018 LRDP. This study includes a description of existing conditions, a summary of applicable regulations, and an analysis of construction and operational impacts that may result with implementation of the Update to the 2018 LRDP. This report has been prepared to comply with the California Environmental Quality Act (CEQA). The report serves as a supplemental analysis to the 2018 LRDP Environmental Impact Report (EIR) air quality analysis (AECOM 2018) and reflects updates to the CEQA Guidelines that occurred since the 2018 LRDP EIR was certified.

This report incorporates all applicable analysis contained in the 2018 LRDP EIR by reference and updates the previous analysis to focus on new or substantially more severe significant impacts in accordance with CEQA's subsequent review standards as legally required in light of the proposed changes to the 2018 LRDP, including the revised land use plan, and/or due to new information of substantial importance that has become available since certification of the previous EIR.

The 2018 LRDP EIR retains informational value in the future discretionary decisions of the University and responsible agencies as part of consideration of the Update to the 2018 LRDP and this document is herein incorporated by reference. The 2018 LRDP EIR is available at: https://plandesignbuild.ucsd.edu/planning/lrdp/la-jolla.html#2018-LRDP-Environmental-Impact-.

1.2 PROJECT DESCRIPTION

1.2.1 Background

The UC requires that each campus in the UC system maintain a LRDP. The LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected campus population increases and new program initiatives. The current LRDP for the UC San Diego La Jolla campus (2018 LRDP) and its EIR (State Clearinghouse No. 2016111019) were adopted on November 15, 2018, by the UC Regents. The 2018 LRDP EIR analyzed and disclosed impacts from implementation of the 2018 LRDP.

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total student enrollment of 42,400 during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 8,900 new residential beds.

1.2.2 Project Location

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego (see Figure 1, *Regional Location*, and Figure 2, *Campus Boundary*). UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus). The East and West Campuses are bisected by Interstate 5 (I-5) but are internally connected via two vehicular bridges. The La Jolla del Sol housing complex is located southeast of these larger geographical areas and is not contiguous to the campus. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel, and the Torrey Pines Gliderport, Torrey Pines Center and Torrey Pines Court.

1.2.3 Project Description

The Update to the 2018 LRDP would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent and campus population would increase by approximately 47 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development are proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP.

1.2.4 Construction Best Management Practices

The Update to the 2018 LRDP would incorporate best management practices (BMPs) during construction to reduce emissions of fugitive dust. San Diego County Air Pollution Control District (SDAPCD) Rule 55 – Fugitive Dust Control states that no dust and/or dirt shall leave the property line. SDAPCD Rule 55 requires the following (SDAPCD 2009):

(1) **Airborne Dust Beyond the Property Line**: No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

(2) **Track-Out/Carry-Out**: Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

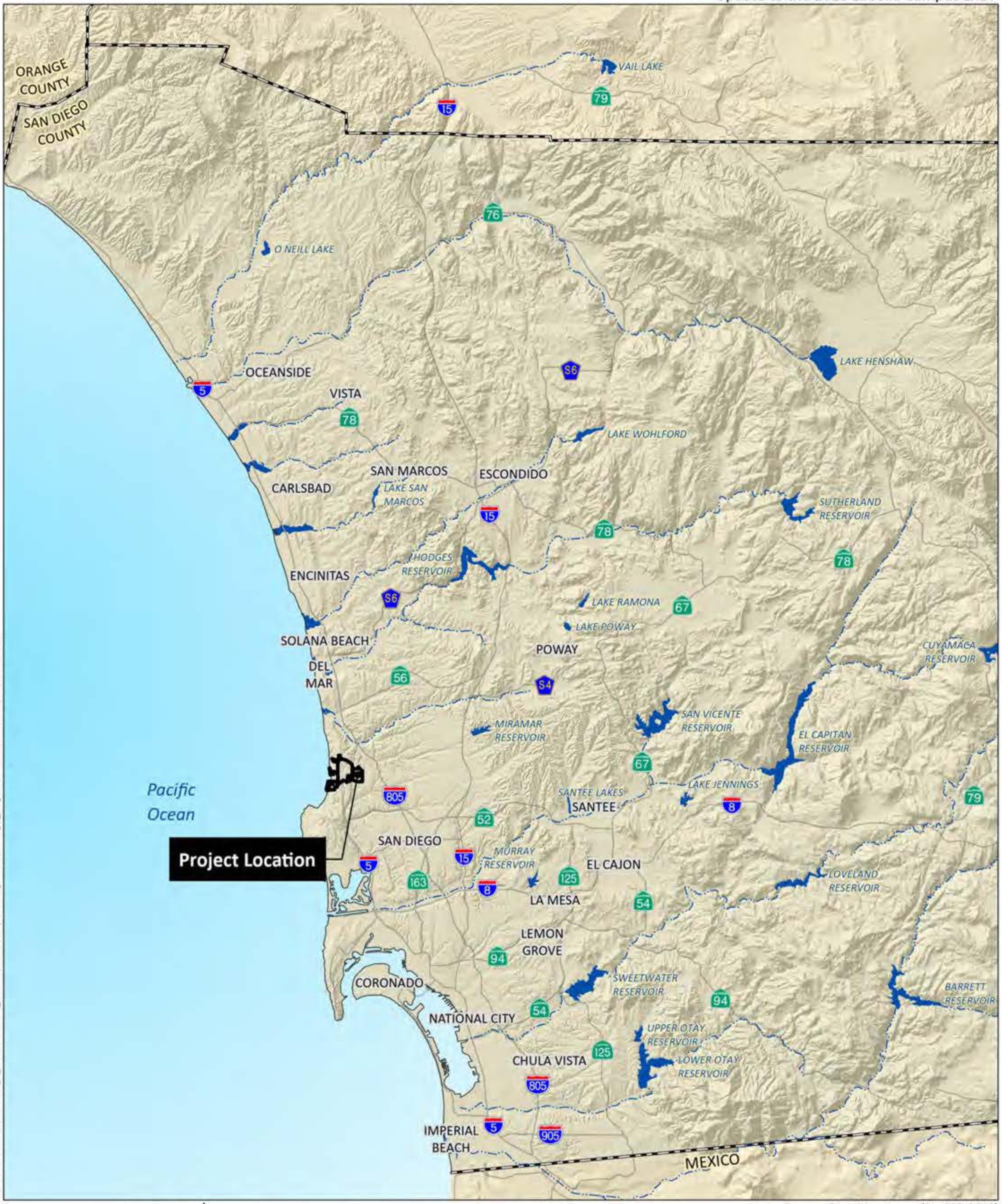
(i) be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation:

(a) track-out grates or gravel beds at each egress point;

(b) wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks;

(c) using secured tarps or cargo covering, watering, or treating of transported material; and

(ii) be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM_{10}-efficient (particulate matter less than 10 microns) street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD)



Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

Source: Aerial (SanGIS, 2023)

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HELIX
Environmental Planning

Campus Boundary

Figure 2

Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

The control measures listed below are the BMPs that would be incorporate for dust control and are included in the modeling:

- A minimum of two applications of water shall be applied during grading between dozer/grader passes;
- Paving, chip sealing, or chemical stabilization of internal roadways shall be applied after completion of grading;
- Grading shall be terminated if winds exceed 25 miles per hour (mph);
- All exposed surfaces shall maintain a minimum soil moisture of 12 percent;
- Dirt storage piles shall be stabilized by chemical binders, tarps, fencing, or other erosion control; and
- Vehicle speeds shall be limited to 15 mph on unpaved roads.

2.0 EXISTING CONDITIONS

Section 2 of the 2018 LRDP EIR's air quality analysis (AECOM 2018) provides a description of the existing regional and local conditions, which remains applicable to the Update to the 2018 LRDP.

2.1 MONITORED AIR QUALITY

Ambient air pollutant concentrations in the San Diego Air Basin (SDAB) are measures at air quality monitoring stations operated by California Air Resources Board (CARB) and SDAPCD. Section 2.5 and Table 2 of the 2018 LRDP EIR's air quality analysis (AECOM 2018) provides summaries of the monitoring data available at the time. The closest SDAPCD monitoring station to the project site is the Kearny Mesa monitoring station located at 6125A Kearny Villa Road, San Diego, California, approximately six miles southeast of UC San Diego. This station monitors ozone (O_3), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and nitrogen dioxide (NO_2). Air quality data for carbon monoxide (CO) and particulate matter less than 10 microns in diameter (PM_{10}) was obtained from the SDAPCD Annual Air Quality Monitoring Network Plan (SDAPCD 2024a) and represent concentrations in San Diego County. Updated monitoring data is provided in Table 1, *Air Quality Monitoring Data*, below.

As shown in Table 1, the 1- and 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards show more exceedances during the sample period than were identified in the 2014-2016 monitoring data provided in the 2018 LRDP EIR. No exceedances of PM_{10} or $PM_{2.5}$ had been shown for 2014-2016 and fewer days with ozone exceedances had occurred. Data for CO and NO_2 showed no exceedances for the 2020-2022 sample period, consistent with the 2014-2016 monitoring data provided in the 2018 LRDP EIR.

Table 1
AIR QUALITY MONITORING DATA

Pollutant	2020	2021	2022
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.123	0.095	0.095
Days above 1-hour state standard (>0.09 ppm)	2	1	1
Maximum 8-hour concentration (ppm)	0.102	0.072	0.083
Days above 8-hour state standard (>0.070 ppm)	12	2	2
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	1.7	1.8	1.2
Days above federal standard (>9.0 ppm)	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum 24-hour concentration (μg/m^3)	174	122	243
Days above federal standard (>150 μg/m^3)	2	0	3
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration (μg/m^3)	47.5	20.9	13.9
Days above federal standard (>35 μg/m^3)	2	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.052	0.060	0.051
Days above state 1-hour standard (0.18 ppm)	0	0	0

Source: CARB 2024; SDAPCD 2024a
ppm = parts per million, μg/m^3 = micrograms per cubic meter

3.0 REGULATORY SETTING

Section 3 of the 2018 LRDP EIR's air quality Analysis (AECOM 2018) provides the regulatory framework addressing air quality. The regulatory framework identified in that document remains applicable to the Update to the 2018 LRDP. In addition, the following updates are relevant to the analysis.

3.1 REGIONAL STANDARDS

3.1.1 San Diego Air Pollution Control District

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for the attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for San Diego County for attainment of the national ambient air quality standards (NAAQS) is SDAPCD's *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (Attainment Plan; SDAPCD 2020). The Attainment Plan outlines SDAPCD's strategies and control measures designed to attain the NAAQS for ozone. For the attainment of the California ambient air quality standards (CAAQS), the SDAPCD must prepare an updated State Ozone Attainment Plan to identify possible new actions to further reduce emissions. Initially adopted in 1992, the Regional Air Quality Strategy (RAQS) identifies measures to reduce emissions from sources regulated by the SDAPCD, primarily stationary sources such as industrial operations and manufacturing facilities. The RAQS is periodically updated to reflect updated information on air quality, emission trends, and new feasible control measures, and was last updated in 2023 (SDAPCD 2024b). These plans address emissions from all sources, including natural ones, through the implementation of control measures, where feasible, on stationary sources to attain the standards. Emissions from mobile sources, which are regulated by the U.S. Environmental Protection Agency

(USEPA) and CARB, are also considered in the Attainment Plan and RAQS, along with strategies for their reduction. The Attainment Plan and RAQS, in combination with local plans from all other California nonattainment areas with serious (or worse) air quality problems, are submitted to the CARB, which develops the California State Implementation Plan (SIP).

4.0 2018 LONG RANGE DEVELOPMENT PLAN EIR

4.1 SUBSEQUENT REVIEW

As outlined in CEQA Guidelines Section 15162(a), when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) *Substantial changes are proposed in the project which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*

(2) *Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*

(3) *New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was adopted, shows any of the following:*

   A. *The project will have one or more significant effects not discussed in the EIR;*

   B. *Significant effects previously examined will be substantially more severe than shown in the EIR;*

   C. *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*

   D. *Mitigation measures or alternatives which are considerably different from those in the EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

UC San Diego adopted the 2018 LRDP EIR, which identified emissions affecting air quality resulting from the construction and operation of development associated with the 2018 LRDP. The 2018 LRDP examined six air quality issue areas, based on Appendix G of the CEQA Guidelines at the time. For each of the six air quality issue areas, the 2018 LRDP identified mitigation measures to reduce potential impacts, where applicable. Each issue area is identified below, along with the resulting mitigation measures that would be applied to future UC San Diego projects at the La Jolla Campus.

4.2 SUMMARY OF AIR QUALITY IMPACTS FROM THE 2018 LRDP EIR

4.2.1 Issue 1 – Consistency with Applicable Air Quality Plan

Would implementation of the 2018 LRDP result in a conflict with or obstruct implementation of the applicable air quality plan?

Under Issue 1, the 2018 LRDP EIR identified less than significant impacts. It was determined that implementation of the 2018 LRDP would be consistent with the Smart Growth vision for the region in the SANDAG Regional Plan and would result in less vehicle miles traveled (VMT) than the regional average, resulting in the proposed 2018 LRDP not conflicting with or obstructing implementation of the applicable air quality plan.

4.2.2 Issue 2 – Compliance with Air Quality Standards

Would implementation of the 2018 LRDP violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Under Issue 2, the 2018 LRDP EIR identified impacts based on an assessment of whether construction or operational emissions would exceed the criteria listed in Table 5 of the air quality report[1] (AECOM 2018). The analysis concluded that construction activities would potentially exceed thresholds for nitrogen oxides (NO_X), PM_{10}, and $PM_{2.5}$, operational activities would potentially exceed the threshold for PM_{10}, and overlapping construction and operational activities would potentially exceed the thresholds for PM_{10} and $PM_{2.5}$, resulting in potentially significant impacts.

Implementation of mitigation measures AQ-2A (measures to decrease PM emissions) and AQ-2B (use of Tier 4 equipment to reduce emissions) would reduce construction period impacts to less than significant levels if fully implemented, however, full compliance with AQ-2B could not be assured. Therefore, construction-related NO_X emissions were concluded to result in significant and unavoidable impacts.

There were no feasible mitigation measures available to address operational PM_{10} mobile-source emissions. Therefore, emissions of PM_{10} during operation were concluded to result in significant and unavoidable impacts.

4.2.3 Issue 3 – Cumulative Increase in Criteria Pollutant Emissions

Would implementation of the 2018 LRDP 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?

Under Issue 3, the 2018 LRDP EIR cumulative analysis focused on whether a specific project would result in a cumulatively considerable increase in emissions. The analysis concluded that because implementation of the 2018 LRDP would exceed the project-level air quality significance thresholds for PM_{10} and NO_X emissions, construction and operational emissions associated with the 2018 LRDP would be cumulatively considerable. Therefore, impacts related to a cumulatively considerable net increase of criteria pollutants were concluded to be significant and unavoidable.

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[1] This table is identical to Table 3.2-5 of the 2018 LRDP EIR.

4.2.4 Issue 4 – CO Hotspots

Would implementation of the 2018 LRDP expose sensitive receptors to substantial pollutant concentrations resulting in a CO hotspot?

Under Issue 4, the 2018 LRDP EIR identified less than significant impacts. Although a screening analysis indicated that the 2018 LRDP would not result in a CO hot spot, the analysis conservatively modeled CO concentrations at the worst-case intersection of La Jolla Scenic Drive and La Jolla Village Drive for the 2018 LRDP future (2035) conditions. It was concluded that CO concentrations at this intersection would not violate the CAAQS for either the 1-hour or 8-hour period.

4.2.5 Issue 5 – Toxic Air Contaminant Emissions

Would implementation of the 2018 LRDP expose sensitive receptors to toxic air contaminant emissions?

The 2018 LRDP EIR included an evaluation of health risks from the impact of toxic air contaminant (TAC) emissions for construction activities and their effects on nearby receptors, and the exposure to TACs for receptors from mobile sources and on-campus stationary sources, such as emergency generators, boilers, turbines, and the crematory. As the construction and operational sources would emit at the same time, excess lifetime cancer risks were estimated for both construction-related and operational emissions associated with the implementation of the proposed 2018 LRDP.

It was concluded that while implementation of the 2018 LRDP would not exceed the threshold for on-campus residents and workers, it would exceed the thresholds for cancer risks for off-campus residents and workers, as well as both off-campus and on-campus sensitive receptors. Thus, this impact was identified as potentially significant.

Implementation of mitigation measure AQ-2B would reduce the construction-related health risk associated with implementation of the proposed 2018 LRDP; however, as detailed in Issue 2, the extent to which mitigation measure AQ-2B would be implemented may vary and full compliance could not be assured. Additionally, as detailed in Issue 2, there were no feasible mitigation measures available to address operational mobile-source emissions of PM. Therefore, it was concluded that the 2018 LRDP would result in a significant and unavoidable impact related to sensitive receptors being exposed to toxic air contaminant emissions.

4.2.6 Issue 6 – Odors

Would implementation of the 2018 LRDP create objectionable odors affecting a substantial number of people?

The 2018 LRDP EIR addressed potential odor impacts in Section 3.2.5, CEQA Issues Where There is No Potential for an Impact. The analysis included a discussion of both construction and operational-period odors. Because construction would utilize typical techniques, and the odors from off-road equipment and on-road vehicles would be typical of most construction sites and temporary in nature, it was concluded nearby receptors would not be anticipated to be affected by diesel exhaust odors associated with construction activities. Implementation of the 2018 LRDP would not add any new permanent odor sources during operations, and any odors generated would be similar to existing odors associated with land uses in the area, which are not typically large generators of odor emissions. As a result, it was concluded that construction and operational activities associated with implementation of the 2018 LRDP would not create objectionable odors affecting a substantial number of people and there would be no potential for impact.

5.0 UPDATES TO THE STANDARDS OF SIGNIFICANCE

As described above in Section 4.2, the 2018 LRDP EIR analyzed impacts for six air quality issues. In the intervening years since the 2018 LRDP EIR was approved, Appendix G of the CEQA Guidelines was updated, which identified four issue areas related to air quality that replaced the questions in the previous version of the CEQA Guidelines. Because the Governor's Office of Planning and Research (OPR) proposed these amendments and additions to Appendix G of the CEQA Guidelines in 2018, UC San Diego was able to anticipate the checklist changes during the preparation of the 2018 LRDP EIR and incorporate those concepts into the certified EIR. Therefore, while the 2018 LRDP EIR reflects the Appendix G checklist questions that were in effect at the time of EIR certification, the analysis contained therein reflect the context of and appropriately address the amended Appendix G that was approved in 2019. As described in Section 1.4, the Update to the 2018 LRDP would increase campus population and corresponding growth of on-campus buildings, such as housing and academic spaces.

According to the current Appendix G of the CEQA Guidelines, implementation of the Update to the 2018 LRDP would have a significant air quality environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan;

2. 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;

3. Expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations; or

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

Issue 1 remains associated with plan consistency. Previously identified Issues 2 and 3 of the 2018 LRDP EIR, as shown in Section 4.2, are now covered under Issue 2 under the Update to the 2018 LRDP SEIR. Issues 4 and 5 of the 2018 LRDP EIR are now covered under Issue 3 under the Update to the 2018 LRDP SEIR. Issue 6 under the 2018 LRDP EIR has been renumbered to Issue 4 under the Update to the 2018 LRDP and remains associated with odors. The standards of significance and impact analysis for each issue area are discussed below.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. SDAPCD has not developed quantitative significance standards for projects under CEQA. However, the SDAPCD does provide Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources in Regulation II, Rule 20.2, Table 20-2-1, "AQIA Trigger Levels" (SDAPCD 2019). The City of San Diego has adopted the SDAPCD AQIA trigger levels as recommended screening level standards of significance for regional pollutant emissions (City of San Diego 2022). Therefore, the SDAPCD AQIA trigger levels and City of San Diego screening standards of significance for regional pollutant emissions were used to analyze the impacts of the Update to the 2018 LRDP, consistent with the methodology of the 2018 LRDP EIR. Only the $PM_{2.5}$ daily threshold has changed from the threshold considered in the 2018 LRDP EIR. The screening level standards are shown in Table 2, *Regional Pollutant Emission Screening Level Standards of Significance*.

Table 2
REGIONAL POLLUTANT EMISSION SCREENING LEVEL STANDARDS OF SIGNIFICANCE

	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Pounds per hour	-	25	100	25	-	-
Pounds per day	137	250	550	250	100	67
Tons per year[1]	15	40	100	40	15	10

Source: City of San Diego 2022 and SDAPCD 2019

1 Standards for stationary sources.
VOC = volatile organic compounds; NO_X = nitrogen oxides; SO_X = sulfur oxides; CO = carbon monoxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

If the emissions generated as a result of implementation of the Update to the 2018 LRDP are found to be below the screening level standards, it can be concluded that the Update to the 2018 LRDP would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The standards of significance in relation to health risk are based on guidance provided by SDAPCD Rule 1210. Table 3, *Health Risk Standards of Significance*, summarizes the standards for health risk.

Table 3
HEALTH RISK STANDARDS OF SIGNIFICANCE

Risk Measured	Standard
Cancer risk	10 in a million excess cancer risk.
Non-cancer acute hazard index	Hazard Index greater than (>) 1.0
Non-cancer chronic hazard index	Hazard Index greater than (>) 1.0

Source: SDAPCD Rule 1210

6.0 METHODOLOGY AND ASSUMPTIONS

Development resulting from the Update to the 2018 LRDP would result in emissions during both construction and operations. Two scenarios are analyzed for construction: projects that would be built by 2030 (2030 Scenario) and projects that would be built between 2030 and 2040 (2040 Scenario). Emissions were calculated for each scenario using development projections provided by UC San Diego and appropriate models and emission factors for the given sources as discussed below. All modeling files are included in Appendix A.

6.1 CONSTRUCTION

Sources of construction-related emissions include construction equipment exhaust; construction-related trips by workers, delivery trucks, and material-hauling trucks; and dust generated by demolition debris and earth handling activities. The quantity of emissions generated by the construction of projects in any given year under the Update to the 2018 LRDP would vary depending upon the number of projects occurring and the size of each individual project. Since the Update to the 2018 LRDP is a land use plan that guides physical development of the campus through 2040, specific construction details, such as the exact number and timing of all development projects are uncertain. The intensity of construction activity associated with the Update to the 2018 LRDP could be the same during each year. It is more likely, however, that some periods of construction (and associated emissions) would be more intense than other periods based on campus growth priorities and associated development demands.

While neither SDAPCD nor the City of San Diego provides additional guidance on construction assumptions for plan-level analyses, some air districts such as the Sacramento Metropolitan Air Quality Management District (SMAQMD) suggest that lead agencies conservatively assume that construction-generated emissions associated with the build-out of a plan should be evaluated assuming 25 percent of the total land uses would be constructed in a single year (SMAQMD 2020). This conservative assumption was used to evaluate the potential construction-related air quality impacts from projects that could occur under the Update to the 2018 LRDP.

This analysis assumes two construction scenarios for projects implemented under the Update to the 2018 LRDP: projects that could be developed through 2030 (2030 Scenario) and projects that could be developed between 2030 and 2040 (2040 Scenario). To illustrate the range of potential construction-related air quality impacts from projects that could occur using SMAQMD guidance, this analysis evaluates the two following conservative construction scenarios:

1. 2030 Scenario: 25 percent of the land uses constructed by 2030 assumed to be constructed in 2025. After 2025, the remaining 75 percent is assumed to be constructed at a constant rate of 18.75 percent per year from 2026 through 2029.

2. 2040 Scenario: 25 percent of the land uses constructed by 2040 assumed to be constructed in 2030. After 2030, the remaining 75 percent is assumed to be constructed at a constant rate of 7.5 percent per year from 2031 through 2040.

Construction period emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air quality management and pollution control districts (CAPCOA 2022). CalEEMod includes default estimates on the required construction equipment, phases, and activities when project-specific information is unavailable. The default estimates are based on surveys of typical construction projects, which provide a basis for scaling equipment needs and schedule with a project size. Emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters. The modeling also assumes fugitive dust control in accordance with the SDAPCD Rule 55 and associated BMPs, specifically watering exposed areas twice per day, enforcing a 15-mph speed limit on unpaved surfaces, and maintaining a minimum moisture content of 12 percent for unpaved roads.

6.2 OPERATION

Following construction, day-to-day activities associated with operation of the Update to the 2018 LRDP would generate emissions from a variety of sources. Operational emissions may be both direct and indirect, and would be generated by area, mobile, and stationary sources. Operational emissions were estimated for the updated horizon year of 2040 for comparison with the emissions estimated in the 2018 LRDP EIR for the 2018 LRDP horizon year of 2035.

6.2.1 Area Sources

Area source emissions are those associated with the use of consumer products, landscaping and maintenance equipment, and fireplaces/fire pits. CalEEMod estimates consumer products usage based on a statewide inventory of volatile organic compounds (VOC) emissions and statewide building area. To obtain an applicable consumer production emission factor for the San Diego area, the CalEEMod default emission factor for general consumer products was adjusted to reflect San Diego County-specific emissions. The San Diego County-specific consumer product emission factor was estimated to be 0.0000165 pounds per square-foot per day (AECOM 2018). Landscaping emissions are based on land use and building square footage along with emission rates provided in CARB's Small Off-Road Engines Model v1.1 (CAPCOA 2022). The modeling analysis for the area sources used model default emissions factors, as well as specific campus project features associated with new developments. For example, since the land uses involve on-campus apartments and residence halls, the Update to the 2018 LRDP is not anticipated to include any natural gas or wood fireplaces.

6.2.2 Mobile Sources

Trip generation associated with the Update to the 2018 LRDP EIR was estimated using an updated approach compared to the 2018 LRDP EIR. The methodology for the Update to the 2018 LRDP EIR now relies on the estimated campus population projections, combined with detailed, self-reported, Winter 2023 mode split data. Previous methodology was based on more generalized trip generation standards, including those from the City of San Diego, that may not have as accurately accounted for the more nuanced transportation patterns of a university campus. For additional details, please refer to the Trip Generation Calculation Memorandum prepared by Linscott, Law, and Greenspan Engineers (LLG; 2025; also attached as Appendix B to this report).

Using this updated methodology, the average daily vehicle trips (ADT) for buildout of the Update to the 2018 LRDP were estimated to be approximately 73,915 trips in 2040 (LLG 2025). The weekday VMT for buildout of the Update to the 2018 LRDP were estimated to be approximately 657,476 miles in 2040 (LLG 2025; provided in Appendix B). Mobile source emissions for trips and miles traveled were estimated using CalEEMod.

6.2.3 Energy Sources

UC San Diego's energy use includes electricity generated on campus at the campus cogeneration plant, electricity purchased from San Diego Gas and Electric (SDG&E), and natural gas purchased from SDG&E. An important element of the campus's energy use and energy-related infrastructure is its centralized cooling and heating systems and cogeneration operations for on-site electric power production, which contribute to a reduction in the campus's overall usage of energy.

Electricity generated by utility providers typically entails the combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with off-site or indirect emissions at the source of electricity generation, and these emissions are not included in the analysis of a land use development project's local or regional air quality impacts.

Natural gas consumption for the campus was based on the estimates provided in the draft *Decarbonization Study Prepared for University of California, San Diego* (Salas O'Brien 2024). Consistent with the Green Building Design requirements of the UC Sustainable Practices Policy, new facilities would be electric-only. As a Direct Access customer, UC San Diego obtains its purchased electricity via the UC Energy Services Unit which is 100 percent carbon neutral.

6.2.4 Stationary Sources

Stationary sources include equipment that burns fossil fuel, typically either natural gas or diesel fuel, to generate either heat or electricity. Stationary sources on campus that burn natural gas include the Biomedical Science Buildings (BSB) crematory, the Moores Cancer Center thermal fluid heaters, central utilities cogeneration turbines and boilers, and other boilers located throughout campus. Emissions associated with stationary sources burning natural gas are estimated following the methods described in Section 6.2.3, Energy Sources, using campuswide natural gas consumption rates included in the Decarbonization Study (Salas O'Brien 2024). Stationary sources that burn diesel fuel include emergency generators.

Activity data, such as fuel consumption rates and operating time, were used to estimate emissions from diesel emergency generators. Consistent with the analysis presented in the 2018 LRDP EIR, emission factors achieving USEPA Tier 4 requirements were used in the analysis.

VOC emissions from research laboratories were estimated based on a review of available UC San Diego chemical data and wet laboratory inventory information, as well as the previous health risk assessment for the 2018 LRDP. VOC emissions associated with hazardous waste bulking operations were estimated based on chemical volumes and volatilization loss factors. Detailed emission calculation methodologies for research laboratories and hazardous waste bulking operations are provided in Appendix A.

6.3 HEALTH RISK ASSESSMENT

An evaluation of health risks from the impact of TAC emissions from operational activity was performed for the exposure to on- and off-campus residents and workers.

SDAPCD issued supplemental health risk assessment (HRA) guidance in June 2015. The HRA was performed in accordance with the methodologies presented in Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (HRAs) (SDAPCD 2022), Health Risk Assessments for Proposed Land Use Projects (CAPCOA 2009), and Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (Office of Environmental Health Hazard Assessment [OEHHA] 2015).

The net change in excess lifetime cancer risk was estimated for the maximally exposed individual worker receptor (MEIW) and for the maximally exposed individual residential receptor (MEIR) at both on-campus and off-campus locations due to the Update to the 2018 LRDP.

Human doses were calculated for the modeled environmental exposures over specified time periods via multiple environmental pathways. These environmental pathways included direct inhalation, soil ingestion, dermal (skin) absorption based on a warm climate, consumption of home grown produce, and mother's milk.

For each TAC, the hazard quotient (HQ) was calculated by dividing the predicted exposure from the model by the reference exposure level (REL) for the substance. The HQs were then summed to calculate the hazard index (HI). Because substances may affect different target organ systems, such as the pulmonary or gastrointestinal systems, the HIs were calculated separately for each target organ system, and the highest HI was used to characterize the potential health risks.

The cancer potency factors and RELs used are consistent with the current values published by CARB (2023). The RELs are intended to represent exposure levels below which adverse health effects do not occur.

The HRA was conducted for multiple exposure durations for different types of sensitive receptors:

- Off-Campus Residents. Exposed for 24 hours/day, 365 days/year, for 30 years beginning at the third trimester before birth during the period of 2040 (buildout of the Update to the 2018 LRDP) through year 2070.
- Off-Campus Workers. Exposed for 8 hours/day, 250 days/year for 25 years during the period of 2040 through year 2065 beginning at age 16.
- On-Campus Residents (Students). Exposed for 24 hours/day, 365 days/year[2] for four years beginning at age 18 during the period of 2040 through year 2044.
- On-Campus University Staff (Workers). Exposed 8 hours/day, 250 days/year for 25 years during the period of 2040 through year 2065 beginning at age 16.

The maximum long-term inhalation cancer risk was estimated by multiplying the maximum dose (milligrams per kilogram per day) at the receptor of maximum exposure by the individual cancer potency factor of each carcinogen of concern. Individual risks by each pollutant were summed to determine the total risk at each receptor. Non-cancer health risks for chronic exposure (a one-year average exposure) and acute exposure (1-hour average) were calculated using the HI approach for the receptors and toxic substances emitted. Additional details on the HRA methodology are provided in Appendix C.

6.3.1 Dispersion Model

Atmospheric modeling was performed to analyze health risk associated with the generation of TACs resulting from implementation of the Update to the 2018 LRDP. The following provides a discussion of the consideration and selection of various modeling parameters.

6.3.1.1 Model Selection

USEPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) model (Version 23132 released in October 2023) was used to model TAC emissions during operation of the Update to the 2018 LRDP. AERMOD was applied with the regulatory default options and the rural modeling option (dispersion coefficients). The resulting plot files for each source were

[2] Note that this is conservative because most students only live on campus for 3 quarters of the year as residential contracts are fall through spring.

imported to the Hotspots Analysis and Reporting Program version 2 (HARP2) Air Dispersion Modeling and Risk Tool (Version 22118 released in April 2022).

6.3.1.2 Station Source Data

Future combustion, treatment of wastewater, and laboratory sources were modeled as point sources (stacks). Increased combustion source emissions from the existing crematory under the future LRDP scenario were modeled from the existing crematory stack. Potential new laboratory emissions under the future LRDP scenario were also modeled as new emission release points near proposed new laboratory developments using existing laboratory vent parameters. Potential emissions from the wastewater treatment plant (WWTP) that could be required were modeled as a new emission release point west of the Rita Atkinson Residences north of La Jolla Village Drive. A total of 38 additional emergency generator sources were included to support future development, including 2 at the potential WWTP. The following sections describe the methodologies used in developing the source parameters for combustion sources and laboratory sources.

Combustion Sources

The HRA includes an increase in emissions from the existing crematory and additional emergency diesel generators.

Emergency Generators

The locations of the future generators were placed adjacent to proposed future housing sites and the potential WWTP site. Consistent with the 2018 LRDP, all future generators are assumed to meet EPA Tier 4 engine standards. Stack parameters for the future generators were assigned based upon taking the average value for stack height, diameter, gas exit velocity, and temperature from the existing generators for each campus (AECOM 2018). For example, the future East Campus generator stack parameters would be the average from all East Campus existing generators. Table 4, *Modeling Parameters for Future Combustion Sources*, summarizes this analysis.

Table 4
MODELING PARAMETERS FOR FUTURE COMBUSTION SOURCES

Model ID	Source Description	Stack Height (m)	Inner Stack Diameter (m)	Exhaust Exit Velocity (m/s)	Exhaust Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
F_GEN01	OV2 - Ocean View Housing West	4.63	0.38	30.219	799.74	477351.1	3638151	126.72
F_GEN02	OV2 - Ocean View Housing West	4.63	0.38	30.219	799.74	477447.7	3638151	130.42
F_GEN03	OV2 - Ocean View Housing West	4.63	0.38	30.219	799.74	477347.3	3638271	130.1
F_GEN04	OV2 - Ocean View Housing West	4.63	0.38	30.219	799.74	477448.9	3638274	133.62
F_GEN05	OV2 - Ocean View Housing West	4.63	0.38	30.219	799.74	477406	3638218	132.5
F_GEN06	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478480.9	3637664	97.37
F_GEN07	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478509.3	3637746	99.94
F_GEN08	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478464.2	3637718	98.36
F_GEN09	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478394.5	3637732	94.43
F_GEN10	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478422.2	3637778	100.05
F_GEN11	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478342.9	3637877	105.8
F_GEN12	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478439.4	3637854	104.54
F_GEN13	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478392.1	3638030	106.43
F_GEN14	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478438.9	3637973	106.3
F_GEN15	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478559.5	3637994	102.69
F_GEN16	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478548.1	3638096	104.78
F_GEN17	PC1 - Pepper Canyon East	4.63	0.38	30.219	799.74	478450.3	3637898	105.17
F_GEN18	MH1 - Faculty/Staff Housing	5.46	0.54	40.358	837.82	479492.2	3637076	106.52
F_GEN19	MH1 - Faculty/Staff Housing	5.46	0.54	40.358	837.82	479466	3637335	109.34
F_GEN20	MH1 - Faculty/Staff Housing	5.46	0.54	40.358	837.82	479548.8	3637333	110.7
F_GEN21	MH2 - South Mesa Housing Phase 1	5.46	0.54	40.358	837.82	479446.6	3637191	109.94
F_GEN22	MH2 - South Mesa Housing Phase 1	5.46	0.54	40.358	837.82	479108.8	3637187	104.07
F_GEN23	MH2 - South Mesa Housing Phase 1	5.46	0.54	40.358	837.82	479109	3637313	97.94
F_GEN24	MH2 - South Mesa Housing Phase 1	5.46	0.54	40.358	837.82	479425.1	3637336	109.57
F_GEN25	MH2 - South Mesa Housing Phase 1	5.46	0.54	40.358	837.82	479247.2	3637363	102.38
F_GEN26	WC1 - Student Housing	4.63	0.38	30.219	799.74	478241.2	3638192	101.72
F_GEN27	WC1 - Student Housing	4.63	0.38	30.219	799.74	478105.9	3638346	101.44
F_GEN28	WC1 - Student Housing	4.63	0.38	30.219	799.74	478197.6	3638343	104.67
F_GEN29	WC1 - Student Housing	4.63	0.38	30.219	799.74	478275.1	3638408	101.97
F_GEN30	WC1 - Student Housing	4.63	0.38	30.219	799.74	478250	3638531	102.53
F_GEN31	MH3 - South Mesa Housing Phase 2	5.46	0.54	40.358	837.82	478904.6	3637149	97.5

Model ID	Source Description	Stack Height (m)	Inner Stack Diameter (m)	Exhaust Exit Velocity (m/s)	Exhaust Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
F_GEN32	MH3 - South Mesa Housing Phase 2	5.46	0.54	40.358	837.82	479055.2	3637195	98.86
F_GEN33	MH3 - South Mesa Housing Phase 2	5.46	0.54	40.358	837.82	479063.3	3637083	99.7
F_GEN34	MH3 - South Mesa Housing Phase 2	5.46	0.54	40.358	837.82	479282.3	3637081	107.09
F_GEN35	MH3 - South Mesa Housing Phase 2	5.46	0.54	40.358	837.82	479433.2	3637151	108.84
F_GEN36	SIO2 - Expedition Site	1.66	0.54	40.358	837.82	477060.4	3636983	116.1
F_GEN37	WWTP	1.41	0.38	9.211	799.74	477928.7	3637138	90.88
F_GEN38	WWTP	1.41	0.38	9.211	799.74	477933.7	3637138	92.02
CREM1	Crematory	27.74	0.55	6.39	612.05	477929.7	3637534	110.77

K = Kelvin; m = meters; m/s = meters per second

Crematory

Crematory emissions were calculated based on the number of charges[3] in the year 2022 and emission factors provided by SDAPCD. Future emissions for the crematory under the Update to the 2018 LRDP assume a 180 percent increase from 2022 levels based on anticipated burn rates. Table 4, *Modeling Parameters for Future Combustion Sources*, summarizes the stack parameters for the crematory. The emission factors and emission calculations are presented in Appendix A.

Laboratory Sources

The release of TACs from new laboratory space would occur through vents located on the rooftops of each building. The modeling used point sources (stacks) to characterize the release of these rooftop vents. The locations of the future vents were placed on sites of proposed future laboratory space. Stack parameters for the future vents were assigned based upon taking the average value for stack height, diameter, gas exit velocity, and temperature from the existing vents (AECOM 2018). Table 5, *Modeling Parameters for Building Vents*, summarizes the stack parameters for each vent included in the modeling.

[3] Charges refer to the human remains.

Table 5
MODELING PARAMETERS FOR BUILDING VENTS

Model ID	Source Description	Stack Height (m)	Inner Stack Diameter (m)	Exhaust Exit Velocity (m/s)	Exhaust Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
VENT_EC2	Health Sciences West Academic/Research 1	20	0.37	8.05	294.26	479017.2	3638076	105
VENT_EC3	University Center UC409 Site	20	0.37	8.05	294.26	479136	3638105	107.09
VENT_EC4	Clinical/Research 1	20	0.37	8.05	294.26	479237	3637831	103.26
VENT_HS2	Health Sciences West Academic/Research 2	20	0.37	8.05	294.26	477995.8	3637298	106.86
VENT_HS3	Health Sciences West Academic/Research 3	20	0.37	8.05	294.26	478148.5	3637328	106.2
VENT_HS4	Health Sciences West Academic/Research 4	20	0.37	8.05	294.26	477432.3	3637697	123.35
VENT_MC2	Revelle/Muir Academic/Research site	20	0.37	8.05	294.26	478039.9	3637903	108.47
VENT_UC	Health Sciences West Academic/Research 1	20	0.37	8.05	294.26	479017.2	3638076	105

Table 6, *Laboratory Emission Factors*, presents the emission factors used in this HRA for the laboratory TACs, expressed as grams per second (g/s) emissions per square footage (ft^2) of wet laboratory space. The emission factors were taken directly from the 2018 HRA (AECOM 2018).

The emission factors used are broken down by three Lab Types:

- Lab Type I = Chemistry and Chemical Engineering
- Lab Type II = General Biological Sciences
- Lab Type III = Physical Sciences/Other (Engineering, Geology, Physics, etc.)

The emission factors presented in Table 6 are multiplied by estimates of laboratory square footage in order to arrive at laboratory chemical emission rates.

Table 6
LABORATORY EMISSION FACTORS (g/s per ft^2)

Chemical	Lab Type I Annual Rate	Lab Type II Annual Rate	Lab Type III Annual Rate	Lab Type I Max Hourly Rate	Lab Type II Max Hourly Rate	Lab Type III Max Hourly Rate
Acetonitrile	1.27E-08	5.36E-09	4.67E-10	6.55E-08	2.78E-08	2.42E-09
Acrylamide	1.52E-11	6.17E-11	0.00E+00	7.85E-11	3.20E-10	0.00E+00
Ammonia1	1.16E-07	7.69E-07	4.39E-08	5.98E-07	3.98E-06	2.27E-07
Benzene	2.25E-09	1.05E-10	7.32E-11	1.17E-08	5.44E-10	3.79E-10
Bromine and compounds	2.14E-10	8.51E-12	3.63E-11	1.11E-09	4.41E-11	1.88E-10
t-Butyl alcohol	1.09E-10	4.58E-08	1.22E-10	5.64E-10	2.37E-07	6.31E-10
Carbon tetrachloride	2.01E-10	6.18E-10	4.81E-10	1.04E-09	3.20E-09	2.49E-09
Chloroform	2.73E-08	8.27E-09	9.80E-10	1.41E-07	4.29E-08	5.07E-09
Dimethylformamide	5.50E-10	3.11E-10	3.32E-12	2.85E-09	1.61E-09	1.72E-11
1,4-Dioxane	2.61E-09	1.97E-10	2.28E-11	1.35E-08	1.02E-09	1.18E-10
Ethylene Dichloride	6.08E-11	2.76E-10	2.53E-09	3.15E-10	1.43E-09	1.31E-08
Formaldehyde	9.35E-11	7.77E-09	9.83E-10	4.84E-10	4.03E-08	5.09E-09
n-Hexane	1.75E-10	4.21E-10	8.07E-10	9.07E-10	2.18E-09	4.18E-09
Hydrazine	1.19E-11	6.77E-12	5.87E-13	6.14E-11	3.51E-11	3.04E-12
Hydrochloric acid	9.45E-10	2.00E-08	8.54E-09	4.90E-09	1.04E-07	4.42E-08
Isopropanol	3.68E-09	2.52E-08	1.75E-08	1.91E-08	1.31E-07	9.07E-08
Methyl alcohol	1.16E-07	8.95E-08	4.39E-08	5.98E-07	4.64E-07	2.27E-07
Methylene chloride	1.07E-07	1.24E-09	2.84E-10	5.56E-07	6.41E-09	1.47E-09
Toluene	7.73E-09	7.75E-10	4.11E-10	4.01E-08	4.01E-09	2.13E-09
1,1,1-Trichloroethane	2.12E-11	2.37E-11	1.37E-09	1.10E-10	1.23E-10	7.12E-09
Trichloroethylene	0.00E+00	6.25E-11	3.91E-10	0.00E+00	3.24E-10	2.02E-09
Triethylamine	6.54E-10	1.32E-10	0.00E+00	3.39E-09	6.81E-10	0.00E+00
Xylenes (mixed)	2.70E-10	1.54E-09	8.42E-10	1.40E-09	7.99E-09	4.36E-09

Source: AECOM 2018

Future laboratory square footage under the Update to the 2018 LRDP assumes the following new research buildings would include wet lab space:

- West Campus – 25 percent of the University Center UC409 Site
- West Campus – 50 percent of the HS West Academic/Research Sites

- West Campus – 50 percent of the Revelle/Muir Academic/Research site
- East Campus – 40 percent of each of the Clinical Research Sites

The emission factors and calculations are presented in Appendix A.

Table 7, *Laboratory Type and Square Footage*, summarizes the laboratory space used for the emission estimation.

Table 7
LABORATORY TYPE AND SQUARE FOOTAGE

Building Name	Total Building GSF	Lab Space Percentage	Lab Space GSF	Lab Type
University Center UC409 Site	300,000	25%	75,000	3
Clinical/Research 2	200,000	40%	80,000	2
Clinical/Research 3	200,000	40%	80,000	2
Clinical/Research 4	200,000	40%	80,000	2
Health Sciences West Academic/Research 2	200,000	50%	125,000	2
Health Sciences West Academic/Research 3	250,000	50%	125,000	2
Health Sciences West Academic/Research 4	250,000	50%	125,000	2
Revelle/Muir Academic/Research site	200,000	50%	100,000	3

Notes: GSF = gross square footage.

TAC evaporative loss rates included in this HRA are consistent with the 2018 HRA (AECOM 2018). A conservative five percent loss rate was assumed for chemicals in general experimental operations, including acetonitrile, benzene, carbon tetrachloride, chloroform, 1,4-dioxane, n-hexane, hydrazine, hydrochloric acid, methanol, methylene chloride, toluene, trichloroethylene, xylene, bromide, t-butyl alcohol, dimethylformamide, and triethylamine. A 10 percent loss factor was used for overall formaldehyde use.

Wastewater Treatment Plant

The Update to the 2018 LRDP could require a new WWTP that would provide treatment of effluent generated on campus. TACs would be generated during the treatment of influent at the WWTP, mostly during degradation or reaction while in the treatment system. Organic compounds would volatilize from the liquid surface of the reactors during the biological treatment of influent.

Emission factors and speciation for volatile compounds from influent treatment were obtained from the San Joaquin Valley Air Pollution Control District (SJVAPCD) (1993), as the SDAPCD does not have this information readily available. These are general emission factors expressed in terms of pounds of pollutant emissions per million gallons per day (mgd) of influent. These factors were used to estimate daily emissions of various TACs typically contained in influent waste streams. Emissions of TACs from treatment were estimated for full buildout influent throughput of 1 mgd.

Specific information about emission controls as part of the treatment facility's design is not currently known. Therefore, the results of the analysis presented above represent uncontrolled emissions. However, it is likely that common control technologies would be implemented to substantially reduce emissions. Tightly covered, well-maintained collection systems can suppress emissions by 95 to 99 percent (USEPA 1998). The types of control technology generally used in reducing TAC emissions from wastewater include steam or air stripping, carbon adsorption, chemical oxidation, membrane separation, liquid-liquid extraction, and biotreatment (aerobic or anaerobic) (USEPA 1998).

6.3.1.3 Meteorological Data

AERMOD requires a sequential hourly record of dispersion meteorology representative of the region within which the project would be located. AERMOD was applied with five years (2012 through 2016) of hourly meteorological data consisting of surface observations from the Marine Corps Air Station at Miramar meteorological station. The meteorological station, which is owned and operated by SDAPCD, is located at 32.845°N and 117.124°W, approximately six miles to the southeast of the UC San Diego campus. The data indicates that the predominant wind direction is from the west-northwest. SDAPCD processed the meteorological data and provided it in AERMOD-ready format.

6.3.1.4 Building Downwash

When sources are located near or on buildings or structures, the dispersion of the plume can be influenced. Under certain wind speeds, the wake produced on the lee or sheltered side of the building can cause the plume to be pulled toward the ground near the building resulting in higher concentrations close to the building. These effects are called building downwash.

Due to the complexity of the stack/building relationships on the UC San Diego campus, the analysis included all buildings that could potentially influence each stationary emission point source. Figure 3, *Combustion Sources and Buildings*, illustrates the buildings and point source locations included in the downwash analysis for existing and future sources.

6.3.1.5 Terrain and Receptor Data Processing

Terrain elevations were obtained from commercially available digital terrain elevations developed by the U.S. Geological Survey by using its National Elevation Dataset (NED). The NED data provide terrain elevations with one-meter vertical resolution and 10-meter (1/3 arc-second) horizontal resolution based on a Universal Transverse Mercator (UTM) coordinate system. The U.S. Geological Survey specifies coordinates in North American Datum 83, UTM Zone 11. USEPA's AERMAP software was used to process the NED data and assign elevations to the receptor locations and sources. AERMAP is the terrain pre-processor of AERMOD that characterizes the terrain and generates receptor elevations. Electronic files containing these terrain elevations are included in Appendix C.

A nested Cartesian grid was used for the placement of off-campus receptors. Receptors were placed at 50-meter increments along the campus border and extending out 500 meters from the campus boundaries. For distances between 500 meters and one kilometer from the campus border, 100-meter receptor increments were used, and 250-meter increments between 1 and 2 kilometers. On-campus receptors were placed at 25-meter increments to include campus student housing (i.e., dormitories and apartments) and facilities where university staff and students may gather or work. Figure 4, *Off-Campus Receptor Grid*, and Figure 5, *On-Campus Receptor Grid*, show the off-campus and on-campus receptors, respectively, for the HRA.

6.3.1.6 Schedule, Source Parameters, and Emissions Summary

All sources were modeled with 1 g/s divided by the area for area sources or 1 g/s emission rates in AERMOD. The resulting plot files for each source were imported to the HARP2 Air Dispersion and Risk Tool as detailed in Section 6.3.1.1. The emission rates were imported via CSV (comma-separated value) file and assigned to each source. Based on guidance from SDAPCD (SDAPCD 2022), the options selected in HARP2 for the estimation of cancer risk are summarized in Table 8, *Summary of HARP2 Options*.

Table 8
SUMMARY OF HARP2 OPTIONS

Option	On-Campus Resident	On-Campus Worker	Off-Campus Resident	Off-Campus Worker
Start Age (year)	18	16	3rd Trimester	16
Exposure Duration (years)	4	25	30	25
Method	RMP using Derived Method	OEHHA Derived Method	RMP using Derived Method	OEHHA Derived Method
FAH	No	N/A	No	N/A
8-hour Breathing Rates	N/A	Yes, Moderate	N/A	Yes, Moderate

N/A = not applicable; OEHHA = Office of Environmental Health Hazard Assessment; RMP = CARB Risk Management Policy.

7.0 UPDATE TO THE 2018 LRDP AIR QUALITY ANALYSIS

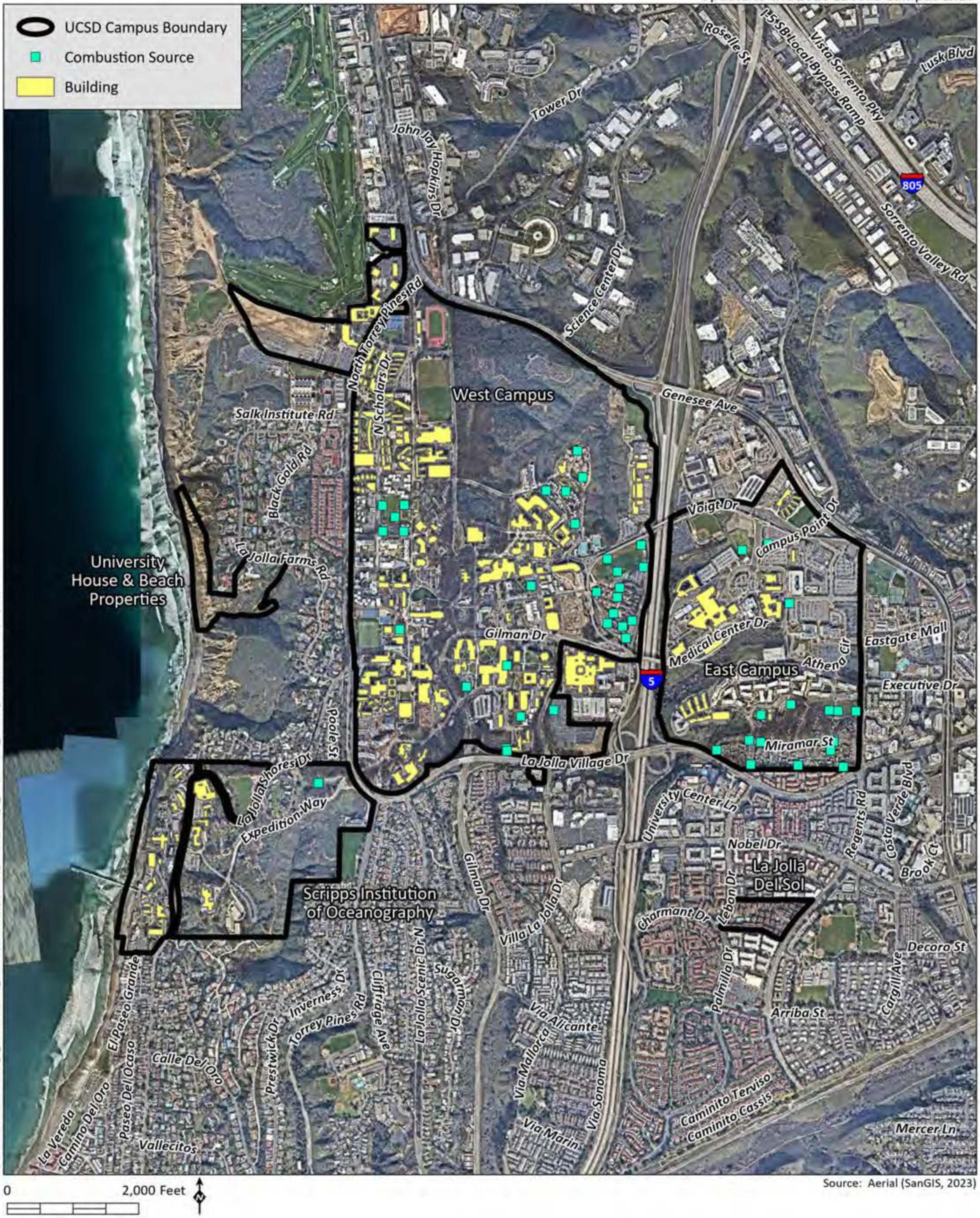
7.1 ISSUE 1: CONSISTENCY WITH AIR QUALITY PLANS

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and state air quality standards into compliance with those standards pursuant to the requirements of the Federal Clean Air Act (CAA) and California Clean Air Act (CCAA).

The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDAPCD's Attainment Plan includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans address emissions from all sources, including natural ones, through the implementation of control measures, where feasible, on stationary sources to attain the standards. Emissions from mobile sources, which are regulated by the USEPA and the CARB, are also considered in the RAQS and SIP along with strategies for their reduction.

Projects that are consistent with the assumptions used in development of the applicable air quality plan are considered to not conflict with or obstruct the attainment of the air quality levels identified in the plan. The use of construction equipment in the RAQS is estimated for the region on an annual basis, and construction-related emissions are estimated as an aggregate in the RAQS. Therefore, the project would not increase the assumptions for off-road equipment use in the RAQS.

Assumptions for land use development used in the RAQS and Attainment Plan are taken from local and regional planning documents. Emission forecasts rely on projections of VMT by the Metropolitan



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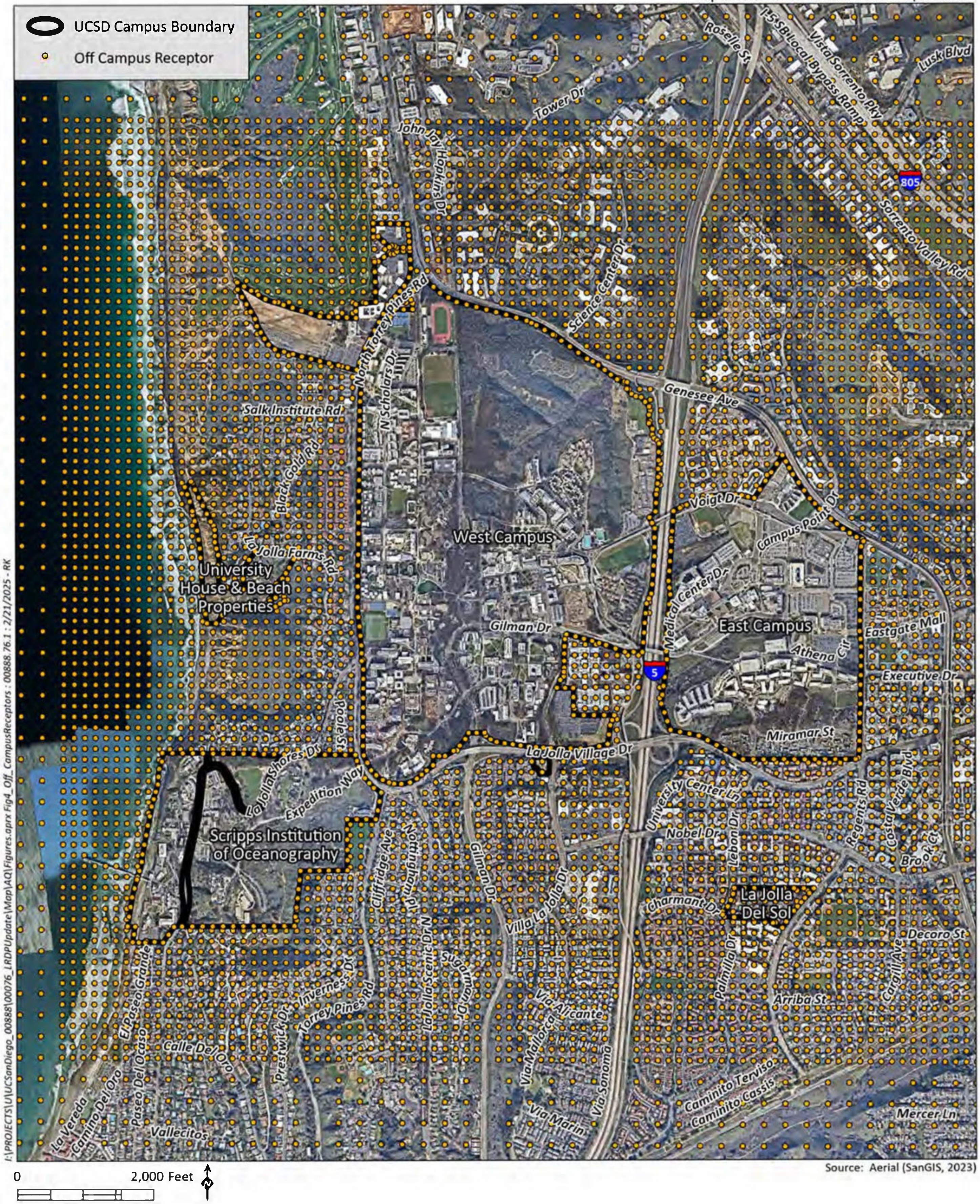
HELIX
Environmental Planning

Combustion Sources and Buildings

Figure 3

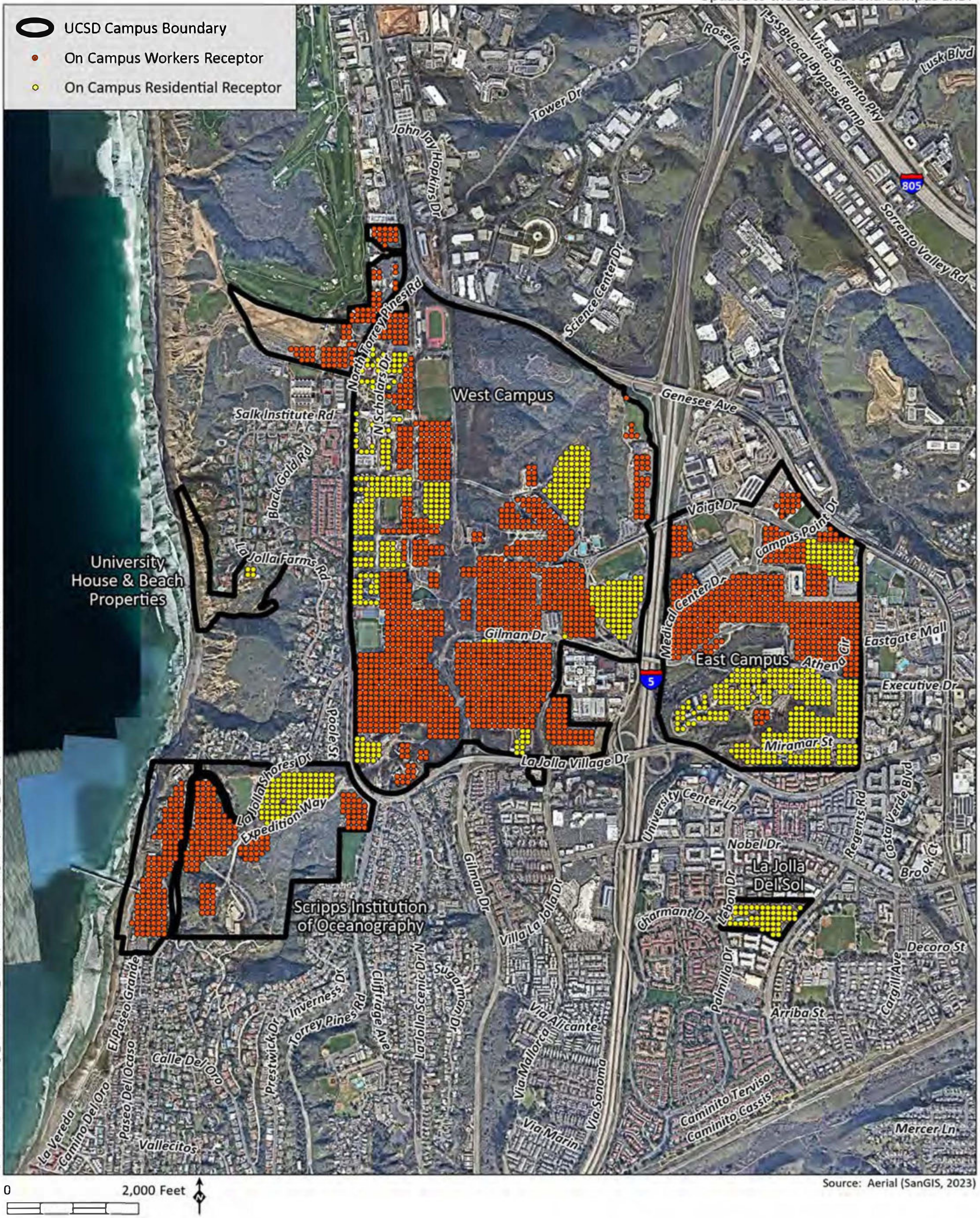


Source: Aerial (SanGIS, 2023)

HELIX Environmental Planning

Off-Campus Receptor Grid

Figure 4



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HELIX
Environmental Planning

On-Campus Receptor Grid

Figure 5

Planning Organizations, such as SANDAG, and population, employment, and land use projections made by local jurisdictions during development of the area and general plans.

The West and East campus areas are located within one-half mile of high-frequency transit (15-minute headways or lower), which includes major transit stops, high-quality transit corridors, and shuttle stops. As a result, development within these areas reduces vehicle trips and VMT. The UC San Diego campus is also identified as within a Transit Priority Project Area with several roadways (i.e., La Jolla Village Drive, Nobel Drive, Genesee Avenue, North Torrey Pines Road, Regents Road) classified as a high-quality Transit Corridor. While a portion of SIO is not within one-half mile of high-frequency transit, it is connected to the rest of campus by the UC San Diego shuttle system and there are no changes in land use or development intensity proposed under the Update to the 2018 LRDP within SIO.

The Update to the 2018 LRDP incorporates the following strategies to ensure that mobility is preserved within the community and across the region:

- Promote pedestrian and bicycle mobility
- Improve transit accessibility, ridership, and performance
- Promote Transportation Demand Management (TDM) strategies
- Ensure improvements support planned local and regional projects

The Update to the 2018 LRDP land uses are generally consistent with the current campus land use types. Since the Update to the 2018 LRDP incorporates strategies identified in the SANDAG Regional Transportation Plan and Sustainable Communities Strategy by integrating land use, housing, and transportation planning, the Update to the 2018 LRDP is consistent with the goals developed by SANDAG.

Because implementation of the Update to the 2018 LRDP would be consistent with the Smart Growth vision for the region identified in the SANDAG Regional Plan and would result in less VMT than the regional average, it would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant, consistent with the conclusion in the 2018 LRDP EIR.

7.2 ISSUE 2: CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

The Update to the 2018 LRDP would generate criteria pollutants during construction and operation. To determine whether a project would result in a cumulatively considerable net increase in criteria pollutant emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, emissions are evaluated based on the quantitative emission thresholds shown in Table 2. The Update to the 2018 LRDP's emissions were estimated using the methods and assumptions described in Section 6.1. Additional details of phasing, selection of construction equipment, and other modeled parameters are included in Appendix A.

7.2.1 Construction Emissions

Construction emissions are described as "short-term" or temporary in duration; however, they have the potential to represent a significant impact with respect to air quality. Construction of the project would result in the temporary generation of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions. VOC, NO_X, CO, and SO_X emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on and off campus.

Construction emissions were estimated separately for West Campus, East Campus, and SIO. However, since construction activities could occur at all three areas of campus at the same time, emissions from each area were combined to estimate maximum daily construction emissions for the campus as a whole and then compared to the standards of significance. Table 9, *Update to the 2018 LRDP Unmitigated Maximum Daily Construction Emissions*, presents total construction emissions associated with implementation of the Update to the 2018 LRDP for the 2030 and 2040 Scenarios. Additional modeling assumptions and details are provided in Appendix A.

Table 9
UPDATE TO THE 2018 LRDP UNMITIGATED MAXIMUM DAILY CONSTRUCTION EMISSIONS

	Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2030 Scenario						
West Campus	21.99	108.10	136.01	0.20	22.21	10.94
East Campus	30.63	110.55	154.73	0.20	25.63	11.77
SIO	6.72	54.91	62.11	0.10	8.05	4.77
2030 Scenario Total	*59.34*	*273.56*	*352.84*	*0.50*	*55.89*	*27.48*
2040 Scenario						
West Campus	16.78	95.23	179.16	0.24	36.06	13.44
East Campus	26.14	86.63	130.52	0.21	22.97	10.33
SIO	13.32	73.22	98.58	0.15	15.88	8.48
2040 Scenario Total	*56.24*	*255.08*	*408.26*	*0.60*	*74.91*	*32.26*
Maximum Daily Construction Emissions	**59.34**	**273.56**	**408.26**	**0.60**	**74.91**	**32.26**
Thresholds	137	250	550	250	100	67
Significant Impact?	No	**Yes**	No	No	No	No

Modeling data are provided in Appendix A
Note: Totals may not sum due to rounding. Values are rounded to the nearest hundredth.
VOC = volatile organic compounds; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs./day = pounds per day; SIO = Scripps Institution of Oceanography.

As shown in Table 11, construction-generated emissions of NO_X would exceed maximum daily standards established by the City of San Diego. Therefore, unmitigated construction emissions would result in a potentially significant impact. It is also worth noting, Table 11 shows a less than significant impact related to PM_{10} and $PM_{2.5}$ emissions where the 2018 LRDP EIR had a potentially significant finding. This reduction is the result of the implementation of BMPs required by SDAPCD regulations to reduce fugitive dust as identified in Section 1.2.4. Due to the exceedance of the NO_X threshold, implementation of the following mitigation measures at a programmatic level would be required to reduce emissions:

New and/or Revised Measures for the Update to the 2018 LRDP SEIR

Mitigation measure AQ-2B has been updated from the 2018 LRDP EIR, as noted in strikeout/underline below, to require the use of Tier 4 Final emissions compliant construction equipment in order to reduce potentially significant NO_X emissions. This change is a result of Tier 4 Final emissions compliant equipment being more readily available since the adoption of the 2018 LRDP EIR as demonstrated by its use in the LRDP's implementation. The measure would achieve greater reductions in emissions than previously written as it would ensure Tier 4 Final equipment is used for equipment over 50 horsepower rather than previously allowed Tier 3 equipment in some cases.

AQ-2B **Minimize Off-Road Construction Equipment Emissions**. UC San Diego shall require by contract specification that all diesel fired construction equipment, equal to or greater than 50 horsepower, ~~the construction contractor use off-road construction diesel engines that~~ meet, at a minimum, the Tier 4 ~~interim~~ Final California Air Resources Board Off Road Compression Ignition Diesel Engine ~~Emissions~~ Standards or equivalent~~, unless such an engine is not available for a particular item of equipment. Tier 3 engines will be allowed on a project-by-project basis when the contractor has documented that no Tier 4 interim equipment or emissions equivalent retrofit equipment is available or feasible for the project~~.

Implementation of mitigation measure AQ-2B would ensure that construction activities associated with campus development under the Update to the 2018 LRDP would minimize NO_X emissions. Measure AQ-2B requires engines in diesel-fueled construction equipment above 50 horsepower to meet Tier 4 Final emission standards. Based on the mitigated estimates for the Update to the 2018 LRDP, the use of Tier 4 Final engines for all construction equipment on all projects would result in off-road equipment emission reductions of approximately 67 to 90 percent for NO_X emissions.

Table 10, *Mitigated Maximum Daily Construction Emissions*, shows the mitigated construction emissions for the 2030 Scenario and the 2040 Scenario of the Update to the 2018 LRDP with implementation of mitigation measure AQ-2B.

Table 10
UPDATE TO THE 2018 LRDP MITIGATED MAXIMUM DAILY CONSTRUCTION EMISSIONS

	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2030 Scenario						
West Campus	13.04	22.73	141.66	0.20	18.28	7.35
East Campus	21.68	25.18	160.37	0.20	21.70	8.18
SIO	1.88	11.12	62.22	0.10	5.94	2.85
2030 Scenario Total	*36.60*	*59.02*	*364.25*	*0.50*	*45.92*	*18.38*
2040 Scenario						
West Campus	9.38	31.68	189.53	0.24	33.29	10.93
East Campus	18.74	23.08	140.89	0.21	20.20	7.81
SIO	6.81	16.34	100.87	0.15	13.41	6.24
2040 Scenario Total	*34.94*	*71.11*	*431.29*	*0.60*	*66.90*	*24.98*
Maximum Daily Construction Emissions	**36.60**	**71.11**	**431.29**	**0.60**	**66.90**	**24.98**
Thresholds	137	250	550	250	100	67
Significant Impact?	No	No	No	No	No	No

Modeling data are provided in Appendix A
Note: Totals may not sum due to rounding. Values are rounded to the nearest hundredth.
VOC = volatile organic compounds; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs./day = pounds per day; SIO = Scripps Institution of Oceanography.

As shown in Table 10, with implementation of mitigation measure AQ-2B, construction-generated emissions would not exceed the standards of significance. As such, construction-related emissions would result in a less than significant impact with mitigation, representing a reduction from the significant and unavoidable conclusion in the 2018 LRDP EIR.

7.2.2 Operational Emissions

As discussed in more detail in Section 5.1, Methodology and Assumptions, day-to-day activities associated with the operation of development associated with the Update to the 2018 LRDP would generate emissions from area, mobile, and stationary sources. Pursuant to the CEQA Guidelines (Section 15162[a]) this analysis evaluates the net change in operational emissions from buildout of the 2018 LRDP in 2035, as identified in the 2018 LRDP EIR air quality analysis (AECOM 2018), to the buildout of the Update to the 2018 LRDP in 2040. This approach is consistent with the requirements of subsequent analysis pursuant to CEQA. Therefore, the emissions associated with the land uses identified in the 2018 LRDP EIR were subtracted from the emissions under the Update to the 2018 LRDP to calculate the net change in emissions associated with implementation of the Update to the 2018 LRDP. The net increase in emissions is compared to the applicable threshold of significance to determine whether the Update to the 2018 LRDP would result in a substantial increase when compared to the 2018 LRDP. The estimated net daily unmitigated operational emissions associated with implementation of the Update to the 2018 LRDP are shown in Table 11, *Update to the 2018 LRDP Unmitigated Operational Emissions at Buildout (2040)*.

Table 11
UPDATE TO THE 2018 LRDP UNMITIGATED OPERATIONAL EMISSIONS AT BUILDOUT (2040)

Emission Source	Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	256.67	<0.01	896.25	0.04	0.63	0.47
Generators	2.52	16.19	39.88	0.01	0.45	0.43
Natural Gas	1.28	23.30	19.57	0.14	1.77	1.77
Mobile (Commuting)	204.73	129.10	1,572.90	4.48	476.67	122.76
Update to the 2018 LRDP Operational Emissions at Buildout (2040)	*465.21*	*168.60*	*2,528.61*	*4.67*	*481.57*	*125.44*
2018 LRDP Operational Emissions at Buildout (2035) (2018 LRDP EIR Table 3.2-8)	265.17	746.24	1,890.11	30.46	849.59	293.35
Net Change Attributable to the Update to the 2018 LRDP	**200.04**	**(577.64)**	**638.50**	**(25.79)**	**(368.02)**	**(167.91)**
Thresholds	137	250	550	250	100	67
Substantial Increase?	**Yes**	No	**Yes**	No	No	No

Modeling data are provided in Appendix A
Totals may not sum due to rounding. Values are rounded to the nearest hundredth.
VOC = volatile organic compounds; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter;
lbs./day = pounds per day; SIO = Scripps Institution of Oceanography.

Implementation of the Update to the 2018 LRDP would lead to long-term operational emissions of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. However, even considering the operation of the additional development proposed, implementation of the Update to the 2018 LRDP would result in a net decrease of NO_X, SO_X, PM_{10}, and $PM_{2.5}$ compared to buildout of the 2018 LRDP. The net decrease is due to federal and state regulations related to advancements in engine technology and fleet turnover that would reduce mobile (vehicle) emissions over time as well as the revised methodology for estimating ADT and VMT described in Section 6.2.2. As shown in Table 11, the net increase in total operational emissions associated with the Update to the 2018 LRDP would exceed the significance thresholds for VOC and CO. This net increase in emissions is primarily related to area sources which are directly related to size of development and population (CAPCOA 2022).

Area sources represent a substantial portion of the VOC and CO emissions estimated for the Update to the 2018 LRDP. The following new measure is prescribed to reduce operational VOC and CO emissions:

AQ-2C **Electric Landscape Equipment**: A minimum of 80 percent of landscape equipment utilized on campus shall be electric-powered.

The Update to the 2018 LRDP analysis above assumes Tier 4 compliant generators, consistent with the assumptions of the 2018 LRDP EIR. However, Tier 4 emissions compliant generators were not prescribed as a condition of approval in the 2018 LRDP EIR. Therefore, to ensure proposed new backup emergency generators to be installed in support of development under the Update to the 2018 LRDP achieve these standards, the following new measure shall be implemented:

AQ-2D **Minimize Emergency Backup Generator Emissions**. UC San Diego shall require by contract specification that new diesel fired backup generators meet, at a minimum, the

U.S. Environmental Protection Agency (USEPA) Tier 4 Final Emissions Standards or equivalent.

Implementation of measure AQ-2C would reduce emissions associated with fossil fuel powered landscape maintenance equipment and mitigation measure AQ-2D would ensure new generators achieve Tier 4 Final Emissions Standards. Table 12, *Update to the 2018 LRDP Mitigated Operational Emissions*, shows the mitigated operational emissions for buildout of the Update to the 2018 LRDP with implementation of mitigation measures AQ-2C (mitigation measure AQ-2D is assumed in the unmitigated emissions shown above).

Table 12
UPDATE TO THE 2018 LRDP MITIGATED OPERATIONAL EMISSIONS AT BUILDOUT (2040)

Emission Source	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	184.02	<0.01	179.25	0.01	0.13	0.09
Generators	2.52	16.19	39.88	0.01	0.45	0.43
Natural Gas	1.28	23.30	19.57	0.14	1.77	1.77
Mobile (Commuting)	204.73	129.10	1,572.90	4.48	478.72	122.76
Update to the 2018 LRDP Operational Emissions at Buildout (2040)	*392.56*	*168.60*	*1,811.61*	*4.63*	*481.06*	*125.06*
2018 LRDP Operational Emissions at Buildout (2035) (2018 LRDP EIR Table 3.2-8)	265.17	746.24	1,890.11	30.46	849.59	293.35
Net Change Attributable to the Update to the 2018 LRDP	**127.39**	**(577.64)**	**(78.50)**	**(25.83)**	**(368.53)**	**(168.29)**
Thresholds	137	250	550	250	100	67
Substantial Increase?	No	No	No	No	No	No

Modeling data are provided in Appendix A
Note: Totals may not sum due to rounding. Values are rounded to the nearest hundredth.
VOC = volatile organic compounds; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter;
lbs./day = pounds per day; SIO = Scripps Institution of Oceanography.

As shown in Table 12, with implementation of mitigation measures AQ-2C and AQ-2D, the net change in total operational emissions associated with the Update to the 2018 LRDP would not exceed the standards of significance. As such, operational emissions would not result in any new or substantially increased impacts than previously identified with mitigation.

7.3 ISSUE 3: IMPACTS TO SENSITIVE RECEPTORS

7.3.1 Carbon Monoxide Hotspots

Localized elevated CO concentrations, or CO hotspots, are primarily a result of congested motor vehicle activity at intersections. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels for local sensitive land uses. Neither the City, nor the SDACPD have developed a screening methodology for determining when intersection CO concentrations could be potentially significant, requiring further analysis. CO hotpots are typically associated with very high-volume intersections. The Bay Area Air Quality Management District

(BAAQMD) has adopted a CO hotspot screening threshold based on intersection volume: project CO hotspot impacts would be less than significant and no further analysis would be required if project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour, or more than 24,000 vehicles per hour per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway; BAAQMD 2017).

Although the screening analyses included in the 2018 LRDP EIR air quality analysis (AECOM 2018) indicated that the 2018 LRDP would not result in a CO hotspot, the analysis conservatively modeled CO concentrations at the worst-case intersection of La Jolla Scenic Drive and La Jolla Village Drive for the 2018 LRDP future (2035) scenario. The analysis concluded that total CO concentrations would reach 6.5 ppm for the 1-hour exposure period and 5.5 ppm for the 8-hour exposure period. Due to the revised methodology for estimating ADT, as described in Section 6.2.2, the Update to the 2018 LRDP shows an approximately 7 percent decrease in daily vehicles at the intersection of La Jolla Scenic Drive and La Jolla Village Drive compared to the 2018 LRDP 2035 scenario. This reduced ADT would result in fewer CO emissions than disclosed in the 2018 LRDP EIR. Therefore, the CO concentrations resulting from implementation of the Update to the 2018 LRDP would not violate the CAAQS for either the 1-hour period (20 ppm) or the 8-hour period (9.0 ppm).

Additionally, as a result of improvements in technology such as adaptive traffic signals reducing vehicle queue time and vehicle emission standards, CO emission factors are also projected to decrease in future years. These improvements would also reduce the concentration of CO emissions. This reduction can be seen by comparing the ambient monitoring results provided in the 2018 LRDP EIR Table 3.2-2 and those provided in Table 1 of this report. As shown in these two tables, the 8-hour ambient CO concentration decreases each of the sampled years from a high of 3.0 ppm in 2014 to a low of 1.2 ppm in 2022. Therefore, the CO concentrations resulting from implementation of the Update to the 2018 LRDP would not violate the CAAQS for either the 1-hour period (20 ppm) or the 8-hour period (9.0 ppm). This impact would be less than significant, consistent with the conclusion in the 2018 LRDP EIR.

7.3.2 Toxic Air Contaminants

7.3.2.1 Construction

The greatest potential for TAC emissions resulting from construction associated with implementation of the Update to the 2018 LRDP would originate from diesel particulate matter (DPM) emissions associated with heavy equipment operations. Construction would result in the generation of DPM from the use of off-road diesel construction equipment required for demolition, site preparation, construction, and equipment installation. Most DPM associated with material delivery trucks and construction worker vehicles would occur off-campus.

The generation of DPM from construction projects typically occurs in a single area for a short period of time; however, the exact length of construction time periods for individual projects implemented under the Update to the 2018 LRDP is unknown at this time due to the lack of design details and phasing aside from it occurring in the 2030 Scenario or 2040 Scenario. As shown previously in Table 11, construction associated with the Update to the 2018 LRDP is estimated to result in a maximum of 74.91 pounds of PM_{10} per day prior to the implementation of mitigation. This can be compared to, and is less than, the PM_{10} emissions reported for the 2018 LRDP of 109 pounds per day. Because PM_{10} emissions associated with the Update to the 2018 LRDP are less than those disclosed for the 2018 LRDP, it can be concluded that the cancer risks associated with exposure to DPM would also be reduced. As such, construction associated with the Update to the 2018 LRDP would not result in any new or substantially increased impacts than previously identified

7.3.2.2 Operation

As discussed in Section 6.3, operational stationary sources include combustion, laboratory sources, and the treatment of wastewater. Development of the Update to the 2018 LRDP would also generate trips on local and regional roadways. However, the revised methodology described in Section 6.2.2 results in reduced ADT and VMT. Therefore, DPM emissions from vehicle trips due to the Update to the 2018 LRDP would be less than those previously disclosed in the 2018 LRDP EIR and have been excluded from further analysis.

The cancer risk, non-cancer chronic health risk, and non-cancer acute health risk due to project source emissions were calculated for comparison to the thresholds identified in Table 3. Table 13, *Update to the 2018 LRDP Operational Health Risk*, presents the on- and off-campus MEIR and MEIW receptors during the 30 years and 25 years of exposure, respectively, due to the operation of stationary sources associated with the Update to the 2018 LRDP. For the MEIR, it is assumed that one person lives in the same location for 30 years and that exposure begins at the third trimester through age 30. Therefore, HARP2 modeling assumed a 30-year exposure beginning in 2040, the buildout year of the Update to the 2018 LRDP. Similarly, for the MEIW assumed to begin at age 16, HARP2 was run with the same assumptions beginning in 2040 through 2065 for a 25-year exposure period.

Table 13
UPDATE TO THE 2018 LRDP OPERATIONAL HEALTH RISK

Receptor Type	Cancer Risk (per million)	Chronic Hazard Index	Acute Hazard Index
On-Campus MEIR	0.04	0.02	0.22
On-Campus MEIW	0.38	0.05	0.29
Off-Campus MEIR	2.63	0.03	0.21
Off-Campus MEIW	0.19	0.03	0.21
Peak Value	2.63	0.05	0.29
Threshold	10	1	1
Significant Impact?	No	No	No

As shown in Table 13, the incremental cancer risk from the Update to the 2018 LRDP is less than the threshold of 10 per million for all receptors on- and off-campus. Additionally, the chronic and acute HI is less than the threshold of 1 for all receptors on- and off-campus. Therefore, buildout of the Update to the 2018 LRDP would not result in a substantial increase in the exposure of sensitive receptors to substantial TAC emissions. Nonetheless, in combination with sources of TACs analyzed in the 2018 LRDP EIR, health risk from campus operations would exceed applicable standards.

7.4 ISSUE 4: ODORS

Implementation of the Update to the 2018 LRDP would have the potential to generate objectionable odors through construction activities and during operations, as discussed below and similar to the 2018 LRDP EIR.

7.4.1 Construction

Potential sources that may emit odors during construction of development associated with the Update to the 2018 LRDP would include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would not be anticipated to be affected by diesel exhaust odors associated with construction activities. Construction activities under the Update to the 2018 LRDP would utilize typical construction techniques, and the odors from off-road equipment and on-road vehicles would be typical of most construction sites and temporary in nature. Therefore, construction activities would not result in nuisance odors that would adversely affect a substantial number of people. Odor impacts associated with construction would be less than significant, consistent with the conclusion in the 2018 LRDP EIR.

7.4.2 Operation

7.4.2.1 Wastewater Treatment Plant

The SEIR includes an analysis of wastewater capacity needed for the Update to the 2018 LRDP. Mitigation measure Util-2, Downstream Wastewater Capacity, in the SEIR describes requirements for infrastructure improvements, including either upsizing existing sewer lines or constructing a WWTP to offload a portion of sewer flows (or both).

If constructed, operation of a WWTP has the potential to result in odor impacts because of the nature of the activities at this type of facility. Odors are typically associated with particular steps in the wastewater treatment process. Initially, raw wastewater is transferred to the primary clarifiers where most solids are separated from the liquid portion of wastewater in the treatment process. Wastewater undergoing aerobic digestion (decomposition with free oxygen) in an aeration basins emit a characteristically musty odor due to the particular type of biogases released in the process.

Facilities that cause nuisance odors are subject to enforcement action by the SDAPCD. The SDAPCD responds to odor complaints by investigating the complaint determining whether the odor violated SDAPCD Rule 51. The inspector will take enforcement action if the source is not in compliance with SDAPCD rules and regulations and will inform the complainant of investigation results. In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors. Such means include shutdown of odor sources or requirements to control odors using add-on equipment.

Without controls, odors from the WWTP, if it is required, would result in a potentially significant impact related to objectionable odors affecting a substantial number of people. The following mitigation measure is prescribed to reduce odors associated with the potential WWTP:

AQ-4A: **WWTP Odor Controls.** The following measures shall be implemented to control odors if the WWTP is required as part of implementation of mitigation measure Util-2:

- As relevant, all WWTP facilities shall be designed to minimize odors, including the addition of water misting, chemical additives or activated carbon, as required.
- All WWTP facilities shall be covered or housed to avoid uncontrolled odor release.
- Active odor control units shall be located to manage gases from the wet and solids stream treatment processes.
- A misting system with odor neutralizing liquids to break down the foul-smelling chemical compounds in the biogases shall be installed.
- Bio filters shall be utilized to capture odor causing compounds in a media bed where they are oxidized by naturally occurring micro-organisms.

Implementation mitigation measure AQ-4A would ensure the odor control design for the facility would be such that no objectionable odors would be detected by nearby residences or other sensitive receptors. Additionally, disposal of biosolids at landfill sites could also contribute to odors and increase air emissions at these end-use facilities. However, the County would only allow facilities that have addressed all site-specific impacts. Therefore, this impact would be less than significant with mitigation.

7.4.2.2 Residential and Institutional Uses

The Update to the 2018 LRDP's residential and institutional land uses would not add any new operational odor sources, and any odors generated would be similar to existing odors associated with land uses in the area. The Update to the 2018 LRDP results in minor adjustments to the land use plan, but does not introduce any new land uses to the campus. The land uses associated with the Update to the 2018 LRDP would include institutional, research, residential, academic, and commercial, which are consistent with existing campus uses and land use designations and not typically large generators of odor emissions. As a result, operational activities associated with implementation of the Update to the 2018 LRDP would not create objectionable odors affecting a substantial number of people and the impact would be less than significant, consistent with the conclusion in the 2018 LRDP EIR.

8.0 LIST OF PREPARERS

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Appendix A

Emissions Modeling Outputs

Unmitigated Construction Summary

2030 Scenario Year

	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
West Campus	21.99	108.10	136.01	0.20	4.36	17.85	22.21	4.01	6.93	10.94
East Campus	30.63	110.55	154.73	0.20	4.37	21.26	25.63	4.02	7.75	11.77
SIO	6.72	54.91	62.11	0.10	2.33	5.71	8.05	2.15	2.63	4.77
Total	**59.34**	**273.56**	**352.84**	**0.50**	**11.06**	**44.82**	**55.89**	**10.19**	**17.30**	**27.48**
Thresholds	137	250	550	250			100			55

2040 Scenario Year

	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
West Campus	16.78	95.23	179.16	0.24	3.22	32.84	36.06	2.97	10.48	13.44
East Campus	26.14	86.63	130.52	0.21	3.19	19.78	22.97	2.93	7.40	10.33
SIO	13.32	73.22	98.58	0.15	2.80	13.08	15.88	2.57	5.91	8.48
Total	**56.24**	**255.08**	**408.26**	**0.60**	**9.20**	**65.71**	**74.91**	**8.47**	**23.79**	**32.26**
Thresholds	137	250	550	250			100			55

Maximum Daily	59.34	273.56	408.26	0.60	11.06	65.71	74.91	10.19	23.79	32.26
Thresholds	137	250	550	250			100			55
Significant Impact?	No	Yes	No	No			No			No

Mitigated Construction Summary

2030 Scenario Year

	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
West Campus	13.04	22.73	141.66	0.20	0.43	17.85	18.28	0.42	6.93	7.35
East Campus	21.68	25.18	160.37	0.20	0.44	21.26	21.70	0.43	7.75	8.18
SIO	1.88	11.12	62.22	0.10	0.23	5.71	5.94	0.23	2.63	2.85
Total	**36.60**	**59.02**	**364.25**	**0.50**	**1.09**	**44.82**	**45.92**	**1.08**	**17.30**	**18.38**
Thresholds	137	250	550	250			100			55

2040 Scenario Year

	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
West Campus	9.38	31.68	189.53	0.24	0.45	32.84	33.29	0.45	10.48	10.93
East Campus	18.74	23.08	140.89	0.21	0.42	19.78	20.20	0.41	7.40	7.81
SIO	6.81	16.34	100.87	0.15	0.33	13.08	13.41	0.33	5.91	6.24
Total	**34.94**	**71.11**	**431.29**	**0.60**	**1.20**	**65.71**	**66.90**	**1.19**	**23.79**	**24.98**
Thresholds	137	250	550	250			100			55

Maximum Daily	36.60	71.11	431.29	0.60	1.20	65.71	66.90	1.19	23.79	24.98
Thresholds	137	250	550	250			100			55
Significant Impact?	No	No	No	No			No			No

Operation Summary

2040 Scenario Year

	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
Area	256.67	-	896.25	0.04	0.63	-	0.63	0.47	-	0.47
Generators	2.52	16.19	39.88	0.01	0.45		0.45	0.43		0.43
Natural Gas	1.28	23.30	19.57	0.14	1.77	-	1.77	1.77	-	1.77
Mobile (Commuting)	204.73	129.10	1,572.90	4.48	2.06	476.67	478.72	1.92	120.84	122.76
Update to 2018 LRDP 2040 Operational Emissions	465.21	168.60	2,528.61	4.67	4.90	476.67	481.57	4.60	120.84	125.44
2018 LRDP 2035 Operational Emissions (AECOM Table 1	265.17	746.24	1,890.11	30.46			849.59			293.35
Net Change Attribuatble to Update to the 2018 LRDP	200.04	(577.64)	638.50	(25.79)	4.90	476.67	(368.02)	4.60	120.84	(167.91)
Thresholds	137	250	550	250			100			55
Substantial Increase?	Yes	No	Yes	No			No			No

2040 Scenario Year - with Mitigation

	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
Area	165.85	-	-	-	-	-	-	-	-	-
Generators	2.52	16.19	39.88	0.01	0.45	-	0.45	0.43	-	0.43
Natural Gas	1.28	23.30	19.57	0.14	1.77	-	1.77	1.77	-	1.77
Mobile (Commuting)	204.73	129.10	1,572.90	4.48	2.06	476.67	478.72	1.92	120.84	122.76
2040 Operational Emissions	374.39	168.60	1,632.35	4.63	4.27	476.67	480.94	4.13	120.84	124.97
2018 LRDP 2035 Operational Emissions (AECOM Table 1	265.17	746.24	1,890.11	30.46			849.59			293.35
Net Change Attribuatble to Update to the 2018 LRDP	109.22	(577.64)	(257.76)	(25.83)	4.27	476.67	(368.65)	4.13	120.84	(168.38)
Thresholds	137	250	550	250			100			55
Substantial Increase?	No	No	No	No			No			No

Future Generators

Near Term - 2030

Campus	Number of Engines	BHP	BkW	Potential Daily Operating Hrs (hr/engine)	Potential Operating Days per Year	Load Factor	Emissions (lbs/day)							MT
							ROG	NOX	CO	SOX	PM10	PM2.5	CO2e	CO2e/yr
SIO	0	780	500	0.3	26	0.73	-	-	-	-	-	-	-	-
East Campus	8	780	500	0.3	26	0.73	0.42	0.90	7.83	-	0.05	0.04	4,364.79	51.48
West Campus	17	780	500	0.3	26	0.73	0.90	1.92	16.65	-	0.10	0.09	9,275.18	109.39
						Total	**1.32**	**2.82**	**24.48**	**-**	**0.14**	**0.14**	**13,639.98**	**160.86**

Horizon - 2040

Campus	Number of Engines	BHP	BkW	Potential Daily Operating Hrs (hr/engine)	Potential Operating Days per Year	Load Factor	Emissions (lbs/day)							MT
							ROG	NOX	CO	SOX	PM10	PM2.5	CO2e	CO2e/yr
SIO	1	780	500	0.3	26	0.73	0.05	0.11	0.98	-	0.01	0.01	545.60	6.43
East Campus	5	780	500	0.3	26	0.73	0.26	0.56	4.90	-	0.03	0.03	2,728.00	32.17
West Campus	7	780	500	0.3	26	0.73	0.37	0.79	6.85	-	0.04	0.04	3,819.19	45.04
						Total	**0.69**	**1.47**	**12.73**	**-**	**0.07**	**0.07**	**7,092.79**	**83.65**

CalEEMod CO2e Emergency Generator Emission Factors		
Low HP	High HP	CO2e lb/hp-hr
300	600	3.194
750	9999	3.194

Tier 4f Emergency Generator Emission Factors (g/bhp-hr)				
kWh	ROG	NOX	CO	PM
<560	0.14	0.3	2.6	0.015
>560	0.14	0.5	2.6	0.022

Existing Generators

					Emission Factors (lbs/1,000 gal diesel or lbs/million cuft NG)						
Permit Number	Fuel Type	HP	Annual Fuel Usage (gal/yr for diesel million cuft/yr for NG)	Daily Fuel Usage (gal/day for diesel; million cuft/day for NG)	ROG	NOX	CO	SOX	PM10	PM2.5	CO2e Emission Factors (lbs/1,000 gal diesel or lbs/million cuft NG)
358	NG	228	0.1	0.001	120.36	416.16	323.34	0.60	10.19	9.88	120,248.22
360	DIESEL	550	30.7	0.307	6.28	119.00	38.60	0.21	5.79	5.62	22,473.00
599	DIESEL	398	17.5	0.175	5.47	104.00	86.90	0.21	5.79	5.62	22,473.00
860	DIESEL	685	36.3	0.363	6.11	116.00	35.40	0.21	5.79	5.62	22,383.85
877	DIESEL	1141	128	1.28	8.69	165.00	41.80	0.21	4.51	4.37	22,383.85
1035	DIESEL	237	10	0.1	4.32	108.00	34.50	0.21	3.88	3.76	22,473.00
1185	DIESEL	1490	64	0.64	10.90	190.00	22.40	0.21	3.88	3.76	22,383.85
1595	DIESEL	256	6.2	0.062	0.28	45.10	1.29	0.21	0.13	0.13	22,473.00
1596	DIESEL	433	18	0.18	0.28	54.70	0.64	0.21	0.06	0.06	22,473.00
1597	DIESEL	314	13	0.13	0.28	45.10	1.29	0.21	0.13	0.13	22,473.00
1598	DIESEL	314	13	0.13	0.28	45.10	1.29	0.21	0.13	0.13	22,473.00
1599	DIESEL	314	13	0.13	0.28	45.10	1.29	0.21	0.13	0.13	22,473.00
1600	DIESEL	314	12	0.12	0.28	45.10	1.29	0.21	0.13	0.13	22,473.00
1644	NG	195	1	0.01	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
2240	DIESEL	2206	330	3.3	11.20	213.00	19.00	0.21	1.29	1.25	22,383.85
2241	DIESEL	2206	287	2.87	11.20	213.00	19.00	0.21	1.29	1.25	22,383.85
3006	DIESEL	2937	287	2.87	1.29	163.00	4.32	0.21	0.43	0.42	22,383.85
3007	DIESEL	2937	290	2.9	1.29	163.00	4.32	0.21	0.43	0.42	22,383.85
3081	DIESEL	1220	58.5	0.585	9.49	172.00	19.40	0.21	3.02	2.93	22,383.85
3373	DIESEL	463	11.9	0.119	1.60	122.00	29.00	0.21	3.54	3.43	22,473.00
3445	DIESEL	5646	509	5.09	9.49	189.00	44.50	0.21	2.16	2.10	22,383.85
3462	DIESEL	315	8.1	0.081	3.45	107.00	19.40	0.21	3.02	2.93	22,473.00
3463	DIESEL	538	12.3	0.123	3.45	107.00	19.40	0.21	3.02	2.93	22,473.00
3464	DIESEL	538	14.7	0.147	3.45	107.00	19.40	0.21	3.02	2.93	22,473.00
3465	DIESEL	538	14.4	0.144	3.45	107.00	19.40	0.21	3.02	2.93	22,473.00
3498	DIESEL	923	57.6	0.576	3.45	163.00	25.90	0.21	2.24	2.17	22,383.85
3518	DIESEL	923	50.4	0.504	3.54	163.00	25.80	0.21	2.24	2.17	22,383.85
3519	DIESEL	1214	40.6	0.406	1.29	224.00	9.93	0.21	0.86	0.83	22,383.85
4015	DIESEL	1114	55.9	0.559	3.22	170.00	41.80	0.21	4.18	4.05	22,383.85
4305	DIESEL	609	40	0.4	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
960488	DIESEL	195	9.4	0.094	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
960494	DIESEL	50	2.2	0.022	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972338	DIESEL	2168	101	1.01	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972339	DIESEL	535	21.5	0.215	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972341	DIESEL	535	22.7	0.227	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972343	DIESEL	830	27.8	0.278	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972345	DIESEL	158	6.7	0.067	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972346	DIESEL	100	5.3	0.053	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972347	DIESEL	1232	48.1	0.481	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972348	DIESEL	150	9.5	0.095	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972349	DIESEL	890	34.7	0.347	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972350	DIESEL	1447	16.1	0.161	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972351	DIESEL	890	23.3	0.233	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972352	DIESEL	890	0	0	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972353	DIESEL	2168	120	1.2	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972354	DIESEL	463	18.8	0.188	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
972355	DIESEL	749	29.2	0.292	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
972849	DIESEL	605	25.3	0.253	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
975498	DIESEL	68	4.2	0.042	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
975499	DIESEL	102	4	0.04	52.09	604.30	130.18	0.21	42.48	42.48	22,473.00
976415	DIESEL	347	14.9	0.149	19.10	281.00	51.80	0.21	4.32	4.19	22,473.00
976883	DIESEL	2172	72.7	0.727	11.40	270.00	54.70	0.21	14.50	14.07	22,383.85
977348	DIESEL	2534	40	0.4	11.40	267.00	38.60	0.21	4.18	4.05	22,383.85
977380	DIESEL	823	32	0.32	2.84	248.00	41.80	0.21	6.11	5.93	22,383.85

Permit Number	Fuel Type	HP	Annual Fuel Usage (gal/yr for diesel million cuft/yr for NG)	Daily Fuel Usage (gal/day for diesel; million cuft/day for NG)	Emission Factors (lbs/1,000 gal diesel or lbs/million cuft NG) ROG	NOX	CO	SOX	PM10	PM2.5	CO2e Emission Factors (lbs/1,000 gal diesel or lbs/million cuft NG)
978480	DIESEL	1480	63.5	0.635	11.40	254.00	25.80	0.21	6.76	6.56	22,383.85
978745	DIESEL	1501	50	0.5	11.40	254.00	25.80	0.21	6.76	6.56	22,383.85
979277	DIESEL	166	4.3	0.043	52.09	251.00	130.18	0.21	42.48	42.48	22,473.00
980924	DIESEL	1114	43.5	0.435	11.40	248.00	41.80	0.21	6.11	5.93	22,383.85
981264	DIESEL	317	14.1	0.141	5.34	158.00	20.30	0.21	6.04	5.86	22,473.00
982217	DIESEL	470	15.6	0.156	8.53	162.00	32.20	0.21	4.51	4.37	22,473.00
983815	DIESEL	2922	97.7	0.977	5.69	264.00	41.80	0.21	4.18	4.05	22,383.85
983817	DIESEL	385	9.1	0.091	5.79	110.00	16.10	0.21	3.86	3.74	22,473.00
983850	DIESEL	158	3.9	0.039	5.47	104.00	48.30	0.21	8.05	7.81	22,473.00
984277	DIESEL	364	15.2	0.152	6.47	123.00	112.00	0.21	6.47	6.28	22,473.00
985269	DIESEL	1502	31.1	0.311	8.69	165.00	51.50	0.21	4.18	4.05	22,383.85
987516	DIESEL	158	0	0	5.47	104.00	48.30	0.21	8.05	7.81	22,473.00
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
	DIESEL	744	109.5	1.095	10.90	438.50	116.48	0.21	7.85	7.62	22,383.85
Total											

Sources:

https://www.sdapcd.org/content/sdapcd/permits/toxics-emissions/calculation-procedures.html#v1-2f8774f98a-item-973b5e6814

https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors-stationary-sources

Existing Generato

	Emissions (lbs/day)							Emissions (tpy)						
Permit Number	ROG	NOX	CO	SOX	PM10	PM2.5	CO2e Emissions (lbs/day)	ROG	NOX	CO	SOX	PM10	PM2.5	MT CO2e per year
358	0.120	0.416	0.323	0.001	0.010	0.010	120.248	0.01	0.02	0.02	0.00	0.00	0.00	5.45
360	0.002	0.037	0.012	0.000	0.002	0.002	6.899	0.00	0.00	0.00	0.00	0.00	0.00	0.31
599	0.001	0.018	0.015	0.000	0.001	0.001	3.933	0.00	0.00	0.00	0.00	0.00	0.00	0.18
860	0.002	0.042	0.013	0.000	0.002	0.002	8.125	0.00	0.00	0.00	0.00	0.00	0.00	0.37
877	0.011	0.211	0.054	0.000	0.006	0.006	28.651	0.00	0.01	0.00	0.00	0.00	0.00	1.30
1035	0.000	0.011	0.003	0.000	0.000	0.000	2.247	0.00	0.00	0.00	0.00	0.00	0.00	0.10
1185	0.007	0.122	0.014	0.000	0.002	0.002	14.326	0.00	0.01	0.00	0.00	0.00	0.00	0.65
1595	0.000	0.003	0.000	0.000	0.000	0.000	1.393	0.00	0.00	0.00	0.00	0.00	0.00	0.06
1596	0.000	0.010	0.000	0.000	0.000	0.000	4.045	0.00	0.00	0.00	0.00	0.00	0.00	0.18
1597	0.000	0.006	0.000	0.000	0.000	0.000	2.921	0.00	0.00	0.00	0.00	0.00	0.00	0.13
1598	0.000	0.006	0.000	0.000	0.000	0.000	2.921	0.00	0.00	0.00	0.00	0.00	0.00	0.13
1599	0.000	0.006	0.000	0.000	0.000	0.000	2.921	0.00	0.00	0.00	0.00	0.00	0.00	0.13
1600	0.000	0.005	0.000	0.000	0.000	0.000	2.697	0.00	0.00	0.00	0.00	0.00	0.00	0.12
1644	0.001	0.006	0.001	0.000	0.000	0.000	0.225	0.00	0.00	0.00	0.00	0.00	0.00	0.01
2240	0.037	0.703	0.063	0.001	0.004	0.004	73.867	0.00	0.04	0.00	0.00	0.00	0.00	3.35
2241	0.032	0.611	0.055	0.001	0.004	0.004	64.242	0.00	0.03	0.00	0.00	0.00	0.00	2.91
3006	0.004	0.468	0.012	0.001	0.001	0.001	64.242	0.00	0.02	0.00	0.00	0.00	0.00	2.91
3007	0.004	0.473	0.013	0.001	0.001	0.001	64.913	0.00	0.02	0.00	0.00	0.00	0.00	2.94
3081	0.006	0.101	0.011	0.000	0.002	0.002	13.095	0.00	0.01	0.00	0.00	0.00	0.00	0.59
3373	0.000	0.015	0.003	0.000	0.000	0.000	2.674	0.00	0.00	0.00	0.00	0.00	0.00	0.12
3445	0.048	0.962	0.227	0.001	0.011	0.011	113.934	0.00	0.05	0.01	0.00	0.00	0.00	5.17
3462	0.000	0.009	0.002	0.000	0.000	0.000	1.820	0.00	0.00	0.00	0.00	0.00	0.00	0.08
3463	0.000	0.013	0.002	0.000	0.000	0.000	2.764	0.00	0.00	0.00	0.00	0.00	0.00	0.13
3464	0.001	0.016	0.003	0.000	0.000	0.000	3.304	0.00	0.00	0.00	0.00	0.00	0.00	0.15
3465	0.000	0.015	0.003	0.000	0.000	0.000	3.236	0.00	0.00	0.00	0.00	0.00	0.00	0.15
3498	0.002	0.094	0.015	0.000	0.001	0.001	12.893	0.00	0.00	0.00	0.00	0.00	0.00	0.58
3518	0.002	0.082	0.013	0.000	0.001	0.001	11.281	0.00	0.00	0.00	0.00	0.00	0.00	0.51
3519	0.001	0.091	0.004	0.000	0.000	0.000	9.088	0.00	0.00	0.00	0.00	0.00	0.00	0.41
4015	0.002	0.095	0.023	0.000	0.002	0.002	12.513	0.00	0.00	0.00	0.00	0.00	0.00	0.57
4305	0.004	0.175	0.047	0.000	0.003	0.003	8.954	0.00	0.01	0.00	0.00	0.00	0.00	0.41
960488	0.005	0.057	0.012	0.000	0.004	0.004	2.112	0.00	0.00	0.00	0.00	0.00	0.00	0.10
960494	0.001	0.013	0.003	0.000	0.001	0.001	0.494	0.00	0.00	0.00	0.00	0.00	0.00	0.02
972338	0.011	0.443	0.118	0.000	0.008	0.008	22.608	0.00	0.02	0.01	0.00	0.00	0.00	1.03
972339	0.011	0.130	0.028	0.000	0.009	0.009	4.832	0.00	0.01	0.00	0.00	0.00	0.00	0.22
972341	0.012	0.137	0.030	0.000	0.010	0.010	5.101	0.00	0.01	0.00	0.00	0.00	0.00	0.23
972343	0.003	0.122	0.032	0.000	0.002	0.002	6.223	0.00	0.01	0.00	0.00	0.00	0.00	0.28
972345	0.003	0.040	0.009	0.000	0.003	0.003	1.506	0.00	0.00	0.00	0.00	0.00	0.00	0.07
972346	0.003	0.032	0.007	0.000	0.002	0.002	1.191	0.00	0.00	0.00	0.00	0.00	0.00	0.05
972347	0.005	0.211	0.056	0.000	0.004	0.004	10.767	0.00	0.01	0.00	0.00	0.00	0.00	0.49
972348	0.005	0.057	0.012	0.000	0.004	0.004	2.135	0.00	0.00	0.00	0.00	0.00	0.00	0.10
972349	0.004	0.152	0.040	0.000	0.003	0.003	7.767	0.00	0.01	0.00	0.00	0.00	0.00	0.35
972350	0.002	0.071	0.019	0.000	0.001	0.001	3.604	0.00	0.00	0.00	0.00	0.00	0.00	0.16
972351	0.003	0.102	0.027	0.000	0.002	0.002	5.215	0.00	0.01	0.00	0.00	0.00	0.00	0.24
972352	-	-	-	-	-	-	-	-	-	-	-	-	-	-
972353	0.013	0.526	0.140	0.000	0.009	0.009	26.861	0.00	0.03	0.01	0.00	0.00	0.00	1.22
972354	0.010	0.114	0.024	0.000	0.008	0.008	4.225	0.00	0.01	0.00	0.00	0.00	0.00	0.19
972355	0.003	0.128	0.034	0.000	0.002	0.002	6.536	0.00	0.01	0.00	0.00	0.00	0.00	0.30
972849	0.003	0.111	0.029	0.000	0.002	0.002	5.663	0.00	0.01	0.00	0.00	0.00	0.00	0.26
975498	0.002	0.025	0.005	0.000	0.002	0.002	0.944	0.00	0.00	0.00	0.00	0.00	0.00	0.04
975499	0.002	0.024	0.005	0.000	0.002	0.002	0.899	0.00	0.00	0.00	0.00	0.00	0.00	0.04
976415	0.003	0.042	0.008	0.000	0.001	0.001	3.348	0.00	0.00	0.00	0.00	0.00	0.00	0.15
976883	0.008	0.196	0.040	0.000	0.011	0.010	16.273	0.00	0.01	0.00	0.00	0.00	0.00	0.74
977348	0.005	0.107	0.015	0.000	0.002	0.002	8.954	0.00	0.01	0.00	0.00	0.00	0.00	0.41
977380	0.001	0.079	0.013	0.000	0.002	0.002	7.163	0.00	0.00	0.00	0.00	0.00	0.00	0.32

	Emissions (lbs/day)							Emissions (tpy)						
Permit Number	ROG	NOX	CO	SOX	PM10	PM2.5	CO2e Emissions (lbs/day)	ROG	NOX	CO	SOX	PM10	PM2.5	MT CO2e per year
978480	0.007	0.161	0.016	0.000	0.004	0.004	14.214	0.00	0.01	0.00	0.00	0.00	0.00	0.64
978745	0.006	0.127	0.013	0.000	0.003	0.003	11.192	0.00	0.01	0.00	0.00	0.00	0.00	0.51
979277	0.002	0.011	0.006	0.000	0.002	0.002	0.966	0.00	0.00	0.00	0.00	0.00	0.00	0.04
980924	0.005	0.108	0.018	0.000	0.003	0.003	9.737	0.00	0.01	0.00	0.00	0.00	0.00	0.44
981264	0.001	0.022	0.003	0.000	0.001	0.001	3.169	0.00	0.00	0.00	0.00	0.00	0.00	0.14
982217	0.001	0.025	0.005	0.000	0.001	0.001	3.506	0.00	0.00	0.00	0.00	0.00	0.00	0.16
983815	0.006	0.258	0.041	0.000	0.004	0.004	21.869	0.00	0.01	0.00	0.00	0.00	0.00	0.99
983817	0.001	0.010	0.001	0.000	0.000	0.000	2.045	0.00	0.00	0.00	0.00	0.00	0.00	0.09
983850	0.000	0.004	0.002	0.000	0.000	0.000	0.876	0.00	0.00	0.00	0.00	0.00	0.00	0.04
984277	0.001	0.019	0.017	0.000	0.001	0.001	3.416	0.00	0.00	0.00	0.00	0.00	0.00	0.15
985269	0.003	0.051	0.016	0.000	0.001	0.001	6.961	0.00	0.00	0.00	0.00	0.00	0.00	0.32
987516	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
	0.012	0.480	0.128	0.000	0.009	0.008	24.510	0.00	0.02	0.01	0.00	0.00	0.00	1.11
Total	**0.521**	**11.899**	**2.670**	**0.009**	**0.231**	**0.226**	**1,068.317**	**0.026**	**0.595**	**0.134**	**0.000**	**0.012**	**0.011**	**48.458**

Sources:

https://www.sdapcd

https://www.epa.g

Criteria Pollutant Emissions - CalEEMod Summary

2040 Unmitigated	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
Mobile	205	129	1,573	4	2	477	479	2	121	123
Area	257	-	896	0	1	-	1	0	-	0
Energy	1	23	20	0	2	-	2	2	-	2
Total	**463**	**152**	**2,489**	**5**	**4**	**477**	**481**	**4**	**121**	**125**

2040 Mitigated	ROG	NO_X	CO	SO_2	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$
Mobile	205	129	1,573	4	2	477	479	2	121	123
Area	166	-	-	-	-	-	-	-	-	-
Energy	1	23	20	0	2	-	2	2	-	2
Total	**372**	**152**	**1,592**	**5**	**4**	**477**	**480**	**4**	**121**	**125**

UCSD LRDP Update 2040 Scenario Operation Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update 2040 Scenario Operation
Operational Year	2040
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	9500 Gilman Dr, La Jolla, CA 92093, USA
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	12,700	Dwelling Unit	334	5,245,000	0.00	—	12,700	—
Hotel	350	Room	11.7	310,000	0.00	—	—	—

University/College (4yr)	8,999	Student	38.0	3,047,000	0.00	0.00	—	—
Medical Office Building	600	1000sqft	13.8	600,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment

2. Emissions Summary

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	222	205	117	1,573	4.48	2.06	477	479	1.92	121	123	—	455,500	455,500	16.3	15.9	233	460,885
Area	263	257	8.10	896	0.04	0.63	—	0.63	0.47	—	0.47	0.00	2,634	2,634	0.11	0.02	—	2,643
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	487	463	148	2,489	4.66	4.45	477	481	4.17	121	125	0.00	1,013,722	1,013,722	122	28.4	782	1,026,019
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	221	204	129	1,467	4.27	2.06	477	479	1.92	121	123	—	434,768	434,768	17.1	16.9	6.03	440,229

Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	389	371	152	1,486	4.41	3.83	477	480	3.70	121	125	0.00	990,357	990,357	122	29.4	555	1,002,719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	149	138	86.9	1,008	2.95	1.41	323	325	1.32	82.0	83.3	—	299,933	299,933	11.5	11.4	68.8	303,697
Area	214	211	3.99	442	0.02	0.31	—	0.31	0.23	—	0.23	0.00	1,299	1,299	0.05	0.01	—	1,304
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	365	349	114	1,469	3.11	3.49	323	327	3.32	82.0	85.3	0.00	856,820	856,820	117	23.9	618	867,491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.3	25.1	15.9	184	0.54	0.26	59.0	59.3	0.24	15.0	15.2	—	49,657	49,657	1.91	1.89	11.4	50,280
Area	39.0	38.4	0.73	80.7	< 0.005	0.06	—	0.06	0.04	—	0.04	0.00	215	215	0.01	< 0.005	—	216
Energy	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	91,984	91,984	17.4	2.07	—	93,036
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	90.9
Total	66.7	63.8	20.8	268	0.57	0.64	59.0	59.6	0.61	15.0	15.6	0.00	141,856	141,856	19.3	3.96	102	143,623

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	222	205	117	1,573	4.48	2.06	477	479	1.92	121	123	—	455,500	455,500	16.3	15.9	233	460,885
Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,801	555,801	105	12.5	—	562,156
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	390	372	140	1,592	4.62	3.83	477	480	3.69	121	125	0.00	1,011,301	1,011,301	121	28.4	782	1,023,591
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	221	204	129	1,467	4.27	2.06	477	479	1.92	121	123	—	434,768	434,768	17.1	16.9	6.03	440,229
Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	389	371	152	1,486	4.41	3.83	477	480	3.70	121	125	0.00	990,357	990,357	122	29.4	555	1,002,719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	149	138	86.9	1,008	2.95	1.41	323	325	1.32	82.0	83.3	—	299,933	299,933	11.5	11.4	68.8	303,697
Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,693	555,693	105	12.5	—	562,047
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	318	305	110	1,027	3.09	3.18	323	326	3.09	82.0	85.0	0.00	855,626	855,626	117	23.9	618	866,293

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.3	25.1	15.9	184	0.54	0.26	59.0	59.3	0.24	15.0	15.2	—	49,657	49,657	1.91	1.89	11.4	50,280
Area	30.3	30.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	92,001	92,001	17.4	2.07	—	93,053
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	90.9
Total	58.0	55.6	20.1	187	0.56	0.58	59.0	59.6	0.56	15.0	15.5	0.00	141,659	141,659	19.3	3.96	102	143,425

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	87,381	87,381	17.0	2.06	—	88,420
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	87,381	87,381	17.0	2.06	—	88,420

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	4,603	4,603	0.41	0.01	—	4,616
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	4,603	4,603	0.41	0.01	—	4,616

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	96.7	90.8	8.10	896	0.04	0.63	—	0.63	0.47	—	0.47	—	2,634	2,634	0.11	0.02	—	2,643
Total	263	257	8.10	896	0.04	0.63	—	0.63	0.47	—	0.47	0.00	2,634	2,634	0.11	0.02	—	2,643

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	27.7	27.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.56	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	8.70	8.17	0.73	80.7	< 0.005	0.06	—	0.06	0.04	—	0.04	—	215	215	0.01	< 0.005	—	216
Total	39.0	38.4	0.73	80.7	< 0.005	0.06	—	0.06	0.04	—	0.04	0.00	215	215	0.01	< 0.005	—	216

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	27.7	27.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.56	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	30.3	30.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.6	37.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	485	485
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	11.8
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.3	15.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.6	37.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	485	485
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	11.8
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.3	15.3

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.22	6.22
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80.2	80.2
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.95	1.95
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.54	2.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	90.9

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	83,043	0.00	0.00	20,760,682	675,731	0.00	0.00	168,932,815

5.10. Operational Area Sources

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10621125	3,540,375	5,935,500	1,978,500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	0.00	170	0.0330	0.0040	0.00
Hotel	0.00	170	0.0330	0.0040	0.00
University/College (4yr)	1,135,614,740	170	0.0330	0.0040	86,759,000
Medical Office Building	0.00	170	0.0330	0.0040	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
University/College (4yr)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
University/College (4yr)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
University/College (4yr)	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
University/College (4yr)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

8. User Changes to Default Data

Screen	Justification
Land Use	Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Operations: Hearths	No hearths
Operations: Energy Use	Electricity and NG from UCDS Decarb Report (Salas O'Brien 2024)
Operations: Water and Waste Water	Water consumption calculated outside CalEEMod
Operations: Solid Waste	Solid waste emissions calculated outside CalEEMod
Operations: Consumer Products	San Diego County specific general category EF (AECOM 2018).

UCSD LRDP Update East Campus 2030 Scenario Construction Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update East Campus 2030 Scenario Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.87819463071624, -117.22354583325222
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6908
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	1,150	Dwelling Unit	30.3	593,750	0.00	—	1,150	—

University/College (4yr)	132	Student	0.56	7,500	0.00	0.00	—	—
Medical Office Building	45.0	1000sqft	1.03	45,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	33.3	30.6	110	155	0.20	4.37	21.3	25.6	4.02	7.75	11.8	—	32,934	32,934	1.41	0.98	47.1	33,308
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	33.2	30.6	111	149	0.20	4.37	21.3	25.6	4.02	7.75	11.8	—	32,363	32,363	1.46	1.01	1.22	32,701
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	23.7	21.8	79.0	107	0.15	3.13	15.1	18.2	2.88	5.52	8.39	—	23,203	23,203	1.02	0.72	14.5	23,458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.32	3.98	14.4	19.5	0.03	0.57	2.76	3.33	0.53	1.01	1.53	—	3,842	3,842	0.17	0.12	2.41	3,884

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	22.2	21.7	24.6	160	0.20	0.44	21.3	21.7	0.43	7.75	8.18	—	32,934	32,934	1.41	0.98	47.1	33,308
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	22.2	21.6	25.2	154	0.20	0.44	21.3	21.7	0.43	7.75	8.18	—	32,363	32,363	1.46	1.01	1.22	32,701
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	15.8	15.4	18.0	111	0.15	0.31	15.1	15.4	0.31	5.52	5.83	—	23,203	23,203	1.02	0.72	14.5	23,458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.88	2.81	3.28	20.2	0.03	0.06	2.76	2.82	0.06	1.01	1.06	—	3,842	3,842	0.17	0.12	2.41	3,884

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.04	1.71	15.9	14.2	0.02	0.66	—	0.66	0.60	—	0.60	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.90	2.60	< 0.005	0.12	—	0.12	0.11	—	0.11	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.03	13.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	< 0.005	13.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.86	8.86	< 0.005	< 0.005	0.01	9.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.03	13.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	< 0.005	13.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.86	8.86	< 0.005	< 0.005	0.01	9.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.82	2.37	22.6	21.6	0.03	0.98	—	0.98	0.90	—	0.90	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.13	3.94	0.01	0.18	—	0.18	0.16	—	0.16	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.29	21.2	20.2	0.04	0.88	—	0.88	0.81	—	0.81	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.87	3.69	0.01	0.16	—	0.16	0.15	—	0.15	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.81	7.47	9.32	0.02	0.31	—	0.31	0.28	—	0.28	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.71	3.41	2.59	39.2	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	8,022	8,022	0.37	0.28	30.1	8,145

Vendor	0.28	0.13	4.38	2.03	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,292	3,292	0.15	0.47	8.54	3,443
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	3.35	2.88	34.3	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	7,575	7,575	0.41	0.30	0.78	7,675
Vendor	0.28	0.13	4.55	2.09	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,294	3,294	0.15	0.47	0.22	3,436
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.58	2.37	2.05	24.9	0.00	0.00	5.05	5.05	0.00	1.18	1.18	—	5,465	5,465	0.28	0.21	9.29	5,545
Vendor	0.20	0.09	3.23	1.47	0.02	0.03	0.60	0.63	0.03	0.16	0.20	—	2,355	2,355	0.10	0.33	2.65	2,459
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.43	0.37	4.54	0.00	0.00	0.92	0.92	0.00	0.22	0.22	—	905	905	0.05	0.04	1.54	918
Vendor	0.04	0.02	0.59	0.27	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	390	390	0.02	0.06	0.44	407
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.24	2.02	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.71	3.41	2.59	39.2	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	8,022	8,022	0.37	0.28	30.1	8,145
Vendor	0.28	0.13	4.38	2.03	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,292	3,292	0.15	0.47	8.54	3,443
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	3.35	2.88	34.3	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	7,575	7,575	0.41	0.30	0.78	7,675
Vendor	0.28	0.13	4.55	2.09	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,294	3,294	0.15	0.47	0.22	3,436
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	2.58	2.37	2.05	24.9	0.00	0.00	5.05	5.05	0.00	1.18	1.18	—	5,465	5,465	0.28	0.21	9.29	5,545
Vendor	0.20	0.09	3.23	1.47	0.02	0.03	0.60	0.63	0.03	0.16	0.20	—	2,355	2,355	0.10	0.33	2.65	2,459
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.43	0.37	4.54	0.00	0.00	0.92	0.92	0.00	0.22	0.22	—	905	905	0.05	0.04	1.54	918
Vendor	0.04	0.02	0.59	0.27	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	390	390	0.02	0.06	0.44	407
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.68	0.57	5.33	7.14	0.01	0.25	—	0.25	0.23	—	0.23	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.97	1.30	< 0.005	0.05	—	0.05	0.04	—	0.04	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	0.82	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	10.8	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	1.98	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.68	0.52	7.83	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,604	1,604	0.07	0.06	6.02	1,629
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.67	0.58	6.86	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,515	1,515	0.08	0.06	0.16	1,535
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.47	0.41	4.98	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	1,093	1,093	0.06	0.04	1.86	1,109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.91	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	181	181	0.01	0.01	0.31	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	10.8	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	1.98	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.68	0.52	7.83	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,604	1,604	0.07	0.06	6.02	1,629
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.67	0.58	6.86	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,515	1,515	0.08	0.06	0.16	1,535
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.47	0.41	4.98	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	1,093	1,093	0.06	0.04	1.86	1,109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.91	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	181	181	0.01	0.01	0.31	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	12/31/2025	5.00	261	—
Site Preparation	Site Preparation	1/1/2025	12/31/2025	5.00	261	—
Grading	Grading	1/1/2025	12/31/2025	5.00	261	—
Building Construction	Building Construction	1/1/2025	12/31/2025	5.00	261	—
Paving	Paving	1/1/2025	12/31/2025	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.17	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	846	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	132	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	169	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.17	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	846	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	132	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	169	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	1,202,344	400,781	78,750	26,250	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,845	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
University/College (4yr)	0.00	0%
Medical Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update East Campus 2040 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update East Campus 2040 Scenario Construction
Construction Start Date	1/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.87819463071624, -117.22354583325222
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6908
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	750	Dwelling Unit	19.7	281,250	0.00	—	750	—

Hotel	53.0	Room	1.77	76,956	0.00	—	—	—
University/College (4yr)	498	Student	2.10	168,750	0.00	0.00	—	—
Medical Office Building	150	1000sqft	3.44	150,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	28.1	26.1	86.2	131	0.21	3.19	19.8	23.0	2.93	7.40	10.3	—	30,348	30,348	1.01	0.92	24.8	30,672
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	28.1	26.1	86.6	127	0.21	3.19	19.8	23.0	2.93	7.40	10.3	—	29,920	29,920	1.03	0.92	0.64	30,221
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	20.1	18.6	61.8	90.8	0.15	2.28	14.1	16.3	2.10	5.27	7.37	—	21,441	21,441	0.74	0.66	7.65	21,663
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	3.66	3.40	11.3	16.6	0.03	0.42	2.57	2.98	0.38	0.96	1.35	—	3,550	3,550	0.12	0.11	1.27	3,587

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	18.7	22.6	141	0.21	0.42	19.8	20.2	0.41	7.40	7.81	—	30,348	30,348	1.01	0.92	24.8	30,672
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	18.7	23.1	137	0.21	0.42	19.8	20.2	0.41	7.40	7.81	—	29,920	29,920	1.03	0.92	0.64	30,221
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	13.5	13.4	16.3	98.2	0.15	0.30	14.1	14.4	0.30	5.27	5.57	—	21,441	21,441	0.74	0.66	7.65	21,663
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.46	2.44	2.98	17.9	0.03	0.05	2.57	2.62	0.05	0.96	1.02	—	3,550	3,550	0.12	0.11	1.27	3,587

3. Construction Emissions Details

3.1. Demolition (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.78	1.49	13.0	13.4	0.02	0.51	—	0.51	0.47	—	0.47	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.37	2.44	< 0.005	0.09	—	0.09	0.09	—	0.09	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	< 0.005	11.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.13	8.13	< 0.005	< 0.005	0.01	8.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41

3.2. Demolition (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	< 0.005	11.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.13	8.13	< 0.005	< 0.005	0.01	8.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41

3.3. Site Preparation (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.0	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.29	3.71	0.01	0.14	—	0.14	0.13	—	0.13	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.94	15.5	19.2	0.04	0.63	—	0.63	0.58	—	0.58	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	2.83	3.50	0.01	0.12	—	0.12	0.11	—	0.11	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.00	9.21	0.02	0.19	—	0.19	0.17	—	0.17	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.10	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.19	1.48	23.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,996	5,996	0.09	0.23	14.9	6,081

Vendor	0.22	0.12	3.80	1.85	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,198	3,198	0.11	0.46	5.37	3,343
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.18	1.70	20.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,664	5,664	0.11	0.23	0.39	5,735
Vendor	0.22	0.11	3.95	1.91	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,201	3,201	0.11	0.46	0.14	3,342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.57	1.54	1.08	15.0	0.00	0.00	4.13	4.13	0.00	0.97	0.97	—	4,086	4,086	0.08	0.16	4.61	4,141
Vendor	0.16	0.08	2.81	1.34	0.02	0.02	0.66	0.67	0.02	0.18	0.20	—	2,288	2,288	0.08	0.33	1.66	2,390
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.28	0.20	2.74	0.00	0.00	0.75	0.75	0.00	0.18	0.18	—	676	676	0.01	0.03	0.76	686
Vendor	0.03	0.01	0.51	0.25	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.04	—	379	379	0.01	0.06	0.28	396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	2.01	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.19	1.48	23.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,996	5,996	0.09	0.23	14.9	6,081
Vendor	0.22	0.12	3.80	1.85	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,198	3,198	0.11	0.46	5.37	3,343
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.18	1.70	20.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,664	5,664	0.11	0.23	0.39	5,735
Vendor	0.22	0.11	3.95	1.91	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,201	3,201	0.11	0.46	0.14	3,342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.57	1.54	1.08	15.0	0.00	0.00	4.13	4.13	0.00	0.97	0.97	—	4,086	4,086	0.08	0.16	4.61	4,141
Vendor	0.16	0.08	2.81	1.34	0.02	0.02	0.66	0.67	0.02	0.18	0.20	—	2,288	2,288	0.08	0.33	1.66	2,390
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.28	0.20	2.74	0.00	0.00	0.75	0.75	0.00	0.18	0.18	—	676	676	0.01	0.03	0.76	686
Vendor	0.03	0.01	0.51	0.25	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.04	—	379	379	0.01	0.06	0.28	396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.55	0.46	4.49	7.08	0.01	0.16	—	0.16	0.14	—	0.14	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.82	1.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.56	0.79	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	9.85	9.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	1.80	1.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.30	4.75	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,199	1,199	0.02	0.05	2.98	1,216
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.34	4.16	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,133	1,133	0.02	0.05	0.08	1,147
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.31	0.22	3.00	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	817	817	0.02	0.03	0.92	828
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.55	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	135	135	< 0.005	0.01	0.15	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	9.85	9.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	1.80	1.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.30	4.75	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,199	1,199	0.02	0.05	2.98	1,216
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.34	4.16	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,133	1,133	0.02	0.05	0.08	1,147
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.31	0.22	3.00	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	817	817	0.02	0.03	0.92	828
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.55	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	135	135	< 0.005	0.01	0.15	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2030	12/31/2030	5.00	261	—
Site Preparation	Site Preparation	1/1/2030	12/31/2030	5.00	261	—
Grading	Grading	1/1/2030	12/31/2030	5.00	261	—
Building Construction	Building Construction	1/1/2030	12/31/2030	5.00	261	—
Paving	Paving	1/1/2030	12/31/2030	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2030	12/31/2030	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.18	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	691	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	145	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	138	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.18	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	691	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	145	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	138	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	569,531	189,844	593,559	197,853	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	4,031	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Hotel	0.00	0%
University/College (4yr)	0.00	0%
Medical Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO_2	CH_4	N_2O
2030	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update SIO 2030 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update SIO 2030 Scenario Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.8686233286696, -117.24976706916924
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6320
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Research & Development	3.75	1000sqft	0.09	3,750	0.00	—	—	—

University/College (4yr)	441	Student	1.86	25,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	7.91	6.72	54.9	62.1	0.10	2.33	5.71	8.05	2.15	2.63	4.77	—	10,594	10,594	0.43	0.12	2.32	10,641
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	7.90	6.72	54.9	61.8	0.10	2.33	5.71	8.05	2.15	2.63	4.77	—	10,564	10,564	0.44	0.12	0.06	10,610
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.65	4.80	39.3	44.2	0.07	1.67	4.08	5.75	1.54	1.88	3.41	—	7,557	7,557	0.31	0.08	0.72	7,590
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.03	0.88	7.17	8.07	0.01	0.30	0.74	1.05	0.28	0.34	0.62	—	1,251	1,251	0.05	0.01	0.12	1,257

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.93	1.88	11.1	62.2	0.10	0.23	5.71	5.94	0.23	2.63	2.85	—	10,594	10,594	0.43	0.12	2.32	10,641
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.93	1.87	11.1	61.9	0.10	0.23	5.71	5.94	0.23	2.63	2.85	—	10,564	10,564	0.44	0.12	0.06	10,610
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.38	1.34	7.95	44.3	0.07	0.16	4.08	4.24	0.16	1.88	2.04	—	7,557	7,557	0.31	0.08	0.72	7,590
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.25	0.24	1.45	8.08	0.01	0.03	0.74	0.77	0.03	0.34	0.37	—	1,251	1,251	0.05	0.01	0.12	1,257

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	1.47	13.9	15.1	0.02	0.57	—	0.57	0.52	—	0.52	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	1.47	13.9	15.1	0.02	0.57	—	0.57	0.52	—	0.52	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.25	1.05	9.96	10.8	0.02	0.41	—	0.41	0.37	—	0.37	—	1,783	1,783	0.07	0.01	—	1,789
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.82	1.97	< 0.005	0.07	—	0.07	0.07	—	0.07	—	295	295	0.01	< 0.005	—	296
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	2.27	14.6	0.02	0.05	—	0.05	0.05	—	0.05	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	2.27	14.6	0.02	0.05	—	0.05	0.05	—	0.05	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	1.62	10.4	0.02	0.03	—	0.03	0.03	—	0.03	—	1,783	1,783	0.07	0.01	—	1,789
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.30	1.90	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.66	8.68	0.01	0.40	—	0.40	0.37	—	0.37	—	1,476	1,476	0.06	0.01	—	1,481
Dust From Material Movement	—	—	—	—	—	—	1.75	1.75	—	0.84	0.84	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.58	1.58	< 0.005	0.07	—	0.07	0.07	—	0.07	—	244	244	0.01	< 0.005	—	245
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	71.2	71.2	< 0.005	< 0.005	0.27	72.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.01	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.5	48.5	< 0.005	< 0.005	0.08	49.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,065	2,065	0.08	0.02	—	2,072

Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.14	0.72	8.49	0.01	0.03	—	0.03	0.03	—	0.03	—	1,476	1,476	0.06	0.01	—	1,481
Dust From Material Movement	—	—	—	—	—	—	1.75	1.75	—	0.84	0.84	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.13	1.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	244	244	0.01	< 0.005	—	245
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	71.2	71.2	< 0.005	< 0.005	0.27	72.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.01	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.5	48.5	< 0.005	< 0.005	0.08	49.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.08	10.1	10.4	0.02	0.46	—	0.46	0.42	—	0.42	—	1,755	1,755	0.07	0.01	—	1,761
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.20	1.84	1.89	< 0.005	0.08	—	0.08	0.08	—	0.08	—	291	291	0.01	< 0.005	—	292
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.6	64.6	< 0.005	< 0.005	0.11	65.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.20	14.2	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.20	14.2	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	0.86	10.2	0.02	0.03	—	0.03	0.03	—	0.03	—	1,755	1,755	0.07	0.01	—	1,761
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.16	1.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	291	291	0.01	< 0.005	—	292

Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.6	64.6	< 0.005	< 0.005	0.11	65.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.92	0.76	6.40	7.17	0.01	0.23	—	0.23	0.22	—	0.22	—	1,288	1,288	0.05	0.01	—	1,292
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.17	1.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	111	111	0.01	< 0.005	0.42	113

Vendor	0.01	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.31	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	105	105	0.01	< 0.005	0.01	106
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.01	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.7
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.3	84.3	< 0.005	0.01	0.09	88.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.02	12.7
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.21	3.10	7.87	0.01	0.05	—	0.05	0.04	—	0.04	—	1,288	1,288	0.05	0.01	—	1,292
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.57	1.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	111	111	0.01	< 0.005	0.42	113
Vendor	0.01	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.31	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	105	105	0.01	< 0.005	0.01	106
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.01	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.7
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.3	84.3	< 0.005	0.01	0.09	88.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.02	12.7
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.42	0.35	3.31	4.65	0.01	0.15	—	0.15	0.13	—	0.13	—	709	709	0.03	0.01	—	712
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.60	0.85	< 0.005	0.03	—	0.03	0.02	—	0.02	—	117	117	< 0.005	< 0.005	—	118
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	1.30	6.89	0.01	0.03	—	0.03	0.03	—	0.03	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	1.30	6.89	0.01	0.03	—	0.03	0.03	—	0.03	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	0.93	4.93	0.01	0.02	—	0.02	0.02	—	0.02	—	709	709	0.03	0.01	—	712
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.90	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	117	117	< 0.005	< 0.005	—	118
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	0.82	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	0.08	22.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	< 0.005	21.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	0.08	22.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	< 0.005	21.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	12/31/2025	5.00	261	—
Site Preparation	Site Preparation	1/1/2025	12/31/2025	5.00	261	—
Grading	Grading	1/1/2025	12/31/2025	5.00	261	—
Building Construction	Building Construction	1/1/2025	12/31/2025	5.00	261	—
Paving	Paving	1/1/2025	12/31/2025	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	1.00	6.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	10.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	11.7	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	4.71	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.34	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	11.7	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	4.71	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.34	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	43,125	14,375	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	1.88	0.00	—
Grading	—	—	4.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update SIO 2040 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update SIO 2040 Scenario Construction
Construction Start Date	1/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.8686233286696, -117.24976706916924
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6320
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	175	Dwelling Unit	4.61	75,000	0.00	—	175	—

University/College (4yr)	404	Student	1.70	136,750	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	14.9	13.3	73.1	98.6	0.15	2.80	13.1	15.9	2.57	5.91	8.48	—	19,080	19,080	0.70	0.35	7.62	19,210
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	14.9	13.3	73.2	97.4	0.15	2.80	13.1	15.9	2.57	5.91	8.48	—	18,945	18,945	0.71	0.35	0.20	19,068
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	10.7	9.51	52.3	69.7	0.11	2.00	9.33	11.3	1.84	4.22	6.06	—	13,562	13,562	0.51	0.25	2.35	13,652
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.95	1.74	9.54	12.7	0.02	0.36	1.70	2.07	0.34	0.77	1.11	—	2,245	2,245	0.08	0.04	0.39	2,260

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	6.88	6.81	16.2	101	0.15	0.33	13.1	13.4	0.33	5.91	6.24	—	19,080	19,080	0.70	0.35	7.62	19,210
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	6.88	6.81	16.3	99.7	0.15	0.33	13.1	13.4	0.33	5.91	6.24	—	18,945	18,945	0.71	0.35	0.20	19,068
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	4.91	4.86	11.6	71.3	0.11	0.24	9.33	9.57	0.23	4.22	4.45	—	13,562	13,562	0.51	0.25	2.35	13,652
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.90	0.89	2.12	13.0	0.02	0.04	1.70	1.75	0.04	0.77	0.81	—	2,245	2,245	0.08	0.04	0.39	2,260

3. Construction Emissions Details

3.1. Demolition (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.78	1.49	13.0	13.4	0.02	0.51	—	0.51	0.47	—	0.47	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.37	2.44	< 0.005	0.09	—	0.09	0.09	—	0.09	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.0	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.29	3.71	0.01	0.14	—	0.14	0.13	—	0.13	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.76	1.48	12.6	17.3	0.03	0.51	—	0.51	0.47	—	0.47	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	1.48	12.6	17.3	0.03	0.51	—	0.51	0.47	—	0.47	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.26	1.06	9.02	12.4	0.02	0.37	—	0.37	0.34	—	0.34	—	2,116	2,116	0.09	0.02	—	2,123
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.65	2.26	< 0.005	0.07	—	0.07	0.06	—	0.06	—	350	350	0.01	< 0.005	—	352
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.29	2.04	17.8	0.03	0.06	—	0.06	0.06	—	0.06	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.29	2.04	17.8	0.03	0.06	—	0.06	0.06	—	0.06	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.21	1.46	12.7	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.09	0.02	—	2,123
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.27	2.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	350	350	0.01	< 0.005	—	352

Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.00	9.21	0.02	0.19	—	0.19	0.17	—	0.17	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.10	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.39	6.30	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,591	1,591	0.02	0.06	3.96	1,614

Vendor	0.06	0.03	1.08	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	1.52	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.45	5.52	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,503	1,503	0.03	0.06	0.10	1,522
Vendor	0.06	0.03	1.12	0.54	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	0.04	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.41	0.29	3.98	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,084	1,084	0.02	0.04	1.22	1,099
Vendor	0.04	0.02	0.80	0.38	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	649	649	0.02	0.09	0.47	678
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.73	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	180	180	< 0.005	0.01	0.20	182
Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	< 0.005	0.02	0.08	112
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	2.01	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.39	6.30	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,591	1,591	0.02	0.06	3.96	1,614
Vendor	0.06	0.03	1.08	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	1.52	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.45	5.52	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,503	1,503	0.03	0.06	0.10	1,522
Vendor	0.06	0.03	1.12	0.54	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	0.04	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.42	0.41	0.29	3.98	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,084	1,084	0.02	0.04	1.22	1,099
Vendor	0.04	0.02	0.80	0.38	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	649	649	0.02	0.09	0.47	678
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.73	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	180	180	< 0.005	0.01	0.20	182
Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	< 0.005	0.02	0.08	112
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.55	0.46	4.49	7.08	0.01	0.16	—	0.16	0.14	—	0.14	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.82	1.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.56	0.79	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	3.02	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	0.55	0.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.08	1.26	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	318	318	< 0.005	0.01	0.79	323
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.09	1.10	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	301	301	0.01	0.01	0.02	304
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.80	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.24	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.9	35.9	< 0.005	< 0.005	0.04	36.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	3.02	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	0.55	0.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.08	1.26	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	318	318	< 0.005	0.01	0.79	323
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.09	1.10	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	301	301	0.01	0.01	0.02	304
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.80	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.24	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.9	35.9	< 0.005	< 0.005	0.04	36.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2030	12/31/2030	5.00	261	—
Site Preparation	Site Preparation	1/1/2030	12/31/2030	5.00	261	—
Grading	Grading	1/1/2030	12/31/2030	5.00	261	—
Building Construction	Building Construction	1/1/2030	12/31/2030	5.00	261	—
Paving	Paving	1/1/2030	12/31/2030	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2030	12/31/2030	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Backh	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	183	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	41.1	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	36.7	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	183	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	41.1	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	36.7	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	151,875	50,625	205,125	68,375	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	261	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification

Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update West Campus 2030 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update West Campus 2030 Scenario Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	32.88090662910177, -117.23684580485022
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	625	Dwelling Unit	16.4	218,750	0.00	—	625	—

General Office Building	7.50	1000sqft	0.17	7,500	0.00	—	—	—
Hotel	43.0	Room	1.43	62,436	0.00	—	—	—
Health Club	62.5	1000sqft	1.43	62,500	0.00	—	—	—
University/College (4yr)	551	Student	2.32	31,250	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	24.4	22.0	108	136	0.20	4.36	17.8	22.2	4.01	6.93	10.9	—	28,404	28,404	1.20	0.74	31.0	28,686
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	24.4	21.9	108	132	0.20	4.36	17.8	22.2	4.01	6.93	10.9	—	28,041	28,041	1.23	0.76	0.80	28,298
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	17.4	15.7	77.3	94.7	0.14	3.12	12.7	15.8	2.87	4.94	7.81	—	20,090	20,090	0.87	0.54	9.56	20,283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.86	14.1	17.3	0.03	0.57	2.32	2.89	0.52	0.90	1.43	—	3,326	3,326	0.14	0.09	1.58	3,358

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	13.4	13.0	22.4	142	0.20	0.43	17.8	18.3	0.42	6.93	7.35	—	28,404	28,404	1.20	0.74	31.0	28,686
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	13.4	13.0	22.7	138	0.20	0.43	17.8	18.3	0.42	6.93	7.35	—	28,041	28,041	1.23	0.76	0.80	28,298
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	9.54	9.27	16.2	98.8	0.14	0.31	12.7	13.0	0.30	4.94	5.25	—	20,090	20,090	0.87	0.54	9.56	20,283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.74	1.69	2.96	18.0	0.03	0.06	2.32	2.38	0.06	0.90	0.96	—	3,326	3,326	0.14	0.09	1.58	3,358

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.04	1.71	15.9	14.2	0.02	0.66	—	0.66	0.60	—	0.60	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.09	0.09	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.90	2.60	< 0.005	0.12	—	0.12	0.11	—	0.11	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.35	169

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.22	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.01	169
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.11	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.09	0.09	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.35	169

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.22	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.01	169
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.11	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.82	2.37	22.6	21.6	0.03	0.98	—	0.98	0.90	—	0.90	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.13	3.94	0.01	0.18	—	0.18	0.16	—	0.16	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.29	21.2	20.2	0.04	0.88	—	0.88	0.81	—	0.81	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.87	3.69	0.01	0.16	—	0.16	0.15	—	0.15	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.81	7.47	9.32	0.02	0.31	—	0.31	0.28	—	0.28	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.27	2.09	1.58	24.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,915	4,915	0.23	0.17	18.4	4,990

Vendor	0.20	0.09	3.12	1.45	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,344	2,344	0.10	0.33	6.08	2,451
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.05	1.77	21.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,641	4,641	0.25	0.18	0.48	4,702
Vendor	0.20	0.09	3.24	1.49	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,345	2,345	0.10	0.33	0.16	2,446
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58	1.45	1.26	15.2	0.00	0.00	3.10	3.10	0.00	0.73	0.73	—	3,348	3,348	0.17	0.13	5.69	3,397
Vendor	0.14	0.07	2.30	1.05	0.01	0.02	0.42	0.45	0.02	0.12	0.14	—	1,676	1,676	0.07	0.24	1.88	1,751
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.23	2.78	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	554	554	0.03	0.02	0.94	562
Vendor	0.03	0.01	0.42	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.31	290
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.24	2.02	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.27	2.09	1.58	24.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,915	4,915	0.23	0.17	18.4	4,990
Vendor	0.20	0.09	3.12	1.45	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,344	2,344	0.10	0.33	6.08	2,451
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.05	1.77	21.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,641	4,641	0.25	0.18	0.48	4,702
Vendor	0.20	0.09	3.24	1.49	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,345	2,345	0.10	0.33	0.16	2,446
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.58	1.45	1.26	15.2	0.00	0.00	3.10	3.10	0.00	0.73	0.73	—	3,348	3,348	0.17	0.13	5.69	3,397
Vendor	0.14	0.07	2.30	1.05	0.01	0.02	0.42	0.45	0.02	0.12	0.14	—	1,676	1,676	0.07	0.24	1.88	1,751
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.23	2.78	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	554	554	0.03	0.02	0.94	562
Vendor	0.03	0.01	0.42	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.31	290
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.68	0.57	5.33	7.14	0.01	0.25	—	0.25	0.23	—	0.23	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.97	1.30	< 0.005	0.05	—	0.05	0.04	—	0.04	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	0.82	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	5.83	5.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	1.06	1.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.32	4.80	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	983	983	0.05	0.03	3.69	998
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.41	0.35	4.20	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	928	928	0.05	0.04	0.10	940
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.05	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	670	670	0.03	0.03	1.14	679
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.56	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	< 0.005	0.19	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	5.83	5.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	1.06	1.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.32	4.80	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	983	983	0.05	0.03	3.69	998
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.41	0.35	4.20	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	928	928	0.05	0.04	0.10	940
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.05	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	670	670	0.03	0.03	1.14	679
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.56	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	< 0.005	0.19	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	12/31/2025	5.00	261	—
Site Preparation	Site Preparation	1/1/2025	12/31/2025	5.00	261	—
Grading	Grading	1/1/2025	12/31/2025	5.00	261	—
Building Construction	Building Construction	1/1/2025	12/31/2025	5.00	261	—
Paving	Paving	1/1/2025	12/31/2025	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	2.24	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	518	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	93.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	104	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	2.24	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	518	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	93.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	104	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	442,969	147,656	245,529	81,843	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	50,741	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
General Office Building	0.00	0%
Hotel	0.00	0%
Health Club	0.00	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update West Campus 2040 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update West Campus 2040 Scenario Construction
Construction Start Date	1/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	9500 Gilman Dr, La Jolla, CA 92093, USA
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	2,250	Dwelling Unit	59.2	955,000	0.00	—	2,250	—

University/College (4yr)	1,348	Student	5.69	456,250	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	16.8	94.2	179	0.24	3.22	32.8	36.1	2.97	10.5	13.4	—	46,275	46,275	1.33	1.98	60.9	46,960
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	16.7	95.2	170	0.24	3.22	32.8	36.1	2.97	10.5	13.4	—	45,204	45,204	1.38	1.99	1.58	45,833
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	13.5	11.9	67.6	122	0.17	2.30	23.3	25.6	2.12	7.46	9.58	—	32,438	32,438	0.99	1.42	18.8	32,906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.46	2.17	12.3	22.2	0.03	0.42	4.26	4.68	0.39	1.36	1.75	—	5,371	5,371	0.16	0.24	3.12	5,448

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	9.76	9.38	30.6	190	0.24	0.45	32.8	33.3	0.45	10.5	10.9	—	46,275	46,275	1.33	1.98	60.9	46,960
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	9.75	9.32	31.7	180	0.24	0.45	32.8	33.3	0.45	10.5	10.9	—	45,204	45,204	1.38	1.99	1.58	45,833
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	6.91	6.60	22.2	129	0.17	0.32	23.3	23.7	0.32	7.46	7.78	—	32,438	32,438	0.99	1.42	18.8	32,906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.26	1.20	4.05	23.6	0.03	0.06	4.26	4.32	0.06	1.36	1.42	—	5,371	5,371	0.16	0.24	3.12	5,448

3. Construction Emissions Details

3.1. Demolition (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.78	1.49	13.0	13.4	0.02	0.51	—	0.51	0.47	—	0.47	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.33	0.33	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.37	2.44	< 0.005	0.09	—	0.09	0.09	—	0.09	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.64	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	520	520	0.02	0.08	0.86	546

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.66	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	521	521	0.02	0.08	0.02	546
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.47	0.19	< 0.005	0.01	0.11	0.11	0.01	0.03	0.03	—	372	372	0.02	0.06	0.26	390
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	61.6	61.6	< 0.005	0.01	0.04	64.6

3.2. Demolition (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.33	0.33	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.64	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	520	520	0.02	0.08	0.86	546

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.66	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	521	521	0.02	0.08	0.02	546
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.47	0.19	< 0.005	0.01	0.11	0.11	0.01	0.03	0.03	—	372	372	0.02	0.06	0.26	390
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	61.6	61.6	< 0.005	0.01	0.04	64.6

3.3. Site Preparation (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.0	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.29	3.71	0.01	0.14	—	0.14	0.13	—	0.13	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.94	15.5	19.2	0.04	0.63	—	0.63	0.58	—	0.58	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	2.83	3.50	0.01	0.12	—	0.12	0.11	—	0.11	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.00	9.21	0.02	0.19	—	0.19	0.17	—	0.17	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.10	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.75	3.87	62.3	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	15,714	15,714	0.24	0.60	39.1	15,938

Vendor	0.49	0.25	8.27	4.03	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,952	6,952	0.23	1.00	11.7	7,269
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.71	4.46	54.5	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	14,844	14,844	0.28	0.60	1.01	15,030
Vendor	0.47	0.24	8.58	4.15	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,958	6,958	0.23	1.01	0.30	7,265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.11	4.03	2.82	39.3	0.00	0.00	10.8	10.8	0.00	2.54	2.54	—	10,709	10,709	0.20	0.43	12.1	10,853
Vendor	0.34	0.18	6.12	2.92	0.04	0.04	1.43	1.47	0.04	0.40	0.43	—	4,973	4,973	0.16	0.72	3.61	5,196
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.73	0.52	7.18	0.00	0.00	1.98	1.98	0.00	0.46	0.46	—	1,773	1,773	0.03	0.07	2.00	1,797
Vendor	0.06	0.03	1.12	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	823	823	0.03	0.12	0.60	860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	2.01	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.75	3.87	62.3	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	15,714	15,714	0.24	0.60	39.1	15,938
Vendor	0.49	0.25	8.27	4.03	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,952	6,952	0.23	1.00	11.7	7,269
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.71	4.46	54.5	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	14,844	14,844	0.28	0.60	1.01	15,030
Vendor	0.47	0.24	8.58	4.15	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,958	6,958	0.23	1.01	0.30	7,265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	4.11	4.03	2.82	39.3	0.00	0.00	10.8	10.8	0.00	2.54	2.54	—	10,709	10,709	0.20	0.43	12.1	10,853
Vendor	0.34	0.18	6.12	2.92	0.04	0.04	1.43	1.47	0.04	0.40	0.43	—	4,973	4,973	0.16	0.72	3.61	5,196
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.73	0.52	7.18	0.00	0.00	1.98	1.98	0.00	0.46	0.46	—	1,773	1,773	0.03	0.07	2.00	1,797
Vendor	0.06	0.03	1.12	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	823	823	0.03	0.12	0.60	860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.55	0.46	4.49	7.08	0.01	0.16	—	0.16	0.14	—	0.14	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.82	1.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.56	0.79	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.15	0.77	12.5	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	3,143	3,143	0.05	0.12	7.82	3,188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.14	0.89	10.9	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	2,969	2,969	0.06	0.12	0.20	3,006
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82	0.81	0.56	7.87	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,142	2,142	0.04	0.09	2.41	2,171
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	0.10	1.44	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	355	355	0.01	0.01	0.40	359
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.15	0.77	12.5	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	3,143	3,143	0.05	0.12	7.82	3,188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.14	0.89	10.9	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	2,969	2,969	0.06	0.12	0.20	3,006
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.82	0.81	0.56	7.87	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,142	2,142	0.04	0.09	2.41	2,171
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	0.10	1.44	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	355	355	0.01	0.01	0.40	359
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2030	12/31/2030	5.00	261	—
Site Preparation	Site Preparation	1/1/2030	12/31/2030	5.00	261	—
Grading	Grading	1/1/2030	12/31/2030	5.00	261	—
Building Construction	Building Construction	1/1/2030	12/31/2030	5.00	261	—
Paving	Paving	1/1/2030	12/31/2030	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2030	12/31/2030	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	8.25	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2

Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,812	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	315	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	362	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—

Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	8.25	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,812	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	315	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	362	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	187,210	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

Crematory Emissions

Source Type	Charge Type	Acetaldehyde	Arsenic	Benzene	Beryllium	Cadmium	Chromium, Nonhexavalent	Chromium, Hexavalent	Copper
Crematory	Human Remains	1.50E-03	5.80E-04	7.20E-04	2.00E-05	1.60E-04	3.20E-04	1.90E-04	4.00E-04

Existing Charge Type	Annual Charge Consumed	Unit	Annual Operation (days/yr)	Acetaldehyde	Arsenic	Benzene	Beryllium	Cadmium	Chromium, Nonhexavalent	Chromium, Hexavalent	Copper
Human Remains	15.394	tons	100	0.00023091	8.92852E-05	0.000110837	3.0788E-06	2.46304E-05	4.92608E-05	2.92486E-05	0.000061576
			Total	**0.00023091**	**8.92852E-05**	**0.000110837**	**3.0788E-06**	**2.46304E-05**	**4.92608E-05**	**2.92486E-05**	**0.000061576**

2040 Charge Type	Increase in Annual Charge Consumed	Unit	Annual Operation (days/yr)	Acetaldehyde	Arsenic	Benzene	Beryllium	Cadmium	Chromium, Nonhexavalent	Chromium, Hexavalent	Copper
Human Remains	27.7092	tons	100	0.000415638	0.000160713	0.000199506	5.54184E-06	4.43347E-05	8.86694E-05	5.26475E-05	0.000110837
			Total	**0.000415638**	**0.000160713**	**0.000199506**	**5.54184E-06**	**4.43347E-05**	**8.86694E-05**	**5.26475E-05**	**0.000110837**

Existing Charge Type	Annual Charge Consumed	Unit	Annual Operation (days/yr)	Acetaldehyde	Arsenic	Benzene	Beryllium	Cadmium	Chromium, Nonhexavalent	Chromium, Hexavalent	Copper
Human Remains	15.394	tons	100	2.31E-02	8.93E-03	1.11E-02	3.08E-04	2.46E-03	4.93E-03	2.92E-03	6.16E-03
			Total	**0.023091**	**0.00892852**	**0.01108368**	**0.00030788**	**0.00246304**	**0.00492608**	**0.00292486**	**0.0061576**

2040 Charge Type	Increase in Annual Charge Consumed	Unit	Annual Operation (days/yr)	Acetaldehyde	Arsenic	Benzene	Beryllium	Cadmium	Chromium, Nonhexavalent	Chromium, Hexavalent	Copper
Human Remains	27.7092	tons	100	4.16E-02	1.61E-02	2.00E-02	5.54E-04	4.43E-03	8.87E-03	5.26E-03	1.11E-02
			Total	**0.0415638**	**0.016071336**	**0.019950624**	**0.000554184**	**0.004433472**	**0.008866944**	**0.005264748**	**0.01108368**

https://www.sdapcd.org/content/sdapcd/permits/toxics-emissions/calculation-procedures.html#v1-2f8774f98a-item-973b5e6814

Crematory Emission

Formaldehyde	Hydrogen Chloride	Hydrogen Fluoride	Lead	Mercury	Nickel	PAH	Selenium	Toluene	Xylenes	Zinc
4.00E-04	8.60E-01	7.80E-03	9.80E-04	2.18E-03	5.70E-04	5.20E-05	6.50E-04	9.90E-03	2.80E-03	5.20E-04

Existing Charge Type	Emissions (lbs/day)										
	Formaldehyde	Hydrogen Chloride	Hydrogen Fluoride	Lead	Mercury	Nickel	PAH	Selenium	Toluene	Xylenes	Zinc
Human Remains	0.000061576	0.1323884	0.001200732	0.000150861	0.000335589	8.77458E-05	8.00488E-06	0.000100061	0.001524006	0.000431032	8.00488E-05
	0.000061576	**0.1323884**	**0.001200732**	**0.000150861**	**0.000335589**	**8.77458E-05**	**8.00488E-06**	**0.000100061**	**0.001524006**	**0.000431032**	**8.00488E-05**

2040 Charge Type	Emissions (lbs/day)										
	Formaldehyde	Hydrogen Chloride	Hydrogen Fluoride	Lead	Mercury	Nickel	PAH	Selenium	Toluene	Xylenes	Zinc
Human Remains	0.000110837	0.23829912	0.002161318	0.00027155	0.000604061	0.000157942	1.44088E-05	0.00018011	0.002743211	0.000775858	0.000144088
	0.000110837	**0.23829912**	**0.002161318**	**0.00027155**	**0.000604061**	**0.000157942**	**1.44088E-05**	**0.00018011**	**0.002743211**	**0.000775858**	**0.000144088**

Existing Charge Type	Emissions (lbs/yr)										
	Formaldehyde	Hydrogen Chloride	Hydrogen Fluoride	Lead	Mercury	Nickel	PAH	Selenium	Toluene	Xylenes	Zinc
Human Remains	6.16E-03	1.32E+01	1.20E-01	1.51E-02	3.36E-02	8.77E-03	8.00E-04	1.00E-02	1.52E-01	4.31E-02	8.00E-03
	0.0061576	**13.23884**	**0.1200732**	**0.01508612**	**0.03355892**	**0.00877458**	**0.000800488**	**0.0100061**	**0.1524006**	**0.0431032**	**0.00800488**

2040 Charge Type	Emissions (lbs/yr)										
	Formaldehyde	Hydrogen Chloride	Hydrogen Fluoride	Lead	Mercury	Nickel	PAH	Selenium	Toluene	Xylenes	Zinc
Human Remains	1.11E-02	2.38E+01	2.16E-01	2.72E-02	6.04E-02	1.58E-02	1.44E-03	1.80E-02	2.74E-01	7.76E-02	1.44E-02
	0.01108368	**23.829912**	**0.21613176**	**0.027155016**	**0.060406056**	**0.015794244**	**0.001440878**	**0.01801098**	**0.27432108**	**0.07758576**	**0.014408784**

WWTP TACs

VOC Emissions from Influent Treatment

Peak Daily Influent Flow (gal/day)	1,000,000
Average Influent Flow (gal/day)	400,000
Conversion Factor from µg/L and MGD to lb/yr	3.04

Compound	Risk Assessment Averaging Period	Toxic Influent Concentration	Peak Daily Emissions	Annual Average	Emission Rate (g/s)
Ammonia	Annual, 24-hr	299.5	2.499E-04	0.0364874	2.89252E-09
Benzene	Annual, 24-hr	0.58	4.840E-07	7.066E-05	5.60154E-12
Chloroform	Annual, 24-hr	8.1	6.759E-06	0.0009868	7.82283E-11
Ethyl Benzene	Annual	2.25	1.877E-06	0.0002741	2.17301E-11
Hydrogen Sulfide	Annual, 24-hr	19.5	1.627E-05	0.0023756	1.88327E-10
1,1,1-TCA	Annual	2.65	2.211E-06	0.0003228	2.55932E-11
Methylene Chlorine	Annual, 24-hr	7.8	6.509E-06	0.0009503	7.5331E-11
1,4-Dichlorobenzene	Annual	4.65	3.880E-06	0.0005665	4.49089E-11
Phenol	Annual, 24-hr	9.8	8.177E-06	0.0011939	9.46466E-11
Styrene	Annual, 24-hr	5	4.172E-06	0.0006091	4.82891E-11
Toluene	Annual, 24-hr	4.9	4.089E-06	0.000597	4.73233E-11
TCE	Annual	2.6	2.170E-06	0.0003168	2.51103E-11
Xylene	Annual, 24-hr	5.86	4.890E-06	0.0007139	5.65948E-11

Daily Emissions (lb/day) = peak daily influent flow (gal/day) x liquid conversion factor (3.785 L/gal) x toxic influent concentration (µg/L) x unit conversion factor (10-6 g/µg) x lb/453.6 g

Notes:

Emission factors from SJVAPCD's Fugitive Air Emission Factors and and (ug/L) Concentration Values for Wastewater Treatment Plants (POTWS) November 1993. Assumed hydrogen sulfide would be controlled to 90% efficiency with scrubbers or biofilters that are part of the odor control system.

Lab Space

Scenario Year	Future Building Ref#	Name of Building	Purpose of Building	GSF	Lab %-age	Lab SF	Lab Type
2030	UC-1	University Center UC409 Site	Academic/Research	300,000	25%	75,000	3
2040	EC2	Clinical/Research 1	Clinical /Research	200,000	40%	80,000	2
2040	EC3	Clinical/Research 2	Clinical /Research	200,000	40%	80,000	2
2040	EC4	Clinical/Research 3	Clinical /Research	200,000	40%	80,000	2
2040	HS2	Health Sciences West Academic/Research 2	Academic/Research	200,000	50%	100,000	2
2040	HS3	Health Sciences West Academic/Research 3	Academic/Research	250,000	50%	125,000	2
2040	HS4	Health Sciences West Academic/Research 4	Academic/Research	250,000	50%	125,000	2
2040	MC2	Revelle/Muir Academic/Research site	Academic/Research	200,000	50%	100,000	3

Laboratory Emission Factors (g/s per ft^2)

Chemical	Lab Type I Annual Rate	Lab Type II Annual Rate	Lab Type III Annual Rate	Lab Type I Max Hourly Rate	Lab Type II Max Hourly Rate	Lab Type III Max Hourly Rate
Acetonitrile	1.27E-08	5.36E-09	4.67E-10	6.55E-08	2.78E-08	2.42E-09
Acrylamide	1.52E-11	6.17E-11	0.00E+00	7.85E-11	3.20E-10	0.00E+00
Ammonia1	1.16E-07	7.69E-07	4.39E-08	5.98E-07	3.98E-06	2.27E-07
Benzene	2.25E-09	1.05E-10	7.32E-11	1.17E-08	5.44E-10	3.79E-10
Bromine and compounds	2.14E-10	8.51E-12	3.63E-11	1.11E-09	4.41E-11	1.88E-10
t-Butyl alcohol	1.09E-10	4.58E-08	1.22E-10	5.64E-10	2.37E-07	6.31E-10
Carbon tetrachloride	2.01E-10	6.18E-10	4.81E-10	1.04E-09	3.20E-09	2.49E-09
Chloroform	2.73E-08	8.27E-09	9.80E-10	1.41E-07	4.29E-08	5.07E-09
Dimethylformamide	5.50E-10	3.11E-10	3.32E-12	2.85E-09	1.61E-09	1.72E-11
1,4-Dioxane	2.61E-09	1.97E-10	2.28E-11	1.35E-08	1.02E-09	1.18E-10
Ethylene Dichloride	6.08E-11	2.76E-10	2.53E-09	3.15E-10	1.43E-09	1.31E-08
Formaldehyde	9.35E-11	7.77E-09	9.83E-10	4.84E-10	4.03E-08	5.09E-09
n-Hexane	1.75E-10	4.21E-10	8.07E-10	9.07E-10	2.18E-09	4.18E-09
Hydrazine	1.19E-11	6.77E-12	5.87E-13	6.14E-11	3.51E-11	3.04E-12
Hydrochloric acid	9.45E-10	2.00E-08	8.54E-09	4.90E-09	1.04E-07	4.42E-08
Isopropanol	3.68E-09	2.52E-08	1.75E-08	1.91E-08	1.31E-07	9.07E-08
Methyl alcohol	1.16E-07	8.95E-08	4.39E-08	5.98E-07	4.64E-07	2.27E-07
Methylene chloride	1.07E-07	1.24E-09	2.84E-10	5.56E-07	6.41E-09	1.47E-09
Toluene	7.73E-09	7.75E-10	4.11E-10	4.01E-08	4.01E-09	2.13E-09
1,1,1-Trichloroethane	2.12E-11	2.37E-11	1.37E-09	1.10E-10	1.23E-10	7.12E-09
Trichloroethylene	0.00E+00	6.25E-11	3.91E-10	0.00E+00	3.24E-10	2.02E-09
Triethylamine	6.54E-10	1.32E-10	0.00E+00	3.39E-09	6.81E-10	0.00E+00
Xylenes (mixed)	2.70E-10	1.54E-09	8.42E-10	1.40E-09	7.99E-09	4.36E-09

HARP Input - 2040 Scenario

Generators	SourceType	Description	Source ID	Pollutant	Annual Ems (lbs/yr)	Max Hr Ems (lbs/hr)
2040	POINT	OV2 - Ocean View Housing West	F_GEN01	DPM	1.47E-01	5.65E-03
2040	POINT	OV2 - Ocean View Housing West	F_GEN02	DPM	1.47E-01	5.65E-03
2040	POINT	OV2 - Ocean View Housing West	F_GEN03	DPM	1.47E-01	5.65E-03
2040	POINT	OV2 - Ocean View Housing West	F_GEN04	DPM	1.47E-01	5.65E-03
2040	POINT	OV2 - Ocean View Housing West	F_GEN05	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN06	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN07	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN08	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN09	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN10	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN11	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN12	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN13	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN14	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN15	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN16	DPM	1.47E-01	5.65E-03
2040	POINT	PC1 - Pepper Canyon East	F_GEN17	DPM	1.47E-01	5.65E-03
2040	POINT	MH1 - Faculty/Staff Housing	F_GEN18	DPM	1.47E-01	5.65E-03
2040	POINT	MH1 - Faculty/Staff Housing	F_GEN19	DPM	1.47E-01	5.65E-03
2040	POINT	MH1 - Faculty/Staff Housing	F_GEN20	DPM	1.47E-01	5.65E-03
2040	POINT	MH2 - South Mesa Housing Phase 1	F_GEN21	DPM	1.47E-01	5.65E-03
2040	POINT	MH2 - South Mesa Housing Phase 1	F_GEN22	DPM	1.47E-01	5.65E-03
2040	POINT	MH2 - South Mesa Housing Phase 1	F_GEN23	DPM	1.47E-01	5.65E-03
2040	POINT	MH2 - South Mesa Housing Phase 1	F_GEN24	DPM	1.47E-01	5.65E-03
2040	POINT	MH2 - South Mesa Housing Phase 1	F_GEN25	DPM	1.47E-01	5.65E-03
2040	POINT	WC1 - Student Housing	F_GEN26	DPM	1.47E-01	5.65E-03
2040	POINT	WC1 - Student Housing	F_GEN27	DPM	1.47E-01	5.65E-03
2040	POINT	WC1 - Student Housing	F_GEN28	DPM	1.47E-01	5.65E-03
2040	POINT	WC1 - Student Housing	F_GEN29	DPM	1.47E-01	5.65E-03
2040	POINT	WC1 - Student Housing	F_GEN30	DPM	1.47E-01	5.65E-03
2040	POINT	MH3 - South Mesa Housing Phase 2	F_GEN31	DPM	1.47E-01	5.65E-03
2040	POINT	MH3 - South Mesa Housing Phase 2	F_GEN32	DPM	1.47E-01	5.65E-03
2040	POINT	MH3 - South Mesa Housing Phase 2	F_GEN33	DPM	1.47E-01	5.65E-03
2040	POINT	MH3 - South Mesa Housing Phase 2	F_GEN34	DPM	1.47E-01	5.65E-03
2040	POINT	MH3 - South Mesa Housing Phase 2	F_GEN35	DPM	1.47E-01	5.65E-03
2040	POINT	SIO - Expedition Site	F_GEN36	DPM	1.47E-01	5.65E-03
2040	POINT	WWTP Generator	F_GEN37	DPM	1.47E-01	5.65E-03
2040	POINT	WWTP Generator	F_GEN38	DPM	1.47E-01	5.65E-03
Crematory and Lab Space	**SourceType**	**Description**	**Source ID**	**Pollutant**	**Annual Ems (lbs/yr)**	**Max Hr Ems (lbs/hr)**
2040	POINT	Crematory	CREM1	Acetaldehyde	1.85E-02	1.85E-04
2040	POINT	Crematory	CREM1	Acrolein	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Ammonia	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Arsenic	7.14E-03	7.14E-05
2040	POINT	Crematory	CREM1	Benzene	8.87E-03	8.87E-05
2040	POINT	Crematory	CREM1	Beryllium	2.46E-04	2.46E-06
2040	POINT	Crematory	CREM1	1,3-Butadiene	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Cadmium	1.97E-03	1.97E-05
2040	POINT	Crematory	CREM1	Chlorine	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Chlorobenzene	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Chromium, Nonhexavalent	3.94E-03	3.94E-05
2040	POINT	Crematory	CREM1	Chromium, Hexavalent	2.34E-03	2.34E-05
2040	POINT	Crematory	CREM1	Copper	4.93E-03	4.93E-05
2040	POINT	Crematory	CREM1	Dichlorobenzene	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	DPM	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Ethyl Benzene	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Formaldehyde	4.93E-03	4.93E-05
2040	POINT	Crematory	CREM1	Hexane	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Hydrogen Chloride	1.06E+01	1.06E-01
2040	POINT	Crematory	CREM1	Hydrogen Fluoride	9.61E-02	9.61E-04
2040	POINT	Crematory	CREM1	Lead	1.21E-02	1.21E-04
2040	POINT	Crematory	CREM1	Manganese	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Mercury	2.68E-02	2.68E-04
2040	POINT	Crematory	CREM1	Methanol	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Methylene Chloride	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Naphthalene	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Nickel	7.02E-03	7.02E-05
2040	POINT	Crematory	CREM1	PAH	6.40E-04	6.40E-06
2040	POINT	Crematory	CREM1	Phenol	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Propylene	0.00E+00	0.00E+00
2040	POINT	Crematory	CREM1	Selenium	8.00E-03	8.00E-05
2040	POINT	Crematory	CREM1	Toluene	1.22E-01	1.22E-03

HARP Input - 2040 Scenario

2040	POINT	Crematory	CREM1	Xylenes	3.45E-02	3.45E-04
2040	POINT	Crematory	CREM1	Zinc	6.40E-03	6.40E-05
2040	POINT	VENT_EC2	VENT_EC2	Acetonitrile	2.98E+01	1.77E-02
2040	POINT	VENT_EC2	VENT_EC2	Acrylamide	3.43E-01	2.03E-04
2040	POINT	VENT_EC2	VENT_EC2	Ammonia1	4.28E+03	2.53E+00
2040	POINT	VENT_EC2	VENT_EC2	Benzene	5.84E-01	3.45E-04
2040	POINT	VENT_EC2	VENT_EC2	Bromine and compounds	4.74E-02	2.80E-05
2040	POINT	VENT_EC2	VENT_EC2	t-Butyl alcohol	2.55E+02	1.50E-01
2040	POINT	VENT_EC2	VENT_EC2	Carbon tetrachloride	3.44E+00	2.03E-03
2040	POINT	VENT_EC2	VENT_EC2	Chloroform	4.60E+01	2.72E-02
2040	POINT	VENT_EC2	VENT_EC2	Dimethylformamide	1.73E+00	1.02E-03
2040	POINT	VENT_EC2	VENT_EC2	1,4-Dioxane	1.10E+00	6.48E-04
2040	POINT	VENT_EC2	VENT_EC2	Ethylene Dichloride	1.54E+00	9.08E-04
2040	POINT	VENT_EC2	VENT_EC2	Formaldehyde	4.32E+01	2.56E-02
2040	POINT	VENT_EC2	VENT_EC2	n-Hexane	2.34E+00	1.38E-03
2040	POINT	VENT_EC2	VENT_EC2	Hydrazine	3.77E-02	2.23E-05
2040	POINT	VENT_EC2	VENT_EC2	Hydrochloric acid	1.11E+02	6.60E-02
2040	POINT	VENT_EC2	VENT_EC2	Isopropanol	1.40E+02	8.32E-02
2040	POINT	VENT_EC2	VENT_EC2	Methyl alcohol	4.98E+02	2.95E-01
2040	POINT	VENT_EC2	VENT_EC2	Methylene chloride	6.90E+00	4.07E-03
2040	POINT	VENT_EC2	VENT_EC2	Toluene	4.31E+00	2.55E-03
2040	POINT	VENT_EC2	VENT_EC2	1,1,1-Trichloroethane	1.32E-01	7.81E-05
2040	POINT	VENT_EC2	VENT_EC2	Trichloroethylene	3.48E-01	2.06E-04
2040	POINT	VENT_EC2	VENT_EC2	Triethylamine	7.35E-01	4.32E-04
2040	POINT	VENT_EC2	VENT_EC2	Xylenes (mixed)	8.57E+00	5.07E-03
2040	POINT	VENT_EC3	VENT_EC3	Acetonitrile	2.98E+01	1.77E-02
2040	POINT	VENT_EC3	VENT_EC3	Acrylamide	3.43E-01	2.03E-04
2040	POINT	VENT_EC3	VENT_EC3	Ammonia1	4.28E+03	2.53E+00
2040	POINT	VENT_EC3	VENT_EC3	Benzene	5.84E-01	3.45E-04
2040	POINT	VENT_EC3	VENT_EC3	Bromine and compounds	4.74E-02	2.80E-05
2040	POINT	VENT_EC3	VENT_EC3	t-Butyl alcohol	2.55E+02	1.50E-01
2040	POINT	VENT_EC3	VENT_EC3	Carbon tetrachloride	3.44E+00	2.03E-03
2040	POINT	VENT_EC3	VENT_EC3	Chloroform	4.60E+01	2.72E-02
2040	POINT	VENT_EC3	VENT_EC3	Dimethylformamide	1.73E+00	1.02E-03
2040	POINT	VENT_EC3	VENT_EC3	1,4-Dioxane	1.10E+00	6.48E-04
2040	POINT	VENT_EC3	VENT_EC3	Ethylene Dichloride	1.54E+00	9.08E-04
2040	POINT	VENT_EC3	VENT_EC3	Formaldehyde	4.32E+01	2.56E-02
2040	POINT	VENT_EC3	VENT_EC3	n-Hexane	2.34E+00	1.38E-03
2040	POINT	VENT_EC3	VENT_EC3	Hydrazine	3.77E-02	2.23E-05
2040	POINT	VENT_EC3	VENT_EC3	Hydrochloric acid	1.11E+02	6.60E-02
2040	POINT	VENT_EC3	VENT_EC3	Isopropanol	1.40E+02	8.32E-02
2040	POINT	VENT_EC3	VENT_EC3	Methyl alcohol	4.98E+02	2.95E-01
2040	POINT	VENT_EC3	VENT_EC3	Methylene chloride	6.90E+00	4.07E-03
2040	POINT	VENT_EC3	VENT_EC3	Toluene	4.31E+00	2.55E-03
2040	POINT	VENT_EC3	VENT_EC3	1,1,1-Trichloroethane	1.32E-01	7.81E-05
2040	POINT	VENT_EC3	VENT_EC3	Trichloroethylene	3.48E-01	2.06E-04
2040	POINT	VENT_EC3	VENT_EC3	Triethylamine	7.35E-01	4.32E-04
2040	POINT	VENT_EC3	VENT_EC3	Xylenes (mixed)	8.57E+00	5.07E-03
2040	POINT	VENT_EC4	VENT_EC4	Acetonitrile	2.98E+01	1.77E-02
2040	POINT	VENT_EC4	VENT_EC4	Acrylamide	3.43E-01	2.03E-04
2040	POINT	VENT_EC4	VENT_EC4	Ammonia1	4.28E+03	2.53E+00
2040	POINT	VENT_EC4	VENT_EC4	Benzene	5.84E-01	3.45E-04
2040	POINT	VENT_EC4	VENT_EC4	Bromine and compounds	4.74E-02	2.80E-05
2040	POINT	VENT_EC4	VENT_EC4	t-Butyl alcohol	2.55E+02	1.50E-01
2040	POINT	VENT_EC4	VENT_EC4	Carbon tetrachloride	3.44E+00	2.03E-03
2040	POINT	VENT_EC4	VENT_EC4	Chloroform	4.60E+01	2.72E-02
2040	POINT	VENT_EC4	VENT_EC4	Dimethylformamide	1.73E+00	1.02E-03
2040	POINT	VENT_EC4	VENT_EC4	1,4-Dioxane	1.10E+00	6.48E-04
2040	POINT	VENT_EC4	VENT_EC4	Ethylene Dichloride	1.54E+00	9.08E-04
2040	POINT	VENT_EC4	VENT_EC4	Formaldehyde	4.32E+01	2.56E-02
2040	POINT	VENT_EC4	VENT_EC4	n-Hexane	2.34E+00	1.38E-03
2040	POINT	VENT_EC4	VENT_EC4	Hydrazine	3.77E-02	2.23E-05
2040	POINT	VENT_EC4	VENT_EC4	Hydrochloric acid	1.11E+02	6.60E-02
2040	POINT	VENT_EC4	VENT_EC4	Isopropanol	1.40E+02	8.32E-02
2040	POINT	VENT_EC4	VENT_EC4	Methyl alcohol	4.98E+02	2.95E-01
2040	POINT	VENT_EC4	VENT_EC4	Methylene chloride	6.90E+00	4.07E-03
2040	POINT	VENT_EC4	VENT_EC4	Toluene	4.31E+00	2.55E-03
2040	POINT	VENT_EC4	VENT_EC4	1,1,1-Trichloroethane	1.32E-01	7.81E-05
2040	POINT	VENT_EC4	VENT_EC4	Trichloroethylene	3.48E-01	2.06E-04
2040	POINT	VENT_EC4	VENT_EC4	Triethylamine	7.35E-01	4.32E-04
2040	POINT	VENT_EC4	VENT_EC4	Xylenes (mixed)	8.57E+00	5.07E-03
2040	POINT	VENT_HS2	VENT_HS2	Acetonitrile	3.73E+01	2.21E-02
2040	POINT	VENT_HS2	VENT_HS2	Acrylamide	4.29E-01	2.54E-04

HARP Input - 2040 Scenario

2040	POINT	VENT_HS2	VENT_HS2	Ammonia1	5.35E+03	3.16E+00
2040	POINT	VENT_HS2	VENT_HS2	Benzene	7.31E-01	4.32E-04
2040	POINT	VENT_HS2	VENT_HS2	Bromine and compounds	5.92E-02	3.50E-05
2040	POINT	VENT_HS2	VENT_HS2	t-Butyl alcohol	3.19E+02	1.88E-01
2040	POINT	VENT_HS2	VENT_HS2	Carbon tetrachloride	4.30E+00	2.54E-03
2040	POINT	VENT_HS2	VENT_HS2	Chloroform	5.75E+01	3.40E-02
2040	POINT	VENT_HS2	VENT_HS2	Dimethylformamide	2.16E+00	1.28E-03
2040	POINT	VENT_HS2	VENT_HS2	1,4-Dioxane	1.37E+00	8.10E-04
2040	POINT	VENT_HS2	VENT_HS2	Ethylene Dichloride	1.92E+00	1.13E-03
2040	POINT	VENT_HS2	VENT_HS2	Formaldehyde	5.41E+01	3.20E-02
2040	POINT	VENT_HS2	VENT_HS2	n-Hexane	2.93E+00	1.73E-03
2040	POINT	VENT_HS2	VENT_HS2	Hydrazine	4.71E-02	2.79E-05
2040	POINT	VENT_HS2	VENT_HS2	Hydrochloric acid	1.39E+02	8.25E-02
2040	POINT	VENT_HS2	VENT_HS2	Isopropanol	1.75E+02	1.04E-01
2040	POINT	VENT_HS2	VENT_HS2	Methyl alcohol	6.23E+02	3.68E-01
2040	POINT	VENT_HS2	VENT_HS2	Methylene chloride	8.63E+00	5.09E-03
2040	POINT	VENT_HS2	VENT_HS2	Toluene	5.39E+00	3.18E-03
2040	POINT	VENT_HS2	VENT_HS2	1,1,1-Trichloroethane	1.65E-01	9.76E-05
2040	POINT	VENT_HS2	VENT_HS2	Trichloroethylene	4.35E-01	2.57E-04
2040	POINT	VENT_HS2	VENT_HS2	Triethylamine	9.18E-01	5.40E-04
2040	POINT	VENT_HS2	VENT_HS2	Xylenes (mixed)	1.07E+01	6.34E-03
2040	POINT	VENT_HS3	VENT_HS3	Acetonitrile	4.66E+01	2.76E-02
2040	POINT	VENT_HS3	VENT_HS3	Acrylamide	5.37E-01	3.17E-04
2040	POINT	VENT_HS3	VENT_HS3	Ammonia1	6.69E+03	3.95E+00
2040	POINT	VENT_HS3	VENT_HS3	Benzene	9.13E-01	5.40E-04
2040	POINT	VENT_HS3	VENT_HS3	Bromine and compounds	7.40E-02	4.38E-05
2040	POINT	VENT_HS3	VENT_HS3	t-Butyl alcohol	3.98E+02	2.35E-01
2040	POINT	VENT_HS3	VENT_HS3	Carbon tetrachloride	5.37E+00	3.17E-03
2040	POINT	VENT_HS3	VENT_HS3	Chloroform	7.19E+01	4.26E-02
2040	POINT	VENT_HS3	VENT_HS3	Dimethylformamide	2.70E+00	1.60E-03
2040	POINT	VENT_HS3	VENT_HS3	1,4-Dioxane	1.71E+00	1.01E-03
2040	POINT	VENT_HS3	VENT_HS3	Ethylene Dichloride	2.40E+00	1.42E-03
2040	POINT	VENT_HS3	VENT_HS3	Formaldehyde	6.76E+01	4.00E-02
2040	POINT	VENT_HS3	VENT_HS3	n-Hexane	3.66E+00	2.16E-03
2040	POINT	VENT_HS3	VENT_HS3	Hydrazine	5.89E-02	3.48E-05
2040	POINT	VENT_HS3	VENT_HS3	Hydrochloric acid	1.74E+02	1.03E-01
2040	POINT	VENT_HS3	VENT_HS3	Isopropanol	2.19E+02	1.30E-01
2040	POINT	VENT_HS3	VENT_HS3	Methyl alcohol	7.78E+02	4.60E-01
2040	POINT	VENT_HS3	VENT_HS3	Methylene chloride	1.08E+01	6.36E-03
2040	POINT	VENT_HS3	VENT_HS3	Toluene	6.74E+00	3.98E-03
2040	POINT	VENT_HS3	VENT_HS3	1,1,1-Trichloroethane	2.06E-01	1.22E-04
2040	POINT	VENT_HS3	VENT_HS3	Trichloroethylene	5.44E-01	3.21E-04
2040	POINT	VENT_HS3	VENT_HS3	Triethylamine	1.15E+00	6.76E-04
2040	POINT	VENT_HS3	VENT_HS3	Xylenes (mixed)	1.34E+01	7.93E-03
2040	POINT	VENT_HS4	VENT_HS4	Acetonitrile	4.66E+01	2.76E-02
2040	POINT	VENT_HS4	VENT_HS4	Acrylamide	5.37E-01	3.17E-04
2040	POINT	VENT_HS4	VENT_HS4	Ammonia1	6.69E+03	3.95E+00
2040	POINT	VENT_HS4	VENT_HS4	Benzene	9.13E-01	5.40E-04
2040	POINT	VENT_HS4	VENT_HS4	Bromine and compounds	7.40E-02	4.38E-05
2040	POINT	VENT_HS4	VENT_HS4	t-Butyl alcohol	3.98E+02	2.35E-01
2040	POINT	VENT_HS4	VENT_HS4	Carbon tetrachloride	5.37E+00	3.17E-03
2040	POINT	VENT_HS4	VENT_HS4	Chloroform	7.19E+01	4.26E-02
2040	POINT	VENT_HS4	VENT_HS4	Dimethylformamide	2.70E+00	1.60E-03
2040	POINT	VENT_HS4	VENT_HS4	1,4-Dioxane	1.71E+00	1.01E-03
2040	POINT	VENT_HS4	VENT_HS4	Ethylene Dichloride	2.40E+00	1.42E-03
2040	POINT	VENT_HS4	VENT_HS4	Formaldehyde	6.76E+01	4.00E-02
2040	POINT	VENT_HS4	VENT_HS4	n-Hexane	3.66E+00	2.16E-03
2040	POINT	VENT_HS4	VENT_HS4	Hydrazine	5.89E-02	3.48E-05
2040	POINT	VENT_HS4	VENT_HS4	Hydrochloric acid	1.74E+02	1.03E-01
2040	POINT	VENT_HS4	VENT_HS4	Isopropanol	2.19E+02	1.30E-01
2040	POINT	VENT_HS4	VENT_HS4	Methyl alcohol	7.78E+02	4.60E-01
2040	POINT	VENT_HS4	VENT_HS4	Methylene chloride	1.08E+01	6.36E-03
2040	POINT	VENT_HS4	VENT_HS4	Toluene	6.74E+00	3.98E-03
2040	POINT	VENT_HS4	VENT_HS4	1,1,1-Trichloroethane	2.06E-01	1.22E-04
2040	POINT	VENT_HS4	VENT_HS4	Trichloroethylene	5.44E-01	3.21E-04
2040	POINT	VENT_HS4	VENT_HS4	Triethylamine	1.15E+00	6.76E-04
2040	POINT	VENT_HS4	VENT_HS4	Xylenes (mixed)	1.34E+01	7.93E-03
2040	POINT	VENT_MC2	VENT_MC2	Acetonitrile	3.25E+00	1.92E-03
2040	POINT	VENT_MC2	VENT_MC2	Acrylamide	0.00E+00	0.00E+00
2040	POINT	VENT_MC2	VENT_MC2	Ammonia1	3.05E+02	1.80E-01
2040	POINT	VENT_MC2	VENT_MC2	Benzene	5.09E-01	3.01E-04
2040	POINT	VENT_MC2	VENT_MC2	Bromine and compounds	2.53E-01	1.49E-04
2040	POINT	VENT_MC2	VENT_MC2	t-Butyl alcohol	8.49E-01	5.01E-04

HARP Input - 2040 Scenario

2040	POINT	VENT_MC2	VENT_MC2	Carbon tetrachloride	3.35E+00	1.98E-03
2040	POINT	VENT_MC2	VENT_MC2	Chloroform	6.82E+00	4.02E-03
2040	POINT	VENT_MC2	VENT_MC2	Dimethylformamide	2.31E-02	1.37E-05
2040	POINT	VENT_MC2	VENT_MC2	1,4-Dioxane	1.59E-01	9.37E-05
2040	POINT	VENT_MC2	VENT_MC2	Ethylene Dichloride	1.76E+01	1.04E-02
2040	POINT	VENT_MC2	VENT_MC2	Formaldehyde	6.84E+00	4.04E-03
2040	POINT	VENT_MC2	VENT_MC2	n-Hexane	5.61E+00	3.32E-03
2040	POINT	VENT_MC2	VENT_MC2	Hydrazine	4.08E-03	2.41E-06
2040	POINT	VENT_MC2	VENT_MC2	Hydrochloric acid	5.94E+01	3.51E-02
2040	POINT	VENT_MC2	VENT_MC2	Isopropanol	1.22E+02	7.20E-02
2040	POINT	VENT_MC2	VENT_MC2	Methyl alcohol	3.05E+02	1.80E-01
2040	POINT	VENT_MC2	VENT_MC2	Methylene chloride	1.98E+00	1.17E-03
2040	POINT	VENT_MC2	VENT_MC2	Toluene	2.86E+00	1.69E-03
2040	POINT	VENT_MC2	VENT_MC2	1,1,1-Trichloroethane	9.53E+00	5.65E-03
2040	POINT	VENT_MC2	VENT_MC2	Trichloroethylene	2.72E+00	1.60E-03
2040	POINT	VENT_MC2	VENT_MC2	Triethylamine	0.00E+00	0.00E+00
2040	POINT	VENT_MC2	VENT_MC2	Xylenes (mixed)	5.86E+00	3.46E-03
2040	POINT	VENT_UC	VENT_UC	Acetonitrile	2.44E+00	1.44E-03
2040	POINT	VENT_UC	VENT_UC	Acrylamide	0.00E+00	0.00E+00
2040	POINT	VENT_UC	VENT_UC	Ammonia1	2.29E+02	1.35E-01
2040	POINT	VENT_UC	VENT_UC	Benzene	3.82E-01	2.26E-04
2040	POINT	VENT_UC	VENT_UC	Bromine and compounds	1.89E-01	1.12E-04
2040	POINT	VENT_UC	VENT_UC	t-Butyl alcohol	6.37E-01	3.76E-04
2040	POINT	VENT_UC	VENT_UC	Carbon tetrachloride	2.51E+00	1.48E-03
2040	POINT	VENT_UC	VENT_UC	Chloroform	5.11E+00	3.02E-03
2040	POINT	VENT_UC	VENT_UC	Dimethylformamide	1.73E-02	1.02E-05
2040	POINT	VENT_UC	VENT_UC	1,4-Dioxane	1.19E-01	7.02E-05
2040	POINT	VENT_UC	VENT_UC	Ethylene Dichloride	1.32E+01	7.80E-03
2040	POINT	VENT_UC	VENT_UC	Formaldehyde	5.13E+00	3.03E-03
2040	POINT	VENT_UC	VENT_UC	n-Hexane	4.21E+00	2.49E-03
2040	POINT	VENT_UC	VENT_UC	Hydrazine	3.06E-03	1.81E-06
2040	POINT	VENT_UC	VENT_UC	Hydrochloric acid	4.46E+01	2.63E-02
2040	POINT	VENT_UC	VENT_UC	Isopropanol	9.13E+01	5.40E-02
2040	POINT	VENT_UC	VENT_UC	Methyl alcohol	2.29E+02	1.35E-01
2040	POINT	VENT_UC	VENT_UC	Methylene chloride	1.48E+00	8.75E-04
2040	POINT	VENT_UC	VENT_UC	Toluene	2.14E+00	1.27E-03
2040	POINT	VENT_UC	VENT_UC	1,1,1-Trichloroethane	7.15E+00	4.24E-03
2040	POINT	VENT_UC	VENT_UC	Trichloroethylene	2.04E+00	1.20E-03
2040	POINT	VENT_UC	VENT_UC	Triethylamine	0.00E+00	0.00E+00
2040	POINT	VENT_UC	VENT_UC	Xylenes (mixed)	4.39E+00	2.60E-03
Wastewater Treatment Plant	**SourceType**	**Description**	**Source ID**	**Pollutant**	**Annual Ems (lbs/yr)**	**Max Hr Ems (lbs/hr)**
2040	POINT	WWTP	WWTP	Ammonia	3.65E-02	2.50E-04
2040	POINT	WWTP	WWTP	Benzene	7.07E-05	4.84E-07
2040	POINT	WWTP	WWTP	Chloroform	9.87E-04	6.76E-06
2040	POINT	WWTP	WWTP	Ethyl Benzene	2.74E-04	1.88E-06
2040	POINT	WWTP	WWTP	Hydrogen Sulfide	2.38E-03	1.63E-05
2040	POINT	WWTP	WWTP	1,1,1-TCA	3.23E-04	2.21E-06
2040	POINT	WWTP	WWTP	Methylene Chlorine	9.50E-04	6.51E-06
2040	POINT	WWTP	WWTP	1,4-Dichlorobenzene	5.66E-04	3.88E-06
2040	POINT	WWTP	WWTP	Phenol	1.19E-03	8.18E-06
2040	POINT	WWTP	WWTP	Styrene	6.09E-04	4.17E-06
2040	POINT	WWTP	WWTP	Toluene	5.97E-04	4.09E-06
2040	POINT	WWTP	WWTP	TCE	3.17E-04	2.17E-06
2040	POINT	WWTP	WWTP	Xylene	7.14E-04	4.89E-06

Appendix B

Trip Generation Calculations

MEMORANDUM

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To:	Robert Clossin UC San Diego	Date:	March 14, 2025
From:	John Boarman, PE Amelia Giacalone LLG	LLG Ref:	3-23-3843
Subject:	Trip Generation Calculations Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan		

Linscott, Law & Greenspan, Engineers (LLG) has prepared this *Trip Generation Calculations Memorandum* for the Update to the 2018 University of California (UC) San Diego La Jolla Campus Long Range Development Plan Update (hereby referred to as the "Project"). The UC San Diego La Jolla Campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego. This memo has been prepared to document the trip generation and assignment methodology and procedure for the Project.

Background

The Project Area is located within a Transit Priority Area (TPA) and can therefore be presumed to have a less than significant transportation (VMT) impact, as documented under separate cover. Since the Project can be presumed to have a less than significant transportation impact, Project trip generation and assignment were not needed to determine the Project's potential CEQA impact from a transportation perspective. However, this data was required for use in the Project's air quality. Greenhouse gas, and noise analyses and was therefore developed by LLG in association with staff at the UC San Diego La Jolla Campus and the Project team.

2018 LRDP

<u>Project Description</u>

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total of 42,400 students during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 6,700 new beds by 2035.

Trip Generation

Total average daily trips (ADT) for the campus at 2035 including buildout of the 2018 LRDP was calculated as **117,209 ADT**. Trip generation was calculated for each component of the 2018 LRDP project description listed above based on the following documents.

- *UC San Diego Trip Generation Assessment* report (2010)
- *2004 UC San Diego Long Range Development Plan Traffic Update* (2010)
- Published City of San Diego trip generation rates from the Land Development Code *Trip Generation Manual*, revised May 2003.

Update to the 2018 LRDP

Project Description

The proposed Project would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development is proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP. The projected campus-wide population in 2040 is **96,300 people**.

Trip Generation

Given the fact that the trip generation sources listed above are very dated and in some cases over 20-years old, the trip generation for the Project was not calculated based on trip rates, the methodology used for the 2018 LRDP. Instead, trip generation was estimated based on the anticipated campus population at Project buildout and Winter 2023 mode split data provided by UC San Diego (included as ***Attachment A***).

This methodology calculates ADT based on campus population and assumes 2 trips per person per day as a starting point for the calculations, based on expected travel patterns (e.g., each member of the campus population will arrive and depart once per day). As noted above, the projected campus-wide population for the Project in 2040 is 96,300 people. **96,300 people x 2 trips per person = 192,600 average person trips per day**. Person trips are the number of trips made to and from Campus by the campus population via all modes of transportation including single occupancy vehicle, carpool, transit, biking, walking or some other mode and includes theoretical trips[1] associated with remote workers and on-campus student residents.

Adjustments were made to the person trips calculated above to account for members of the campus population who would not be expected to commute to campus, including fully remote workers and

[1] A theoretical trip is an expected trip to/from campus by a member of the campus population that is not made because the person lives on campus or is working from home /not commuting to campus on that day.

on-campus student residents. Based on Winter 2023 mode split data provided by UC San Diego, summarized in ***Table A***, approximately 18% of the campus population reported working remotely and approximately 19% reported as non-commuting on-campus student residents. Applying this mode split data to the Project's calculated 192,600 average daily person trips equates to a reduction of 34,709 person trips for remote workers and 36,631 person trips for on-campus student residents, as shown in ***Table B***.

Additional adjustments were made to the Project's person trips to account for alternative modes of transportation and occupancy rates based on Winter 2023 mode split data provided by UC San Diego. The Winter 2023 mode split data summarized in *Table A* shows that approximately 28.4% of the campus population reported commuting by single occupant vehicle, 19% by multi-occupant vehicle (carpool), 0.8% utilizing the campus-wide shuttle service, 6.4% taking public transportation with an additional 3.5% taking the trolley, 4.7% biking or walking, 0.1% by vanpool, and 0.1% by motorcycle.

Applying the non-vehicular mode split and vehicle occupancy reductions to the Project's calculated 192,600 average daily person trips equates to **73,915 average daily vehicular trips (ADT)**, as calculated in ***Table B***.

Trip Distribution

The calculated Project traffic summarized above was assigned to the local and regional street system based on the methodology outlined in the 2018 LRDP Transportation Impact Study (TIS).

Trip Generation Comparison

The trip generation for buildout (2035) of the 2018 LRDP was calculated using a more traditional methodology that considered published land-use specific trip generation rates and proposed development square footage. Total ADT for the campus including the 2018 LRDP at buildout was calculated as **117,209 ADT**. It should be noted that more traditional methodologies do not always accurately account for the nuanced travel behaviors associated with a university/campus context.

As noted above, trip generation for the Project was not calculated based on the methodology used for the 2018 LRDP. Instead, trip generation was estimated based on UC San Diego specific Winter 2023 mode split data and the projected campus population under 2040 conditions. Using this refined methodology, total buildout (2040) ADT for the campus including the Update to the 2018 LRDP was calculated as **73,915 ADT**.

Year 2040 Traffic Volumes

Traffic volumes were forecast for the same segments analyzed in the 2018 LRDP Traffic Impact Analysis for the following scenarios:

- Year 2040 with buildout of the 2018 LRDP without Project
- Year 2040 with buildout of the 2018 LRDP + Project.

Year 2040 with buildout of the 2018 LRDP **without** Project Traffic Volumes

Consistent with methodology from the 2018 LRDP TIA, the 2040 without Project forecast volumes are based on the *University Community Plan Amendment Transportation Impact Study* (2016). This study forecasted community buildout for the Year 2035.

The Year 2040 traffic volumes were developed based on an interpolation between the Existing and the Year 2035 traffic volumes from the 2018 LRDP TIA. A standard incremental year-over-year increase was developed and applied to the 2035 traffic volumes to account for the five-years between 2035 and 2040. Next, the net-new buildout trips from the 2018 LRDP TIA were added to the 2040 volumes to develop the "2040 with buildout of the 2018 LRDP without Project" traffic volumes, which are provided in ***Table C***.

Year 2040 with buildout of the 2018 LRDP **with** Project Traffic Volumes

The net-new Project buildout traffic volumes were added to the 'Year 2040 with buildout of the 2018 LRDP without Project Traffic Volumes' based on the distribution methodology from the 2018 LRDP TIA to develop the 'Year 2040 with buildout of the 2018 LRDP with Project Traffic Volumes', which are provided in *Table C.*

As noted above, buildout of the 2018 LRDP was calculated to generate a campus wide total of 117,209 ADT and buildout of the Update to the 2018 LRDP was calculated to generate a campus wide total of 73,915 ADT. The decrease in total campus ADT between the without Update and with Update scenarios results in "with Project" volumes that are lower than the "without Project" volumes and in some cases, lower than the existing traffic volumes from the 2018 LRDP study.

The calculated decrease in total campus ADT associated with the refined trip generation methodology accounts for changes in remote work, increases in on-campus student housing, and more accurate self-reporting data, and thus provides improved modeling of the campus' expected ADT. Previous methodology was based on more generalized trip generation standards that may not have accurately accounted for the more nuanced transportation patterns of a university campus. More specifically, standard methodologies do not always accurately account for student travel patterns that are unique to both commuters and on-campus residents. In addition, these methodologies do not always accurately reflect the university's robust transportation demand management programs. Today students account for approximately 65 percent of the total campus population and in the future that number will be approximately 58 percent, as estimated under the Update to the 2018 LRDP, representing a significant portion of the total campus population.

Table A: UC San Diego Winter 2023 Mode Split Summary

Mode[a]	**Percentage[c]**	**Vehicle Occupancy Rate [b]**
Single Occupant Vehicle	28.4%	1.0
Motorcycle	0.1%	1.0
Multi-Occupant Vehicle (carpool)	19.0%	2.1
Vanpool	0.1%	5.9
Shuttle	0.8%	12.7
Bike & Pedestrian	4.7%	-
Transit: Bus	6.4%	10.8
Transit: Trolley	3.5%	23.6
Remote Workers (no commute)	18.0%	-
Non-Commuting On-campus Student Residents	19.0%	-
Total	**100%**	**-**

Footnotes:

a. Winter 2023 mode split data and vehicle occupancy data provided by UC San Diego.
b. People / vehicle
c. Mode split percentages are reported as rounded to the nearest tenth.

Table B: Year 2040 Project Trip Type Summary

Mode[a]	Percentage[f]	Vehicle Occupancy Rate [b]	Person Trips[d]	Vehicle Trips (ADT)[e]
Single Occupant Vehicle	28.4%	1.0	54,682	54,682
Motorcycle	0.1%	1.0	263	263
Multi-Occupant Vehicle (carpool)	19.0%	2.1	36,559	17,410
Vanpool	0.1%	5.9	98	17
Shuttle	0.8%	12.7	1,484	117
Bike & Pedestrian	4.7%	-	9,128	0
Transit: Bus	6.4%	10.8	12,321	1,141
Transit: Trolley	3.5%	23.6	6,725	285
Remote Workers (no commute)	18.0%	-	34,709	0
On-campus Student Residents (no commute)	19.0%	-	36,631	0
Total	**100%**	**-**	**192,600[c]**	**73,915**

Footnotes:

a. Winter 2023 mode split data and vehicle occupancy data provided by UC San Diego.
b. People / vehicle
c. Total person trips calculated based on the Project Year 2040 campus population of 96,300 people and the rate of 2 trips per person per day.
d. Person trips calculated by multiplying the calculated total person trips of 192,600 by the applicable mode split share.
e. Vehicle trips calculated by multiplying the person trips by the vehicle occupancy rate.
f. Mode split percentages are reported as rounded to the nearest tenth. Calculations were conducted using the unrounded mode split percentages as reported by UC San Diego.

Table C: Project Trip Type Summary

Roadway	Roadway Segment	ADT		
		Existing	2040 Without Project	2040 With Project Update
Genessee Avenue	N Torrey Pines Road to Science Center Dr	36,320	50,060	47,290
	Science Center Dr to I-5 SB Ramps	40,170	62,790	60,020
	I-5 NB Ramps to Scripps Hospital Dr	39,900	61,200	58,120
	Scripps Hospital Dr to Campus Point Dr	33,720	67,510	64,430
	Campus Point Dr to Regents Rd	34,260	65,600	60,300
N Torrey Pines Road	Genessee Ave to Northpoint Driveway	21,940	25,630	22,690
	Northpoint Driveway to Torrey Pines Scenic Dr	20,410	28,840	26,490
	Torrey Pines Scenic Dr to Salk Institute Rd	20,750	27,080	24,730
	Salk Institute Rd to Pangea Dr	22,390	26,930	23,400
	Pangea Dr to Muir College Dr	22,390	26,930	23,400
	Muir College Dr to La Jolla Shores Dr	25,240	30,060	24,760
	La Jolla Shores Dr to Expedition Wy	23,770	35,320	22,680
	Expedition Wy to S Torrey Pines Rd	23,770	35,320	22,680
La Jolla Shores Drive	Shellback Way to Downwind Way	10,670	13,420	12,990
	Downwind Way to El Paseo Grande	10,670	13,420	12,990
Regents Road	Genesee Avenue to Health Science Drive	5,680	11,870	9,240
	Health Science Drive to Eastgate Mall	13,760	24,490	19,220
	Eastgate Mall to Executive Drive	14,100	26,090	19,160
	Executive Drive to Regents Park Row	15,640	24,510	17,440
	Regents Park Row to La Jolla Village Drive	16,700	25,110	18,040
	La Jolla Village Drive to Nobel Drive	16,470	21,460	18,650
	South of Nobel Drive	10,920	12,000	11,570
La Jolla Village Drive	Torrey Pines Road to La Jolla Scenic Drive	42,450	63,920	51,450
	La Jolla Scenic Drive to Villa La Jolla Drive	44,790	63,690	51,380
	Villa La Jolla Drive to I-5 SB Ramps	59,540	86,590	73,400
	I-5 NB Ramps to Lebon Drive	52,360	57,710	49,020
	Lebon Drive to Regents Road	40,290	58,710	50,610
Gilman Drive	East of Villa La Jolla Drive	16,990	26,030	21,150
	Villa La Jolla Drive to La Jolla Village Drive	15,470	22,620	24,140
Villa La Jolla Drive	La Jolla Village Drive to Nobel Drive	17,620	28,020	20,660
	Nobel Drive to Gilman Drive (South)	14,030	17,460	17,040
Interstate 5	Nobel Drive to La Jolla Village Drive	156,470	187,580	181,090
	La Jolla Village Drive to Genesee Avenue	170,980	207,550	205,000

Appendix C

Health Risk Assessment
(available upon request)

Appendix B2

Trip Generation Calculations
Memorandumt

MEMORANDUM

To:	Robert Clossin UC San Diego	Date:	March 14, 2025
From:	John Boarman, PE Amelia Giacalone LLG	LLG Ref:	3-23-3843
Subject:	Trip Generation Calculations Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan		

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Linscott, Law & Greenspan, Engineers (LLG) has prepared this *Trip Generation Calculations Memorandum* for the Update to the 2018 University of California (UC) San Diego La Jolla Campus Long Range Development Plan Update (hereby referred to as the "Project"). The UC San Diego La Jolla Campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego. This memo has been prepared to document the trip generation and assignment methodology and procedure for the Project.

Background

The Project Area is located within a Transit Priority Area (TPA) and can therefore be presumed to have a less than significant transportation (VMT) impact, as documented under separate cover. Since the Project can be presumed to have a less than significant transportation impact, Project trip generation and assignment were not needed to determine the Project's potential CEQA impact from a transportation perspective. However, this data was required for use in the Project's air quality. Greenhouse gas, and noise analyses and was therefore developed by LLG in association with staff at the UC San Diego La Jolla Campus and the Project team.

2018 LRDP

Project Description

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total of 42,400 students during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 6,700 new beds by 2035.

Trip Generation

Total average daily trips (ADT) for the campus at 2035 including buildout of the 2018 LRDP was calculated as **117,209 ADT**. Trip generation was calculated for each component of the 2018 LRDP project description listed above based on the following documents.

- *UC San Diego Trip Generation Assessment* report (2010)
- *2004 UC San Diego Long Range Development Plan Traffic Update* (2010)
- Published City of San Diego trip generation rates from the Land Development Code *Trip Generation Manual*, revised May 2003.

Update to the 2018 LRDP

Project Description

The proposed Project would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development is proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP. The projected campus-wide population in 2040 is **96,300 people**.

Trip Generation

Given the fact that the trip generation sources listed above are very dated and in some cases over 20-years old, the trip generation for the Project was not calculated based on trip rates, the methodology used for the 2018 LRDP. Instead, trip generation was estimated based on the anticipated campus population at Project buildout and Winter 2023 mode split data provided by UC San Diego (included as ***Attachment A***).

This methodology calculates ADT based on campus population and assumes 2 trips per person per day as a starting point for the calculations, based on expected travel patterns (e.g., each member of the campus population will arrive and depart once per day). As noted above, the projected campus-wide population for the Project in 2040 is 96,300 people. **96,300 people x 2 trips per person = 192,600 average person trips per day**. Person trips are the number of trips made to and from Campus by the campus population via all modes of transportation including single occupancy vehicle, carpool, transit, biking, walking or some other mode and includes theoretical trips[1] associated with remote workers and on-campus student residents.

Adjustments were made to the person trips calculated above to account for members of the campus population who would not be expected to commute to campus, including fully remote workers and

[1] A theoretical trip is an expected trip to/from campus by a member of the campus population that is not made because the person lives on campus or is working from home /not commuting to campus on that day.

on-campus student residents. Based on Winter 2023 mode split data provided by UC San Diego, summarized in ***Table A***, approximately 18% of the campus population reported working remotely and approximately 19% reported as non-commuting on-campus student residents. Applying this mode split data to the Project's calculated 192,600 average daily person trips equates to a reduction of 34,709 person trips for remote workers and 36,631 person trips for on-campus student residents, as shown in ***Table B***.

Additional adjustments were made to the Project's person trips to account for alternative modes of transportation and occupancy rates based on Winter 2023 mode split data provided by UC San Diego. The Winter 2023 mode split data summarized in *Table A* shows that approximately 28.4% of the campus population reported commuting by single occupant vehicle, 19% by multi-occupant vehicle (carpool), 0.8% utilizing the campus-wide shuttle service, 6.4% taking public transportation with an additional 3.5% taking the trolley, 4.7% biking or walking, 0.1% by vanpool, and 0.1% by motorcycle.

Applying the non-vehicular mode split and vehicle occupancy reductions to the Project's calculated 192,600 average daily person trips equates to **73,915 average daily vehicular trips (ADT)**, as calculated in ***Table B***.

Trip Distribution

The calculated Project traffic summarized above was assigned to the local and regional street system based on the methodology outlined in the 2018 LRDP Transportation Impact Study (TIS).

Trip Generation Comparison

The trip generation for buildout (2035) of the 2018 LRDP was calculated using a more traditional methodology that considered published land-use specific trip generation rates and proposed development square footage. Total ADT for the campus including the 2018 LRDP at buildout was calculated as **117,209 ADT**. It should be noted that more traditional methodologies do not always accurately account for the nuanced travel behaviors associated with a university/campus context.

As noted above, trip generation for the Project was not calculated based on the methodology used for the 2018 LRDP. Instead, trip generation was estimated based on UC San Diego specific Winter 2023 mode split data and the projected campus population under 2040 conditions. Using this refined methodology, total buildout (2040) ADT for the campus including the Update to the 2018 LRDP was calculated as **73,915 ADT**.

Year 2040 Traffic Volumes

Traffic volumes were forecast for the same segments analyzed in the 2018 LRDP Traffic Impact Analysis for the following scenarios:

- Year 2040 with buildout of the 2018 LRDP without Project
- Year 2040 with buildout of the 2018 LRDP + Project.

Year 2040 with buildout of the 2018 LRDP **without** Project Traffic Volumes

Consistent with methodology from the 2018 LRDP TIA, the 2040 without Project forecast volumes are based on the *University Community Plan Amendment Transportation Impact Study* (2016). This study forecasted community buildout for the Year 2035.

The Year 2040 traffic volumes were developed based on an interpolation between the Existing and the Year 2035 traffic volumes from the 2018 LRDP TIA. A standard incremental year-over-year increase was developed and applied to the 2035 traffic volumes to account for the five-years between 2035 and 2040. Next, the net-new buildout trips from the 2018 LRDP TIA were added to the 2040 volumes to develop the "2040 with buildout of the 2018 LRDP without Project" traffic volumes, which are provided in ***Table C***.

Year 2040 with buildout of the 2018 LRDP **with** Project Traffic Volumes

The net-new Project buildout traffic volumes were added to the 'Year 2040 with buildout of the 2018 LRDP without Project Traffic Volumes' based on the distribution methodology from the 2018 LRDP TIA to develop the 'Year 2040 with buildout of the 2018 LRDP with Project Traffic Volumes', which are provided in *Table C.*

As noted above, buildout of the 2018 LRDP was calculated to generate a campus wide total of 117,209 ADT and buildout of the Update to the 2018 LRDP was calculated to generate a campus wide total of 73,915 ADT. The decrease in total campus ADT between the without Update and with Update scenarios results in "with Project" volumes that are lower than the "without Project" volumes and in some cases, lower than the existing traffic volumes from the 2018 LRDP study.

The calculated decrease in total campus ADT associated with the refined trip generation methodology accounts for changes in remote work, increases in on-campus student housing, and more accurate self-reporting data, and thus provides improved modeling of the campus' expected ADT. Previous methodology was based on more generalized trip generation standards that may not have accurately accounted for the more nuanced transportation patterns of a university campus. More specifically, standard methodologies do not always accurately account for student travel patterns that are unique to both commuters and on-campus residents. In addition, these methodologies do not always accurately reflect the university's robust transportation demand management programs. Today students account for approximately 65 percent of the total campus population and in the future that number will be approximately 58 percent, as estimated under the Update to the 2018 LRDP, representing a significant portion of the total campus population.

Table A: UC San Diego Winter 2023 Mode Split Summary

Mode[a]	Percentage[c]	Vehicle Occupancy Rate [b]
Single Occupant Vehicle	28.4%	1.0
Motorcycle	0.1%	1.0
Multi-Occupant Vehicle (carpool)	19.0%	2.1
Vanpool	0.1%	5.9
Shuttle	0.8%	12.7
Bike & Pedestrian	4.7%	-
Transit: Bus	6.4%	10.8
Transit: Trolley	3.5%	23.6
Remote Workers (no commute)	18.0%	-
Non-Commuting On-campus Student Residents	19.0%	-
Total	**100%**	**-**

Footnotes:

a. Winter 2023 mode split data and vehicle occupancy data provided by UC San Diego.
b. People / vehicle
c. Mode split percentages are reported as rounded to the nearest tenth.

Table B: Year 2040 Project Trip Type Summary

Mode[a]	Percentage[f]	Vehicle Occupancy Rate [b]	Person Trips[d]	Vehicle Trips (ADT)[e]
Single Occupant Vehicle	28.4%	1.0	54,682	54,682
Motorcycle	0.1%	1.0	263	263
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Transit: Trolley	3.5%	23.6	6,725	285
Remote Workers (no commute)	18.0%	-	34,709	0
On-campus Student Residents (no commute)	19.0%	-	36,631	0
Total	**100%**	**-**	**192,600[c]**	**73,915**

Footnotes:

a. Winter 2023 mode split data and vehicle occupancy data provided by UC San Diego.
b. People / vehicle
c. Total person trips calculated based on the Project Year 2040 campus population of 96,300 people and the rate of 2 trips per person per day.
d. Person trips calculated by multiplying the calculated total person trips of 192,600 by the applicable mode split share.
e. Vehicle trips calculated by multiplying the person trips by the vehicle occupancy rate.
f. Mode split percentages are reported as rounded to the nearest tenth. Calculations were conducted using the unrounded mode split percentages as reported by UC San Diego.

Table C: Project Trip Type Summary

Roadway	Roadway Segment	ADT		
		Existing	2040 Without Project	2040 With Project Update
Genessee Avenue	N Torrey Pines Road to Science Center Dr	36,320	50,060	47,290
	Science Center Dr to I-5 SB Ramps	40,170	62,790	60,020
	I-5 NB Ramps to Scripps Hospital Dr	39,900	61,200	58,120
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	Salk Institute Rd to Pangea Dr	22,390	26,930	23,400
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	Expedition Wy to S Torrey Pines Rd	23,770	35,320	22,680
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	Health Science Drive to Eastgate Mall	13,760	24,490	19,220
	Eastgate Mall to Executive Drive	14,100	26,090	19,160
	Executive Drive to Regents Park Row	15,640	24,510	17,440
	Regents Park Row to La Jolla Village Drive	16,700	25,110	18,040
	La Jolla Village Drive to Nobel Drive	16,470	21,460	18,650
	South of Nobel Drive	10,920	12,000	11,570
La Jolla Village Drive	Torrey Pines Road to La Jolla Scenic Drive	42,450	63,920	51,450
	La Jolla Scenic Drive to Villa La Jolla Drive	44,790	63,690	51,380
	Villa La Jolla Drive to I-5 SB Ramps	59,540	86,590	73,400
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Gilman Drive	East of Villa La Jolla Drive	16,990	26,030	21,150
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Villa La Jolla Drive	La Jolla Village Drive to Nobel Drive	17,620	28,020	20,660
	Nobel Drive to Gilman Drive (South)	14,030	17,460	17,040
Interstate 5	Nobel Drive to La Jolla Village Drive	156,470	187,580	181,090
	La Jolla Village Drive to Genesee Avenue	170,980	207,550	205,000

Appendix C

Addendum to the Biological Resources Technical Report

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March 20, 2025 00888.00076.001

Ms. Alison Buckley
UC San Diego Campus Planning
9500 Gilman Dr. MC 0074
La Jolla, CA 92093-0074

Subject: Addendum to the Biological Resources Technical Report for the Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan Subsequent Environmental Impact Report

Dear Ms. Lievers:

This letter report prepared by HELIX Environmental Planning, Inc. (HELIX) serves as an addendum to the October 2018 Biological Resources Technical Report (HELIX 2018) prepared for the University of California, San Diego (UC San Diego) 2018 Long Range Development Plan (LRDP) Environmental Impact Report (EIR). The addendum report provides an updated analysis of impacts on biological resources relative to revisions proposed in the Update to the 2018 UC San Diego La Jolla Campus LRDP (Update to the 2018 LRDP) and current regulations.

INTRODUCTION

Background

The UC requires that each campus in the UC system maintain a LRDP. The LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected population increases and new program initiatives. The current LRDP for the UC San Diego La Jolla campus (2018 LRDP) and its Environmental Impact Report (EIR; State Clearinghouse No. 2016111019) were adopted on November 15, 2018, by the UC Regents. The 2018 LRDP EIR analyzed and disclosed the impacts from the implementation of the 2018 LRDP.

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total enrollment of 42,400 during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 8,900 new residential beds. The proposed Update to the 2018 LRDP would increase these projections and is described below, in the “Project Description” section.

The Update to the 2018 LRDP would result in minor expansion of campus development impacts into undeveloped lands in two locations not previously analyzed for impacts in the 2018 LRDP EIR and Biological Resources Technical Report. These include a potential wastewater treatment plant and a new electrical substation, both on West Campus. The potential wastewater treatment plant location supports sensitive habitats but would not result in impacts to new sensitive habitat types not previously analyzed in the 2018 LRDP. The electrical substation does not contain sensitive habitat, only eucalyptus woodland, but could be used by sensitive wildlife species. Additionally, the new electrical substation site is within lands designated as Urban Forest and the wastewater treatment plant site is within lands designated as Restoration Lands in the University's Open Space Preserve (OSP). The Update to the 2018 LRDP also includes additional redevelopment of existing urbanized areas on campus, of which the West Campus Housing project (Warren College) is adjacent to the Ecological Reserve OSP within West Campus. The Update would not result in impacts to the University's Ecological Reserve.

Project Location

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego (Figure 1, *Regional Location*). UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus). The East and West Campuses are bisected by Interstate 5 (I-5) but are internally connected via two bridges. The La Jolla del Sol housing complex is located southeast of these larger geographical areas and is not contiguous to the campus. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel, and the Torrey Pines Gliderport, Torrey Pines Center, and Torrey Pines Court. See Figure 2, *Campus Boundary*. All projects considered in the Update to the 2018 LRDP would be entirely within the campus boundary.

Project Description

The Update to the 2018 LRDP represents physical development and population growth capacities on UC San Diego's La Jolla campus that are projected to occur through the updated horizon year of 2040. The Update to the 2018 LRDP would revise and increase the previous population growth and development projections and extend the planning horizon year from 2035 to 2040. Corresponding land use development is expected to increase from the projections outlined in the 2018 LRDP. To accommodate this growth, land use changes would be made in SIO and the West and East Campuses (Figure 3, *Updated Land Use Map*). For a detailed Project Description, refer to the Supplemental EIR.

Potential new utility infrastructure required to accommodate campus growth (electrical substation and wastewater treatment plant) would be sited within existing OSP areas (Urban Forest and Restoration Land types), requiring a change in land use in these areas to General Services. The Urban Forest type of OSP land use in the northern portion of the West Campus would be reduced by approximately four acres, and this loss would be accommodated by expanding the OSP in the East Campus and SIO (Figure 4, *Open Space Preserve Proposed Boundary Updates*). The Restoration Lands area in the southern portion of the West Campus would be reduced by approximately 0.7 acre, which would be accommodated by expanding the Restoration Lands OSP area immediately east and west of the removed site.

The Update to the 2018 LRDP evaluates the potential construction of a new electrical substation in the University's Urban Forest at the northeast corner of Genesee Avenue and Hopkins Drive. The land use designation would change from Urban Forest-subtype OSP to General Services for this area and an equal acreage of land would be added to the OSP elsewhere on campus, resulting in no net loss of campus OSP areas. The General Services land use type, which is proposed for the electrical substation, includes operations, security and safety, and maintenance of University facilities. Urban Forest is described as an aesthetic resource in the 2018 LRDP, in which future expansion of existing facilities and new facilities will be limited, and, wherever possible, efforts made to reduce building footprints and replenish the Urban Forest to enhance the integrity of this open space. The Update to the 2018 LRDP also includes a potential wastewater treatment plant in Restoration Lands northeast of the intersection of La Jolla Village Drive and Gilman Drive. Restoration Lands are described as areas disturbed by erosion and invasive vegetation, which are intended to be restored to a native or Ecological Reserve condition. Development in these areas is restricted but may move forward if the proposed improvements have a net benefit to the OSP. Essential utility and stormwater facilities are allowable land uses within Restoration Lands.

METHODOLOGY

The analysis contained herein relies on the biological resources data collected for the 2018 LRDP EIR (HELIX 2018). No additional biological resources surveys were conducted for this Addendum report based upon the relatively recent vintage of the 2018 LRDP EIR biological analysis and the detailed baseline data contained in that document, and the nature of the development proposed in the Update to the 2018 LRDP, which focuses on previously developed sites and which would not result in significant impacts to sensitive habitats following implementation of mitigation measures. The results of site-specific surveys and vegetation mapping completed since the 2018 LRDP were reviewed, and it was confirmed that mapping remains generally consistent (HELIX 2019, 2020, 2021, 2022a, 2022b, and 2024; WSP 2023 and 2024, and UC San Diego 2024). Further, projects identified in the Update to the 2018 LRDP would be built out over the course of several years, through 2040, and any projects proposed within undeveloped lands would require updated project-specific surveys in accordance with the mitigation measures Bio-1A, Bio-2A, Bio-2C, Bio-2F, Bio-2G, Bio-3A, and Bio-4A, as contained herein, which would provide current data at the project level as individual projects move forward.

As part of the planning process for the Update to the 2018 LRDP, UC San Diego Campus Planning identified potential areas for new development and redevelopment that could accommodate the proposed buildout projections. Potential redevelopment areas and development areas proposed under the Update to the 2018 LRDP are shown on Figure 5a, *Vegetation and Sensitive Biological Resources/Impacts – SIO*, Figure 5b, *Vegetation and Sensitive Biological Resources/Impacts – West Campus*, and Figure 5c, *Vegetation and Sensitive Biological Resources/Impacts – East Campus*. Potential areas of redevelopment are identified on sites where existing structure(s) would be demolished, and a new structure(s) would be constructed in its place. Potential new development areas are identified on limited sites that are not currently developed or where a new structure could be constructed where one currently does not exist, such as an existing parking lot. The proposed Update does not require any specific development projects on any site. The purpose of the potential development assumptions is to illustrate a land use program that would accommodate the proposed buildout projections under the Update to the 2018 LRDP. The identified development areas provide possible options that UC San Diego has to accommodate the planned growth.

SUBSEQUENT REVIEW

As outlined in California Environmental Quality Act (CEQA) Guidelines Section 15162(a), when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was adopted, shows any of the following:

A. The project will have one or more significant effects not discussed in the EIR;

B. Significant effects previously examined will be substantially more severe than shown in the EIR;

C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

D. Mitigation measures or alternatives which are considerably different from those in the EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

SUMMARY OF NEW BIOLOGICAL RESOURCE INFORMATION SINCE 2018 LRDP EIR CERTIFICATION

Sensitive Animal Species

Since 2018, the following three insect species that occur in the San Diego region have either been listed or proposed for listing under the federal or state Endangered Species Act: Crotch's bumble bee (*Bombus crotchii*), Hermes copper butterfly (*Lycaena hermes*), and monarch butterfly (*Danaus plexippus*). Thus, this Addendum report incorporates additional information to address these species in the context of both the LRDP and Update to the 2018 LRDP. A discussion of these species is provided below.

Other sensitive species previously documented on campus and discussed in the 2018 LRDP EIR are not included in the below summary as this is not new biological resources information. Potential impacts to these species resulting from the Update to the 2018 LRDP are discussed in Issues 1 and 2 under Impacts.

Crotch's Bumble Bee (*Bombus crotchii*)
Status: --/SCE[1]
Distribution: The species occurs primarily in California, including the Mediterranean region, Pacific coast, western desert, and adjacent foothills throughout much of the state's southwestern region and north to Redding.
Habitat(s): Inhabits shrublands, chaparral, and open grasslands with suitable nectar and pollen sources. Primarily nests underground and forages on a wide variety of flowers, but a short tongue renders it best suited to open flowers with short corollas. Most commonly observed on flowering species in the Fabaceae, Asteraceae, and Lamiaceae families. Occurrence has also been linked to habitats containing *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera.
Presence on Site or Potential to Occur: A search of available biological database records (California Natural Diversity Database [CNDDB 2024]) and community science applications (iNaturalist 2024) have not reported this species on campus to date, and no recent CNDDB records were found for this species near campus. The nearest iNaturalist record is approximately four miles south of campus at Kate Sessions Memorial Park, followed by an observation in Tierrasanta, approximately seven miles southeast of campus, and multiple observations in Mission Trails Regional Park, approximately eight miles southeast of campus. Based on the recent records of the species in the San Diego region and suitable habitat on campus, this species has moderate to high potential to occur on campus within undeveloped natural areas with suitable nectar and pollen sources, specifically in Diegan coastal sage scrub, maritime succulent scrub, southern mixed chaparral, southern coastal bluff scrub, southern maritime chaparral, native grassland, and non-native grassland habitats, which occur primarily within conserved Ecological Reserve and Restoration Lands on East Campus, West Campus, and SIO. Small areas of Diegan coastal sage scrub in the SIO area of campus were identified as impact areas under the 2018 LRDP; these areas support suitable habitat for Crotch's bumble bee but were not analyzed for impacts to this species under the 2018 LRDP EIR. The Update to the 2018 LRDP includes one additional project site (i.e., the potential wastewater treatment plant north of La Jolla Village Drive) with potential suitable habitat for this species that was not considered in the 2018 LRDP EIR. The electrical substation site, which consists of eucalyptus forest, does not contain suitable habitat for this species.

Hermes Copper Butterfly (*Lycaena hermes*)
Status: FT[2]/--
Distribution: Historic range includes from Pine Valley west to the coastal mesas of southwestern San Diego County, and northeast towards Bonsall. Many populations are considered extirpated.
Habitat(s): Found in coastal sage scrub and southern mixed chaparral habitats where mature specimens of its larval host plant, spiny redberry (*Rhamnus crocea*), are present. Nectar resources include California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), and California sunflower (*Encelia californica*), among others. Typically, a sedentary species with limited movement capabilities.
Presence on Site or Potential to Occur: This species has not been documented on campus and is not expected to occur. Although the species host plant is present within portions of southern maritime chaparral in the Ecological Reserve on the SIO portion of campus, no extant Hermes copper populations

[1] State Candidate Endangered
[2] Federally Threatened

are known west of I-15 (I-15 is approximately seven miles east of campus); based on approximately 20 years of survey data through 2019, fire and drought have extirpated all populations except those that are at higher elevations further east in the County (Marschalek 2020). The nearest recent observation is over 20 miles east of campus (iNaturalist 2024 and USFWS 2024a). The largest extant populations of Hermes copper are concentrated south of I-8, from the Jamul area east into the Cleveland National Forest (Marschalek and Deutschman 2017). Development proposed under the 2018 LRDP and the Update to the 2018 LRDP would not impact Hermes copper butterfly.

Monarch Butterfly (*Danaus plexippus*)
Status: FC[3]/--
Distribution: Winter roost sites extend along the coast from northern Mendocino south to Baja California, Mexico.
Habitat(s): Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.).
Presence on Site: Suitable overwintering habitat occurs within the Historic Grove and Urban Forest areas on campus, both of which are dominated by eucalyptus trees, which are non-native species planted widely on campus. Two main overwintering sites were identified on campus in 1997: (1) near the Faculty Club and Mandeville Center on West Campus north of Gilman Drive and south of Voigt Drive, and (2) the Coast/Azul site on the SIO portion of campus west of North Torrey Pines Road and south of Azul Street. The greatest number of overwintering monarchs recorded on campus was in 1997 (the first year of recorded data collection), when approximately 8,000 individuals were observed at the Faculty Club/Mandeville site, approximately 2,400 individuals were observed at the Coast/Azul Street site, and smaller numbers were documented near the Ché Café and Weiss Theater north of La Jolla Village Drive on West Campus (Xerces Society Western Monarch Count 2024). The Faculty Club/Mandeville site and Weiss Theater sites are both located within Historic Grove on West Campus, the Ché Café site is located in Urban Forest on West Campus, and the Coast/Azul Street site is located in Urban Forest at SIO. The total number of overwintering monarchs observed on campus in 1997 was approximately 10,890, followed by only 1,495 individuals in 1998, and dropping to 15 individuals in 1999 (Xerces Society Western Monarch Count 2024). Between 1999 and 2023, recorded observations of overwintering monarchs on campus have ranged from zero to 150, with fewer than 20 overwintering monarchs reported each year between 2016 and 2023 (Xerces Society Western Monarch Count 2024). Based on available data, monarch populations on the campus have not been prolific since the late 1990s. The Update to the 2018 LRDP includes the potential development of an electrical substation within an undeveloped site designated as Urban Forest and supporting eucalyptus woodland. The electrical substation is proposed at the northeast corner of Genesee Avenue and Hopkins Drive in a location where the Urban Forest is bounded by development on two sides. The potential wastewater treatment plant location also falls partially within an area supporting eucalyptus woodland. While monarch butterflies have not been documented overwintering in these locations, potentially suitable overwintering habitat is present. Removal of eucalyptus trees could impact overwintering monarchs if trees are removed between October 1st and March 15th and the species is present.

Bird Strikes

In addition to the above discussions of insect species listed or proposed for listing since the 2018 LRDP EIR, this document also incorporates design measures to reduce the potential for bird strikes with

[3] Federal Candidate for Listing

buildings on campus. As the campus continues to grow and densify, bird collisions with buildings become a higher probability. Bird-safe design standards can help reduce the likelihood of migrating and dispersing birds striking a building, including sensitive bird species. Bird strikes against buildings, particularly windows, are a major source of human-related bird mortality, with rough estimates of between 100 million and one billion birds killed annually in the U.S. from building collisions (S.R. Loss et al, 2014). Given the documented declines of many bird species from multiple combined causes and the location of the campus along migratory corridors, incorporating bird-safe design standards for future campus development can help reduce some of these losses.

THRESHOLDS OF SIGNIFICANCE

Significance thresholds from Appendix G of the state CEQA Guidelines and the 2018 LRDP EIR are identified below for biological resource issues. A significant adverse impact is identified if the proposed project would result in any of the following:

1) Substantial adverse effect, either directly or through habitat modifications, on any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

2) Substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

3) Substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means;

4) Substantial interference 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;

5) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; or

6) Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACTS

The following analysis discusses potential changes to impacts discussed in the 2018 LRDP EIR with respect to biological resources as a result of the Update to the 2018 LRDP, specifically in reference to CEQA standards for subsequent review.

Will the current proposed project result in substantial changes in the project or with respect to project circumstances, or new information of substantial importance, which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects?

The 2018 LRDP EIR identified potentially significant impacts under the following biological resources thresholds: Issue 1 Candidate, Sensitive, or Special-status Plant Species, Issue 2 Candidate, Sensitive, or Special-status Animal Species, Issue 3 Riparian Habitat or other Sensitive Natural Communities, and Issue 4 Wetlands. There are changes with respect to circumstances under which the Update to the 2018 LRDP would be undertaken and new information of potentially substantial importance that has become available relative to these issues. Therefore, these issue areas (Issues 1, 2, 3, and 4) are further discussed below.

The 2018 LRDP EIR did not identify significant impacts under the following biological resources thresholds: Issue 5 Wildlife Movement, Issue 6 Local Policies or Ordinances, or Issue 7 Habitat Conservation Plans. In 2024, UC San Diego implemented Tree Preservation Guidelines, further discussed below relative to Issue 6. The conclusion of no significant impact under this issue area remains unchanged for the Update to the 2018 LRDP.

There are no changes with respect to circumstances under which the Update to the 2018 LRDP would be undertaken, and there is no new information of substantial importance that has become available relative to these issues. The Update to the 2018 LRDP consists almost entirely of redevelopment of existing developed areas, with the proposed electrical substation within Urban Forest and potential wastewater treatment plant within Restoration Lands as the only proposed developments outside of such areas. The electrical substation would be located at the outer boundary of Urban Forest, bounded on two sides by roads and other campus development. The potential wastewater treatment plant would be located immediately north of La Jolla Village Drive, just east of Gilman Drive. The campus does not contain identified wildlife corridors or linkages, and proposed development in this corner parcel would not preclude wildlife access to Ecological Reserve areas on campus.

In 2024, UC San Diego created the campus Tree Preservation Guidelines, which are expected to be incorporated into the UC San Diego Design Guidelines in 2025. The Tree Preservation Guidelines must be considered by all projects and are intended to maintain and expand the campus tree canopy coverage over time. The guidelines recognize the importance of tree canopy as a valuable natural resource for both wildlife and people and align with campus climate adaptation and resilience efforts. It applies to any development, renovation, or maintenance project that includes trees in its project boundaries. The guidelines require projects to prioritize the preservation of existing trees in all areas of campus and outlines robust alternatives to tree removal when preservation-in-place is not feasible. The campus Open Space Committee reviews and advises on projects where alternatives to tree preservation are required, such as payment into the campus urban forestry fund. Applicable development projects implemented under the Update to the 2018 LRDP would be required to comply with UC San Diego's Tree Preservation Guidelines. Therefore, no local policy conflicts would arise with the implementation of the proposed Update to the 2018 LRDP.

The UC San Diego campus is not within the City's Multiple Species Conservation Program nor is UC San Diego an enrolled agency in the Natural Communities Conservation Planning program. Therefore, like the 2018 LRDP, the Update to the 2018 LRDP would not conflict with the provisions of an adopted regional conservation plan.

The Update to the 2018 LRDP is consistent with the 2018 LRDP determinations as implementation would not result in the potential for significant impacts under Issues 5, 6, and 7, and these three issue areas are not further discussed herein.

Potential impacts to vegetation communities that may occur under the Update to the 2018 LRDP are provided below in Table 1, *Impacts to Vegetation Communities Under the Update to the 2018 LRDP*. This table corresponds to Figures 5a, 5b, and 5c, included herein. As discussed earlier, potential areas of redevelopment are identified on sites where existing structure(s) would be demolished, and a new structure(s) would be constructed in its place. Potential new development areas are identified on limited sites that are not currently developed or where a new structure could be constructed where one currently does not exist, such as an existing parking lot. Areas shown as new development in undeveloped lands in SIO in Figure 5a are areas that were previously analyzed in the 2018 LRDP. The potential wastewater treatment plant and electrical substation are the only new development areas in undeveloped land that were not previously analyzed under the 2018 LRDP.

Table 1
IMPACTS TO VEGETATION COMMUNITIES UNDER THE UPDATE TO THE 2018 LRDP

Vegetation Community[1]	New Development[1]	Redevelopment[1]	TOTAL[2]
Wetlands			
Southern Willow Scrub	0.10	--	0.10
Mule Fat Scrub (including disturbed)	--	--	--
Herbaceous Wetland	--	--	--
Disturbed Wetland (Arundo-dominated)	--	--	--
Subtotal Wetlands	**0.10**	**--**	**0.10**
Sensitive Uplands			
Beach	--	--	--
Native Grassland	--	--	--
Maritime Succulent Scrub	--	--	--
Southern Maritime Chaparral	--	--	--
Southern Coastal Bluff Scrub	--	--	--
Diegan Coastal Sage Scrub (including disturbed)	2.0[3]	--	2.0
Southern Mixed Chaparral	--	--	--
Chaparral/Eucalyptus Woodland Ecotone	--	--	--
Non-native Grassland	1.9	--	1.9
Subtotal Sensitive Uplands	**3.9**	**--**	**3.9**
Non-sensitive Uplands			
Eucalyptus Woodland	9.5[4]	--	9.5
Disturbed Habitat	1.3	--	1.3
Urban/Developed Land	64.0	112.8	176.8
Subtotal Non-sensitive Uplands	**74.8**	**112.8**	**187.6**
Total[2]	**78.8**	**112.8**	**191.6**

1 Presented in acres rounded to the nearest hundredth for wetlands and the nearest tenth for uplands.
2 Totals reflect rounding.
3 Includes 0.4 acre of impact from the potential wastewater treatment plan that was not previously identified in the 2018 LRDP EIR development areas and 1.6 acres that were previously identified in proposed development areas under the 2018 LRDP EIR.
4 Includes 4.3 acres of combined impacts from the wastewater treatment plant and the potential electrical substation that were not previously identified in the 2018 LRDP EIR development areas and 5.2 acres that were previously identified in proposed development areas under the 2018 LRDP EIR.

Issue 1 – Candidate, Sensitive, or Special-Status Plant Species

Would implementation of the Update to the 2018 LRDP result in a substantial adverse effect, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special-status species?

Summary of Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR determined that a potentially significant impact could occur to San Diego barrel cactus (*Ferocactus viridescens*), a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 2B.1 species, from implementation of the 2018 LRDP based on the 2016 observation of a single individual within the 2018 LRDP development area and the potential for additional individuals to establish within the development areas over the course of 2018 LRDP implementation. A CRPR designation of 2B is used by CNPS for plants they consider rare, threatened, or endangered in California but common elsewhere, and is considered a special-status species. In addition, due to the potential for additional sensitive species to move into development sites containing appropriate habitat over time, the 2018 LRDP EIR determined a potentially significant impact on sensitive plant species. The 2018 LRDP EIR accounts for potential changes in impacts that may affect rare plant populations by requiring updated surveys at the project level and appropriate mitigation for such impacts.

Substantial Changes with Respect to the Circumstances under which the Update to the 2018 LRDP is Undertaken or New Information of Substantial Importance

There are no changes with respect to circumstances under which the Update to the 2018 LRDP would be undertaken, and there is no new information of substantial importance that has become available relative to sensitive plant species. The Update to the 2018 LRDP would focus primarily on the redevelopment of existing developed lands. The additional areas of eucalyptus woodland, coastal sage scrub, and southern willow scrub that would be impacted under the Update have low potential for sensitive plant species, and mitigation measures require surveys of these areas, and any corresponding mitigation, before impacts. Thus, no substantial new impacts to sensitive plant species have been identified since the certification of the 2018 LRDP EIR.

Analysis of Proposed Update to the 2018 LRDP

Projects identified in the Update to the 2018 LRDP would be built out over the course of several years, through 2040, and projects proposed within undeveloped lands require project-specific updated rare plant surveys in accordance with Mitigation Measure Bio-1A. Given the detailed baseline data in the 2018 LRDP, the focus on redevelopment of previously developed sites and lack of additional impacts to sensitive habitat types under the Update to the 2018 LRDP, the multiple year timeframe within which projects would occur, and the requirement for updated rare plant surveys during the planning and design phase of individual projects, updated rare plant surveys were not conducted for the Update to the 2018 LRDP.

Redevelopment areas implemented under the Update to the 2018 LRDP would occur in existing developed lands and would therefore not have a significant impact on sensitive plant species as no potential habitat for sensitive plant species would be impacted.

New development proposed under the Update to the 2018 LRDP would not result in a new or more severe impact to candidate, sensitive, or special-status plant species, as the expansion of the proposed footprint of the development area into additional eucalyptus woodland habitat for the electrical substation and into additional southern willow scrub, coastal sage scrub and eucalyptus woodland habitat for the potential wastewater treatment plant would not substantially increase potential impacts to rare plant species given (1) the low potential for rare plants in the eucalyptus woodland due to its allelopathic nature and ongoing disturbances by trail users and maintenance crews, and (2) the low potential for rare plants at the wastewater treatment plant location, which is located in an isolated area of habitat surrounded by development and which has been subject to past disturbances from grading associated with adjacent roadways, and (3) rare plant surveys conducted across the campus for the 2018 LRDP were negative in these areas. Further, Mitigation Measures Bio-1A and Bio-1B were identified in the 2018 LRDP EIR to address potential direct impacts on populations of sensitive plants and reduce those impacts to less than significant. These mitigation measures would be carried forward for implementation of projects under the Update to the 2018 LRDP, but with the modification of Bio-1A to add translocation and restoration as additional options for plant species mitigation. Revised Mitigation Measure Bio-1A is included in the Mitigation Measures section of this addendum and will be incorporated into the Subsequent EIR.

Conclusion

Based on the above, no new or substantially more severe significant impacts would occur to sensitive plant species as a result of the Update to the 2018 LRDP, and no new mitigation measures are required. As discussed above in the analysis, minor revisions have been made to Mitigation Measure Bio-1A, but these revisions are not associated with a new impact under the Update to the 2018 LRDP.

Issue 2 – Candidate, Sensitive, or Special-Status Animal Species

Would implementation of the Update to the 2018 LRDP result in a substantial adverse effect, either directly or through habitat modifications, on any animal species identified as a candidate, sensitive, or special-status species by the CDFW or USFWS?

Summary of Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR determined that a potentially significant impact could occur to sensitive animal species from implementation of the 2018 LRDP, including coastal California gnatcatcher (*Polioptila californica californica*), yellow warbler (*Setophaga petechia*), yellow-breasted chat (*Icteria virens*), Cooper's hawk (*Accipiter cooperii*), orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), and least Bell's vireo (*Vireo bellii pusillus*).

Substantial Changes with Respect to the Circumstances under which the Update to the 2018 LRDP is Undertaken or New Information of Substantial Importance

The 2018 LRDP EIR did not address the potential for impacts to Hermes copper butterfly or Crotch's bumble bee, and, while the monarch butterfly was discussed in the 2018 LRDP EIR, it did not have special status at that time. As such, these three species are addressed in this Addendum.

Additionally, the 2018 LRDP EIR did not include bird strikes as a potential impact to avian species, which is also addressed herein.

Crotch's Bumble Bee

Crotch's bumble bee is currently listed as a state candidate endangered species and, therefore, is afforded protection under the California Endangered Species Act (CESA). The campus supports potentially suitable shrublands, chaparral, and open grasslands that could be used by this species. Projects included in the 2018 LRDP EIR would impact Diegan coastal sage scrub and non-native grassland habitats, which have the potential to support Crotch's bumblebee. These projects are carried forward into the Update to the 2018 LRDP. Habitat assessments and associated presence/absence surveys for this species at the project level would be conducted, and if the species is present, impacts to habitat supporting this species would be considered significant and mitigation is required.

Hermes Copper Butterfly

Hermes copper butterfly is a federally threatened species and, therefore, is afforded protection under the Federal Endangered Species Act (FESA). The campus supports potentially suitable habitat for Hermes copper; however, this species is not expected to occur given the current known range of the species in San Diego County, and the only suitable habitat on campus containing the host plant for this species is conserved within the Ecological Reserve (i.e., areas where no development is proposed and, therefore, no impacts would occur). Further, the campus is within the area designated by the U.S. Fish and Wildlife Service (USFWS) as exempt from take prohibitions for Hermes copper, and, pursuant to the USFWS (USFWS 2024b), lands within this area do not require surveys or mitigation for this species. As the campus is located outside of the USFWS survey area for this species and the only suitable habitat is conserved in the Ecological Reserve, focused surveys for this species were not conducted. No significant impact would occur since no habitat impact would occur.

Monarch Butterfly

Monarch butterfly is a federal candidate species for listing under the FESA. Overwintering monarchs have been documented in eucalyptus groves on campus, and while the observed populations of overwintering monarchs reported on campus each year between 2016 and 2023 have been fewer than 20 individuals, the groves retain the potential to provide overwintering habitat for this species. Projects included in the 2018 LRDP EIR and Update to the 2018 LRDP, including the proposed electrical substation in Urban Forest near Hopkins Drive and the potential wastewater treatment plant next to La Jolla Village Drive, would impact eucalyptus woodland habitats, which have the potential to support overwintering monarch butterflies. If proposed projects result in direct impacts on overwintering monarchs or trees supporting overwintering monarchs, those impacts would be considered significant and mitigation would be required.

Bird Strikes

Continued urbanization of the campus has the potential to increase bird strikes on buildings, resulting in a potentially significant impact to avian species, including those identified as candidate, sensitive, or special status.

Analysis of Proposed Update to the 2018 LRDP

New development proposed under the Update to the 2018 LRDP would not expand campus impacts into new sensitive habitat types not previously addressed in the 2018 LRDP but would result in (1) a potential increase to southern willow scrub impacts over the amount identified in the 2018 LRDP, (2) a potential increase to coastal sage scrub impacts over the amount identified in the 2018 LRDP, and (3) impacts to eucalyptus woodland, which has potential to be used as monarch butterfly overwintering habitat.

New impacts to southern willow scrub, coastal sage scrub, and eucalyptus woodland would occur from construction of the potential wastewater treatment plant in Restoration Lands north of La Jolla Village Drive and east of Gilman Drive. While sensitive animal species have not been documented in this area, which is small, isolated from other habitat areas, and surrounded by campus development and roads, there is potentially suitable habitat for sensitive species, including monarch butterfly, Crotch's bumble bee, coastal California gnatcatcher, yellow warbler, yellow-breasted chat, Cooper's hawk, orange-throated whiptail, and least Bell's vireo. Mitigation measures, including Bio-2A, Bio-2B, Bio-2C, Bio-2D, Bio-2E, Bio-2F, and Bio-2G, would be implemented that require biological surveys of this area, and conformance with any corresponding mitigation, prior to impacts. Potential indirect impacts to sensitive animal species from construction of the potential wastewater treatment plant would be addressed through implementation of mitigation measures Bio-3E, Bio-3F, Bio-3I, Bio-3J, and Bio-3L.

Impacts to eucalyptus woodland also would occur from construction of the electrical substation west of Hopkins Drive. This area could be used as overwintering habitat by monarch butterfly. Implementation of mitigation measure Bio-2G would reduce this potential impact to less than significant.

Redevelopment areas implemented under the Update to the 2018 LRDP would occur in existing developed lands and would therefore not have a significant direct impact on sensitive animal species as no potential habitat for sensitive animal species would be impacted. However, the Update includes addition of a redevelopment area adjacent to the Ecological Reserve, which supports sensitive animal species, and could therefore result in significant indirect effects, discussed below.

The Update to the 2018 LRDP includes additional redevelopment of existing urbanized areas on campus, of which one project (Warren College) is adjacent to Ecological Reserve within West Campus. The Update would not result in direct impacts to the University's Ecological Reserve. Potential indirect impacts to sensitive animal species, including those previously documented in this portion of the Reserve per the 2018 LRDP (coastal California gnatcatcher, yellow-breasted chat, and orange-throated whiptail), from this project would be addressed through implementation of mitigation measures (MM Bio-2B, Bio-2D, Bio-3E, Bio-3F, Bio-3I, and Bio-3L) that address adjacency issues from construction noise, temporary and permanent lighting, unauthorized access, and unauthorized impacts.

Redesignation of Urban Forest from OSP to General Services for the proposed electrical substation near Hopkins Drive would result in a less than significant impact to biological resources, as (1) the land does not contain sensitive habitats, (2) impacts to eucalyptus woodland that could support overwintering monarch butterfly would be mitigated through implementation of MM Bio-2G, and (3) the University would add an equal acreage of land to the OSP elsewhere on campus, resulting in no net loss of campus OSP areas.

Redesignation of Restoration Lands from OSP to General Services for the potential wastewater treatment plant near La Jolla Village Drive would result in a less than significant impact to biological resources, as (1) potential impacts to monarch butterfly, Crotch's bumble bee, coastal California gnatcatcher, yellow warbler, yellow-breasted chat, Cooper's hawk, orange-throated whiptail, and least Bell's vireo would be addressed through implementation of MM Bio-2A, Bio-2B, Bio-2C, Bio-2D, Bio-2E, Bio-2F, and Bio-2G, and (2) the University would add an equal acreage of land to the OSP elsewhere on campus, resulting in no net loss of campus OSP areas.

SIO contains three areas of proposed OSP additions, and West Campus and East Campus both contain two proposed OSP addition areas. Lands within SIO proposed for redesignation as OSP (Restoration Lands and Ecological Reserve types) contain undeveloped land with native and naturalized habitat, including coastal sage scrub, grassland, and eucalyptus woodland, which are adjacent to and/or surrounded by existing Restoration Lands and Ecological Reserve areas. Lands within West Campus proposed for redesignation as OSP (Restoration Lands type) contain undeveloped land with native and naturalized habitat, including coastal sage scrub and eucalyptus woodland, which are adjacent to existing Restoration Lands and would be extended to either side of the potential wastewater treatment plant. Lands within East Campus proposed for redesignation as OSP (Ecological Reserve type) contain undeveloped land with native and naturalized habitat, including coastal sage scrub and grassland, and are adjacent to existing Ecological Reserve areas.

Thus, implementation of the Update to the 2018 LRDP would not result in a new or substantially more severe impact to habitat for special-status animal species previously discussed in the 2018 LRDP. Mitigation Measures Bio-2A through Bio-2E were identified in the 2018 LRDP EIR to address potential direct impacts to sensitive animal species and reduce those impacts to less than significant, and Mitigation Measures Bio-2F and Bio-2G were added to the Update to the 2018 LRDP. Mitigation Measures Bio-3E, Bio-3F, Bio-3I, Bio-3J, and Bio-3L were identified in the 2018 LRDP EIR to address potential indirect impacts to sensitive animal species and reduce those impacts to less than significant. These mitigation measures would be carried forward for the implementation of projects under the Update to the 2018 LRDP.

Conclusion

Based on the above, new significant impacts could occur to sensitive animal species as a result of the Update to the 2018 LRDP, resulting in the addition of the following new mitigation measures in this Addendum and the Subsequent EIR: Bio-2F (addressing Crotch's bumble bee), Bio-2G (addressing monarch butterfly), and Bio-2H (addressing bird strikes on buildings). The full mitigation measures are included below in the Mitigation Measures section. The 2018 LRDP EIR assessed potential impacts to sensitive animal species as less than significant with the implementation of mitigation measures that are carried forward into this Update. Implementation of 2018 LRDP EIR mitigation measures addressing sensitive animal species, combined with implementation of the new Mitigation Measures Bio-2F, Bio-2G, and Bio-2H in the Update to the 2018 LRDP Subsequent EIR would reduce impacts to sensitive animal species to below a level of significance under CEQA Significance Threshold 1 similar to the impact identified in the 2018 LRDP EIR.

Issue 3 – Riparian Habitat and Other Sensitive Natural Communities

Would implementation of the Update to the 2018 LRDP result in a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

Summary of Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR determined that a significant impact would occur on riparian habitat and other sensitive natural communities from the implementation of the 2018 LRDP, including southern willow scrub, Diegan coastal sage scrub, and non-native grassland. The 2018 LRDP EIR identified mitigation measures Bio-3A through Bio-3M to reduce those impacts to less than significant.

Substantial Changes with Respect to the Circumstances under which the Update to the 2018 LRDP is Undertaken or New Information of Substantial Importance

There are no changes with respect to circumstances under which the Update to the 2018 LRDP would be undertaken, and there is no new information of substantial importance that has become available relative to riparian habitat and other sensitive natural communities. The Update to the 2018 LRDP would focus on the redevelopment of existing developed lands and would result in only a minor increase in impacts to sensitive natural communities, which would be mitigated in accordance with measures in the 2018 LRDP EIR and carried forward herein. No substantial new impacts to riparian habitat and other sensitive natural communities have been identified since the certification of the 2018 LRDP EIR. Analysis of Proposed Update to the 2018 LRDP

New development proposed under the Update to the 2018 LRDP would not expand campus impacts into new sensitive habitat types not previously analyzed in the 2018 LRDP but would result in (1) a potential increase to southern willow scrub impacts over the amount identified in the 2018 LRDP, and (2) a potential increase to coastal sage scrub impacts over the amount identified in the 2018 LRDP. The increased impacts to southern willow scrub and coastal sage scrub would occur from construction of the potential wastewater treatment plant north of La Jolla Village Drive and east of Gilman Drive and would impact approximately 0.4 acre of sage scrub and approximately 0.10 acre of southern willow scrub.

Redevelopment areas implemented under the Update to the 2018 LRDP would occur in existing developed lands and would therefore not directly impact sensitive vegetation communities. However, the Update includes addition of a redevelopment area adjacent to the Ecological Reserve on West Campus, which supports sensitive vegetation communities which could be subject to significant indirect effects, discussed below.

The Update to the 2018 LRDP would not result in direct impacts to the University's Ecological Reserve, as no development areas are proposed within the Reserve. The Update to the 2018 LRDP includes the redevelopment of existing urbanized areas on campus, of which one project (Warren College) is adjacent to Ecological Reserve within West Campus. This project, which would be within existing developed lands, could result in indirect impacts to the Ecological Reserve from potential edge effects such as unauthorized access, spread of non-native plant species into the Reserve, and irrigation runoff from project landscaping going into the Reserve. Potential indirect impacts to sensitive habitats from this redevelopment project would be addressed through the implementation of mitigation measures that address adjacency issues, including mitigation measures Bio-3E, Bio-3F, and Bio-3I. No other new development or redevelopment projects are proposed adjacent to the Ecological Reserve under the Update to the 2018 LRDP.

Redesignation of Urban Forest from OSP to General Services for the proposed electrical substation near Hopkins Drive would not result in a significant impact on biological resources, as the land does not contain riparian habitat or other sensitive natural communities, and the University would add an equal acreage of land to the OSP elsewhere on campus, resulting in no net loss of campus OSP areas.

Mitigation Measures Bio-3A through Bio-3M were identified in the 2018 LRDP EIR to address potential direct and indirect impacts on riparian habitat and other sensitive natural communities and reduce those impacts to less than significant. These mitigation measures would be carried forward for implementation of projects under the Update to the 2018 LRDP, with minor revisions to Mitigation Measures Bio-3C and Bio-3D incorporated into this Addendum and the Subsequent EIR to clarify that these measures apply to permanent impacts only and to separate temporary impacts into a distinct mitigation measure. A new mitigation measure specifically addressing temporary impacts to riparian habitat or other sensitive natural communities is proposed for inclusion in the Subsequent EIR. This distinction is important to clarify as temporary impacts are restored in place, while permanent impacts are mitigated outside the project site and at different ratios than temporary impacts. These revisions provide added clarity for applying the mitigation measures to future projects. This new measure, Bio-3N, would require that temporary impacts to riparian habitat or other sensitive natural communities be restored in place at a 1:1 ratio. The full language of this new measure is included below in the Mitigation Measures section and in Attachment A.

Individual projects may have a less than significant finding for impacts to uplands based on a limited affected area and minimal habitat value. Factors that may contribute to a determination of minimal habitat value include small size, isolation from other habitats, lack of sensitive species, dominance of non-native plant species, and marginal/degraded habitat quality. These determinations would be made on a project-specific basis. Impacts from investigative activities such as geotechnical borings may be less than significant based on the above factors or may meet CEQA Class 6 categorical exemption requirements, assuming no exception to the exemption applies.

Conclusion

Implementation of the Update to the 2018 LRDP would not result in a new or more severe impact to riparian habitat or other sensitive natural communities. However, because specific project details are not currently known, impacts to sensitive natural communities would be considered potentially significant. Implementation of mitigation measures Bio-3A through Bio-3N would reduce impacts to a level that is less than significant, consistent with the conclusion in the 2018 LRDP EIR. Thus, there is no change to the significance determination under Issue 3 between the Update and the 2018 LRDP EIR, it remains less than significant with mitigation incorporated.

Issue 4 – Wetlands

Would implementation of the Update to the 2018 LRDP result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA?

Summary of Analysis in the 2018 LRDP EIR

Campus wetlands are described in the 2018 LRDP EIR in 3.3.1.2, with impacts depicted on Figures 3.3-1 through 3.3-3. Per the 2018 LRDP EIR, 0.46 acre of campus wetlands would be impacted under the 2018 LRDP, with 13.56 acres avoided. The 2018 LRDP EIR estimated direct impacts for development proposed in and adjacent to areas of previously undeveloped land. Per Section 3.3.3 of the 2018 LRDP EIR, no direct biological resource impacts to vegetation communities, including wetlands, were found to result from redevelopment of existing developed areas. The 2018 LRDP EIR determined that a significant impact would occur to wetland habitat from the implementation of the 2018 LRDP. The 2018 LRDP EIR identified mitigation measure Bio-4 to reduce those impacts to less than significant.

Substantial Changes with Respect to the Circumstances under which the Update to the 2018 LRDP is Undertaken or New Information of Substantial Importance

There are no changes with respect to circumstances under which the Update to the 2018 LRDP would be undertaken, and there is no new information of substantial importance that has become available relative to Issue 4, Wetlands. Redevelopment areas identified under the Update to the 2018 LRDP would not result in result in impacts to wetlands. One new development area proposed under the Update to the 2018 LRDP (the potential wastewater treatment plant) would impact a single potentially jurisdictional wetland habitat, however, this impact would be mitigated in accordance with measures in the 2018 LRDP EIR and carried forward herein. No substantial new impacts to wetlands have been identified since the certification of the 2018 LRDP EIR.

Analysis of Proposed Update to the 2018 LRDP

Redevelopment areas implemented under the Update to the 2018 LRDP would occur in existing developed lands and would therefore not directly impact wetlands. Further, wetlands do not occur adjacent to the proposed redevelopment area adjacent to the Ecological Reserve on West Campus, thus no significant indirect effects would occur from redevelopment.

New development proposed under the Update to the 2018 LRDP would not expand campus impacts into new wetland habitat types not previously analyzed in the 2018 LRDP but would result in a potential increase in impacts to southern willow scrub over the amount identified in the 2018 LRDP. This impact is associated with the potential wastewater treatment plant north of La Jolla Village Drive. The 2018 LRDP identified potential future stormwater improvements in this general area, but no specific project boundary was available at that time. Approximately 0.10 acre of impacts to southern willow scrub are associated with the potential wastewater treatment plant. This wetland is a small stand of habitat without connection to other wetland habitats and is immediately adjacent to the roadway. Mitigation Measure Bio-4 was identified in the 2018 LRDP EIR to address potential direct impacts to wetlands and reduce those impacts to less than significant. This mitigation measure is carried forward into this Addendum and the Subsequent EIR.

Conclusion

Implementation of the Update to the 2018 LRDP would not result in a new or substantially more severe impact to potentially jurisdictional wetland habitat. However, because specific project details of the potential wastewater treatment plant are not currently known, impacts to wetlands would be considered potentially significant. Implementation of mitigation measure Bio-4 would reduce impacts to a level that is less than significant, consistent with the conclusion in the 2018 LRDP EIR. Thus, there is no change to the significance determination under Issue 4 between the Update and the 2018 LRDP EIR, it remains less than significant with mitigation incorporated.

MITIGATION MEASURES

This Addendum adds four new mitigation measures to the LRDP EIR and the Subsequent EIR: Bio-2F, Bio-2G, Bio-2H, and Bio-3N, and incorporates minor revisions to LRDP EIR Mitigation Measures Bio-1A, Bio-2A, Bio-2B, Bio-3A, Bio-3C, Bio-3D, and Bio-4. A summary of the revisions is provided below, and the full language of the mitigation measures is provided below each applicable issue area subheading. These revisions provide added clarity for applying the measures to future projects. The remaining mitigation measures from the LRDP EIR are carried forward into this Addendum without any revisions (i.e., Bio-1B, Bio-2C through Bio-2E, Bio-3B, and Bio-3E through Bio-3M). Refer to Attachment A, *Update to the 2018 LRDP Biological Resources Mitigation Measures*, for a table incorporating all LRDP biological resources mitigation measures from the LRDP EIR and LRDP EIR Update, including any modifications to the LRDP EIR measures.

Mitigation Measure Bio-2F was added to address potential impacts to Crotch's bumble bee from implementation of the Update to the 2018 LRDP. Crotch's bumble bee is a special-status species that was added as a state candidate for listing under the CESA since the 2018 LRDP EIR. The campus supports potentially suitable habitats that could be used by this species.

Mitigation Measure Bio-2G was added to address potential impacts to monarch butterfly from implementation of the Update to the 2018 LRDP. Monarch butterfly is a special-status species that was added as a federal candidate for listing under the FESA since the 2018 LRDP EIR. The campus supports potentially suitable overwintering habitat that could be used by this species.

Mitigation Measure Bio-2H was added to address potential impacts to avian species, including those identified as candidate, sensitive, or special status, from continued urbanization of the campus under the Update to the 2018 LRDP, resulting in a potentially significant impact from bird strikes on buildings.

Mitigation Measure Bio-3N was added to address temporary impacts to sensitive natural communities from implementation of the Update to the 2018 LRDP. The measure was added to clarify the mitigation requirement for temporary impacts as distinct from the mitigation requirement for permanent impacts, as temporary impacts are restored in place while permanent impacts are mitigated outside the project site and at different ratios than temporary impacts. These revisions provide added clarity for applying the habitat mitigation requirements on future projects.

Minor revisions were made to Mitigation Measure Bio-1A to provide clearer language for survey requirements and reducing impacts to rare plants, and to broaden the mitigation options for rare plants to allow more flexibility for differing species and project situations.

Mitigation Measures Bio-2A and Bio-2B were modified to clarify that the 2:1 habitat mitigation applies specifically to permanent impacts, as temporary impacts are mitigated in-place at 1:1 per Mitigation Measure Bio-3N. This clarification resolves potentially ambiguous or contradictory language between mitigation measures. These measures were also modified to include habitat creation and/or enhancement, and off-campus habitat acquisition or purchase of conservation bank credits, as mitigation options for permanent impacts to Diegan coastal sage scrub, consistent with Mitigation Measure Bio-3C.

Mitigation Measure Bio-3A was revised to clarify the survey requirement applies to all undeveloped lands, not just those that have been identified as containing sensitive natural communities. This modification will help ensure that sensitive natural communities that may result from habitat succession over time are identified and adequately analyzed for future projects.

Mitigation Measure Bio-3C was revised to add clarification regarding mitigation requirements for permanent vs. temporary impacts and to add required mitigation ratios for the sensitive natural communities identified on campus. These ratios were previously included in a table in the 2018 LRDP EIR but were not in the mitigation measure. This measure also adds additional clarity on how non-native grassland can be mitigated.

Mitigation Measure Bio-3D was revised to add clarifying language regarding mitigation requirements for permanent vs. temporary impacts, the 1:1 creation component for wetlands, and compliance with regulatory permitting requirements. These revisions provide added clarity for applying mitigation requirements on future projects.

Mitigation Measure Bio-4 was revised to add a reference to Mitigation Measure Bio-3N, the newly added measure addressing temporary impacts. This revision ensures that mitigation measures for temporary and permanent impacts will be applied consistently.

Revisions to Mitigation Measures Bio-1A, Bio-2A, Bio-2B, Bio-3A, Bio-3C, Bio-3D, and Bio-4 are shown below as underlined text. A summary of Sensitive Plant Species Potential to Occur and Sensitive Animal Species Potential to Occur and results of fieldwork and surveys can be found in the October 2018 Biological Resources Technical Report, Appendices C and D (HELIX 2018).

Sensitive Plant Species

Bio-1A Sensitive Plant Surveys. During the project planning phase, updated sensitive plant surveys shall be conducted for all project sites that would impact undeveloped land ~~support potential habitat for sensitive plant species~~ and have not been surveyed within the preceding year. Sensitive plant surveys shall be conducted by a qualified biologist retained by UC San Diego during the appropriate season for detecting the species as part of the project design phase. Surveys will be floristic in nature and include lists of all plants identified in the survey area. Surveys will be conducted on foot, employing a level of effort sufficient to provide comprehensive coverage. The locations and prevalence (estimated total numbers/percent cover, as applicable) of sensitive plants will be recorded. If site-specific surveys are not required because a survey was conducted less than one year ago, impact assessment and minimization/mitigation requirements shall be based on the most recent available survey and shall also include an analysis of the potential for sensitive plant species to occur on the site based on existing site conditions. If sensitive plant species are observed, they shall be avoided by reducing or revising the impact boundary if feasible, particularly for temporary impact areas. If impacts cannot be avoided, the impacts to those species must be evaluated, and any significant impacts shall be mitigated through one or a combination of the following: conservation of habitat that supports the impacted species, translocation of impacted individuals to conserved lands, and/or habitat restoration that incorporates the impacted species in the plant/seed palette. Habitat mitigation shall occur in accordance with Mitigation Measure Bio-3C.

Sensitive Animal Species

Revised Mitigation Measures:

Bio-2A Coastal California Gnatcatcher Surveys. During the project planning process, a project site shall be reviewed to determine if it would directly impact Diegan coastal sage scrub or indirectly impact the coastal California gnatcatcher by being located within 500 feet of Diegan coastal sage scrub based on a review of SEIR Figures 3.3-1 through 3.3-3 or updated vegetation mapping. If the potential for impacts exists, three surveys shall be conducted seven to 10 days apart in accordance with the current USFWS protocol for NCCP-enrolled agencies to determine presence/absence of the species. Surveys may be conducted either on a project-specific basis, or on a programmatic level in portions of UC San Diego likely to be subject to disturbance in the relatively near future. The permittee must submit a 15-day pre-survey notification to the USFWS Carlsbad Permits Division, including an explanation that three surveys shall be conducted and specifying that UC San Diego shall mitigate all permanent impacts to Diegan coastal sage scrub at a 2:1 ratio through on-site preservation, creation, and/or enhancement, or combination thereof, in the Ecological Reserve, or off-campus through habitat acquisition and preservation or the purchase of credits from an approved conservation bank, regardless of whether the impacted area is occupied by coastal California gnatcatcher. Documentation of the survey results shall be provided to USFWS in accordance with current protocol survey guidelines.

Bio-2B Coastal California Gnatcatcher-occupied Habitat Avoidance. If Diegan coastal sage scrub habitat within a project site is determined to be occupied by coastal California gnatcatcher based on surveys conducted in accordance with Mitigation Measure Bio-2A, UC San Diego shall contact USFWS to discuss project permitting options, which could be accomplished through Section 7 or Section 10(a) of the FESA. Impacts to the coastal California gnatcatcher and gnatcatcher-occupied habitat shall be avoided/mitigated by the following measures (additional measures may be required as a result of the consultation/permitting process):

i. Diegan coastal sage scrub occupied by coastal California gnatcatcher shall not be removed during the coastal California gnatcatcher breeding season (February 15 through August 31). If coastal California gnatcatchers are not present, then only mitigation for the habitat loss shall be required as described in Mitigation Measure Bio-3C and habitat clearing can occur at any time of the year following the survey.

ii. If construction activities commence during the coastal California gnatcatcher breeding season (February 15 through August 31) and coastal California gnatcatchers are found within 500 feet of the grading limits based on the surveys required in Mitigation Measure Bio-2A, a qualified acoustician shall be consulted to identify appropriate measures for reducing construction noise levels to 60 dB(A) hourly L_{eq} or ambient, whichever is higher, during the part of the breeding season when active nests are most likely. If noise reduction measures are determined necessary, the construction contractor shall implement the measures and the acoustician shall confirm, through field measurements, that the attenuation measures are effective at maintaining noise at or below the specified threshold.

iii. Permanent impacts to Diegan coastal sage scrub (regardless of coastal California gnatcatcher occupancy) shall be mitigated at a 2:1 ratio ~~by preserving areas~~ through preservation, creation, and/or enhancement, or combination thereof, of coastal sage scrub in the Ecological Reserve, or off-campus through habitat acquisition and preservation or the purchase of credits from an approved conservation bank, as described in Mitigation Measure Bio-3C.

New Mitigation Measures for Sensitive Animal Species:

The following new mitigation measures (Mitigation Measures Bio-2F, Bio-2G, and Bio-2H) are incorporated into this Addendum and the Subsequent EIR to address potential impacts to sensitive animal species. Addition of Mitigation Measure Bio-2F will reduce potential impacts on Crotch's bumble bee to less than significant. Addition of Mitigation Measure Bio-2G will reduce potential impacts on monarch butterfly to less than significant. Incorporation of bird-safe building standards as Mitigation Measure Bio-2H will reduce potential bird strike impacts to less than significant.

Bio-2F **Crotch's Bumble Bee Surveys.** A qualified biologist shall conduct a habitat assessment to determine if potentially suitable habitat for Crotch's bumble bee (i.e., native scrub habitats and native and non-native grassland habitats containing nectar resources) is present within the project footprint. If potentially suitable habitat is present, the following measures shall be implemented to reduce potential impacts to this species:

1. **Focused Survey**: Before the commencement of construction activities (i.e., demolition, earthwork, clearing, and grubbing), Crotch's bumble bee focused surveys shall be conducted. A qualified biologist familiar with Crotch's bumble bee identification and life history shall conduct three visual surveys at least seven days apart during the colony's active period (April through August [CDFW 2023]). If standardized survey protocols are published before surveys are completed, surveys shall either follow these protocols or modified protocols approved by CDFW. If focused surveys are negative, no further assessment shall be required, and construction activities shall be allowed to proceed without any further requirements.

If Crotch's bumble bee is detected during focused surveys, the measures below shall be implemented.

2. **CESA Compliance**: Before the start of construction, required consultation with CDFW regarding the project's effects on Crotch's bumble bee must occur. If take of Crotch's bumble bee is expected, an incidental take permit issued by the CDFW must be obtained, as applicable. In addition, if an incidental take permit is issued for the project that covers Crotch's bumble bee, that document shall supersede any inconsistent measures provided in the LRDP EIR. CESA compliance shall only be required if Crotch's bumble bee remains a

candidate state endangered species or is listed as a state endangered species at the time of project construction. If Crotch's bumble bee is delisted, this measure shall not be required.

3. **Compensatory Mitigation**: Compensatory mitigation for permanent direct impacts to Crotch's bumble bee habitat shall be offset through one or a combination of the following: preservation of habitat, habitat creation, and/or enhancement on the UC San Diego campus, or off-campus through habitat acquisition and preservation or purchase of suitable habitat credits from an approved conservation bank. Compensatory mitigation sites occurring on campus shall be monitored and maintained per the campus-wide Habitat Management Plan. Compensatory mitigation sites occurring off campus shall be monitored and maintained according to a site-specific long-term management plan. If an incidental take permit is issued for the project that covers Crotch's bumble bee, that document shall supersede any measures and mitigation ratios provided in the LRDP.

Bio-2G **Monarch Butterfly Surveys.** For any project construction activities in the Historic Grove or Urban Forest between October 1st and March 15th, including vegetation removal, a qualified biologist familiar with monarch butterfly identification and life history shall conduct biological surveys to determine the presence of overwintering monarch butterflies in trees in the project site and within 100-feet of the project site. The initial survey must occur at least 14 days before the commencement of any construction activities, and a follow-up survey must be conducted within three calendar days before the initiation of vegetation clearance or construction, whichever is earlier. Surveys must continue on a monthly basis throughout the overwintering season or until the project is completed, whichever comes first. If overwintering monarchs are found within 100 feet of the project, a qualified biologist shall monitor project activities to ensure that trees with overwintering monarchs are protected and are not removed, trimmed, or otherwise damaged by construction activities. If recommended by the biologist, temporary avoidance measures shall be implemented that may include, but are not limited to, setbacks from active overwintering trees and stopping work until observed monarch individual(s) have left, as determined by the biologist through surveys. If the monarch butterfly becomes a listed species under the federal Endangered Species Act, coordination with USFWS would be required if potential impacts to this species are proposed.

Bio-2H **Bird-Safe Building Standards.** Project design plans for proposed development on campus shall comply with bird-safe building standards for façade treatments, landscaping, lighting, and building interiors, as follows:

i. For glass treatments up to the third floor (approximately 36 feet) or to the height of adjacent vegetation (whichever is taller), the amount of untreated glass shall be less than 35 percent of the building façade.

    a. The percentage shall be calculated by dividing the square footage of glass by the building façade area, where the building façade area is the width of the façade multiplied by the height to the third floor or adjacent vegetation.

ii. For glass treatments up to the third floor (approximately 36 feet) or to the height of adjacent vegetation (whichever is taller), that do not meet requirement (A) above, glass shall be treated to create visual barriers for birds. Acceptable glazing treatments include fritting; netting; permanent stencils; frosted, non-reflective or angled glass; exterior screens; decorative latticework or grills; physical grids placed on the exterior of glazing; ultraviolet patterns visible to birds; and window awnings, shades, or shutters; or similar treatments.

a. Where applicable, vertical elements within the treatment pattern should be at least one quarter (1/4) -inch wide, at a maximum spacing of four inches;

b. Where applicable, horizontal elements within the treatment pattern should be at least one eighth (1/8) inch wide, at a maximum spacing of two inches; and

c. Non-reflective glazing shall have a “Reflectivity Out” coefficient of thirty percent or less. That is, the fraction of radiant energy that is reflected from glass or glazed surfaces shall not exceed 30 percent.

iii. Building and site design shall eliminate or reduce high-threat features, such as enclosed glass walkways, glass railings, glass/transparent corners, fly-through conditions (i.e., where birds have a clear line of sight to sky or vegetation on the other side of the glass), “bird traps” (e.g., glass/windowed courtyards, interior atriums, windows installed opposite each other), and similar features.

iv. Trees and other vegetation shall be sited to avoid or obscure reflection on building facades such as, for example, not siting vegetation directly adjacent to reflective surfaces, and to avoid creating an effect where landscaping funnels birds toward glass (e.g., walkways, passageways, edges).

v. Buildings shall be designed to minimize light spillage and maximize light shielding to the maximum feasible extent per the following standards:

a. Nighttime lighting shall be minimized to levels necessary to provide pedestrian security.

b. Building lighting shall be shielded and directed downward.

c. Up-lighting and use of event “searchlights” or spotlights are prohibited.

d. Landscape lighting shall be limited to low-intensity and low-wattage lights.

e. Red lights shall be limited to only those necessary for security and safety warning purposes.

vi. Artificial nighttime light from interior lighting shall be minimized through the utilization of automated on/off systems and motion detectors.

Riparian Habitat/Sensitive Natural Communities

Minor revisions to Mitigation Measures Bio-3A, Bio-3C, and Bio-3D have been incorporated into this Addendum and the Subsequent EIR. Mitigation Measure Bio-3A was revised to clarify that project sites containing undeveloped land would need vegetation mapping that has been updated within the previous five years. The revisions to Mitigation Measures Bio-3C and Bio-3D provide clarification regarding requirements for permanent impacts versus temporary impacts to riparian habitat or other sensitive natural communities, with temporary impacts being restored in place pursuant to newly added Mitigation Measure Bio-3N (also included below).

Revised Mitigation Measures:

Sensitive Vegetation Communities

Bio-3A Sensitive Vegetation Communities Mapping. For projects~~s~~ sites that contain undeveloped land, for which ~~the site is mapped as supporting a sensitive vegetation type and~~ vegetation mapping has not been conducted on the site in the preceding five years, updated vegetation mapping shall be conducted by a qualified biologist as part of the project planning and environmental review process.

Upland Habitats Permanent Impacts

Bio-3C Upland Habitat Replacement. Permanent impacts to sensitive upland vegetation communities shall be mitigated through the preservation of habitat, habitat creation, and/or enhancement, or a combination thereof on the UC San Diego campus or off-campus through habitat acquisition and preservation or the purchase of credits from an approved conservation bank. Mitigation ratios for permanent impacts shall be 2:1 for Diegan coastal sage scrub, maritime succulent scrub, southern maritime chaparral, coastal bluff scrub, and native grassland habitats; 1:1 for southern mixed chaparral and chaparral/eucalyptus woodland ecotone; and 0.5:1 for non-native grassland. Mitigation for impacts to upland communities shall be in-kind, except for non-native grassland, which can be mitigated with a native or non-native grassland community or other similarly functioning or higher quality habitat. Temporary impacts to sensitive upland vegetation communities will be restored in-place at a 1:1 ratio through appropriate seeding and/or planting pursuant to Mitigation Measure Bio-3N.

Riparian Habitats Permanent Impacts

Bio-3D Riparian Habitat Replacement. Mitigation required for permanent impacts to wetland habitat shall be accomplished at an overall ratio of 3:1, which includes ~~and must incorporate~~ a minimum 1:1 creation component to ensure no net-loss of these communities. The exception to the 1:1 creation component shall be where 1:1 creation is not required by the wetland permitting authorities and the no net loss of functions and values directive is met through other types of approved mitigation. Wetland mitigation shall occur through creation, restoration, enhancement, and/or preservation, or a combination thereof, or through the purchase of credits at an approved wetland mitigation bank. UC San Diego shall contact the appropriate permitting agencies (e.g., USACE, RWQCB, CDFW, and CCC [for projects within the Coastal Zone]) and shall comply with the ~~to discuss project~~ permit~~ting~~ requirements of the regulating agencies. ~~and the~~ The following conditions shall also apply:

i. A detailed wetland restoration plan shall be prepared for all projects requiring wetland mitigation (except for mitigation met through the purchase of credits from an approved wetland mitigation bank). The plan shall include, at a minimum, the proposed location of the mitigation area(s), site preparation, plant palette, success criteria, monitoring requirements, and other details of the habitat restoration effort, and be prepared by a qualified biologist. The plan shall be subject to approval by the corresponding regulatory permitting agencies (i.e., USACE, RWQCB, CDFW, and CCC [for projects within the Coastal Zone]) as part of the wetland permitting process.

ii. UC San Diego may choose to mitigate wetland impacts on a project-by-project basis, or create an advanced wetland mitigation area, whereby wetland habitat is created or enhanced in advance of anticipated impacts. Mitigation activities shall be undertaken only where the habitat would be considered to be viable in the long-term, given the other surrounding uses planned by the proposed 2018 LRDP. Any Open Space Preserve areas that are used as wetland habitat mitigation shall be redesignated as Ecological Reserve and included in long-term management conducted pursuant to UC San Diego's Habitat Management Plan.

iii. <u>Temporary impacts to wetlands will be restored in-place at a 1:1 ratio through appropriate seeding and/or planting pursuant to Mitigation Measure Bio-3N</u>.

Habitat Mitigation for Temporary Impacts

Bio-3N <u>Habitat Mitigation for Temporary Impacts</u>. Temporary impacts to sensitive vegetation communities including wetland habitats and sensitive upland habitats, shall be restored in place at a 1:1 ratio. Restoration shall be implemented in the final phase of construction or during an earlier phase if no additional impacts from future construction phases would occur. A Revegetation Plan shall be prepared and approved by UC San Diego Campus Planning prior to construction. The plan shall include site preparation specifications, plant palette, installation procedures, development of reasonable success criteria, appropriate monitoring and reporting protocols, implementation timelines, and contingency measures in the event of restoration failure. UC San Diego Campus Planning shall provide guidance for and oversight of the Revegetation Plan and implementation, respectively. The Revegetation Plan shall also include the process for establishing and sampling a representative reference site within the La Jolla Campus and the criterion for removing and minimizing non-native plant species listed as invasive by the California Invasive Plant Council.

Jurisdictional Aquatic Resources

Minor revisions to Mitigation Measure Bio-4 have been incorporated into this Addendum and the Subsequent EIR to provide clarification regarding requirements for permanent wetland impacts versus temporary wetland impacts.

Bio-4 <u>Jurisdictional Delineation</u>. During the project planning process, if a project has vegetation mapped as potential wetlands or the project site contains or is located immediately adjacent to a natural drainage course, a qualified biologist shall conduct a jurisdictional delineation. The jurisdictional delineation shall use current regulatory guidance to identify the presence of potential regulated waters and wetlands in the project vicinity. If there is potential for the project to adversely affect wetlands or waters, impacts shall be avoided and minimized during project design process, to the extent practicable, and unavoidable impacts shall be mitigated through implementation of mitigation measures Bio-3D and Bio-3N, as applicable, and conformance with applicable wetland permit conditions.

SUMMARY

Issue 2, Candidate, Sensitive, or Special-status Animal Species, is the only biological resources issue area with new potentially significant impacts under the Update to the 2018 LRDP. These new impacts are due to changes in federal or state listing for protected species that occurred after the 2018 LRDP EIR was certified. All project impacts under Issue 2 resulting from the Update to the 2018 LRDP would be reduced to a level less than significant with the implementation of Mitigation Measures Bio-2F, Bio-2G, and Bio-2H, which address Crotch's bumble bee, monarch butterfly, and bird strikes, respectively. This includes potential impacts on monarch overwintering habitat resulting from the redesignation of Urban Forest from OSP to General Services for the proposed electrical substation near Hopkins Drive and the redesignation of Restoration Lands from OSP to General Services for the potential wastewater treatment plant. The University would add an equal acreage of land to the OSP elsewhere on campus, resulting in no net loss of campus OSP areas.

The Update to the 2018 LRDP would not result in new or substantially more severe impacts under the remaining issue areas. Impacts under Issue 3 from direct impacts to southern willow scrub and coastal sage scrub resulting from new development (of a potential wastewater treatment plant and electrical substation), and indirect impacts to Ecological Reserve for redevelopment of Warren College would be reduced to a level below significance through implementation of Mitigation Measures Bio-3A through Bio-3N, which address direct and indirect impacts to sensitive natural communities. Thus, all impacts under Issue 3 would be reduced to a level below significance. Impacts under Issue 4 from direct impacts to southern willow scrub would be reduced to a level below significance through the implementation of Mitigation Measure Bio-4.

The Update to the 2018 LRDP adds four new mitigation measures (Bio-2F, Bio-2G, Bio-2H, and Bio-3N). Mitigation Measures Bio-2F, Bio-2G, and Bio-2H address Crotch's bumble bee, monarch butterfly, and bird strikes, and Mitigation Measure Bio-3N addresses temporary impacts to sensitive natural communities.

Seven 2018 LRDP EIR mitigation measures (Bio-1A, Bio-2A, Bio-2B, Bio-3A, Bio-3C, Bio-3D, and Bio-4) were minimally revised under the Update to the 2018 LRDP. These include Mitigation Measure Bio-1A under Issue 1, Candidate, Sensitive, or Special-status Plant Species; Mitigation Measures Bio-2A and Bio-2B under Issue 2, Candidate, Sensitive, or Special-status Animal Species; Mitigation Measures Bio-3A, Bio-3C and Bio-3D under Issue 3, Riparian Habitat and other Sensitive Natural Communities; and Mitigation Measure Bio-4 under Issue 4, Wetlands. These measures were revised to provide clarifying language related to surveys and mitigation options for rare plants, permanent versus temporary habitat impacts, mitigation ratios for specific upland habitat types, and when updated habitat mapping is required. These revisions provide added clarity for applying the measures to future projects.

The remaining 2018 LRDP biological resources mitigation measures (Mitigation Measures Bio-1B, Bio-2C through Bio-2E, Bio-3B, and Bio-3E through Bio-3M) are carried forward from the LRDP EIR without any revisions. Refer to Attachment A for a table of all biological resources mitigation measures.

Please contact me at stacyn@helixepi.com if you have any questions regarding this addendum.

Sincerely,

Stacy Nigro
Principal Biologist

Attachments

Figure 1:	Regional Location
Figure 2:	Campus Boundary
Figure 3:	Updated Land Use Map
Figure 4:	Open Space Preserve Proposed Boundary Updates
Figure 5a:	Vegetation and Sensitive Biological Resources/Impacts – SIO
Figure 5b:	Vegetation and Sensitive Biological Resources/Impacts – West Campus
Figure 5c:	Vegetation and Sensitive Biological Resources/Impacts – East Campus
Attachment A:	Update to the 2018 LRDP Biological Resources Mitigation Measures

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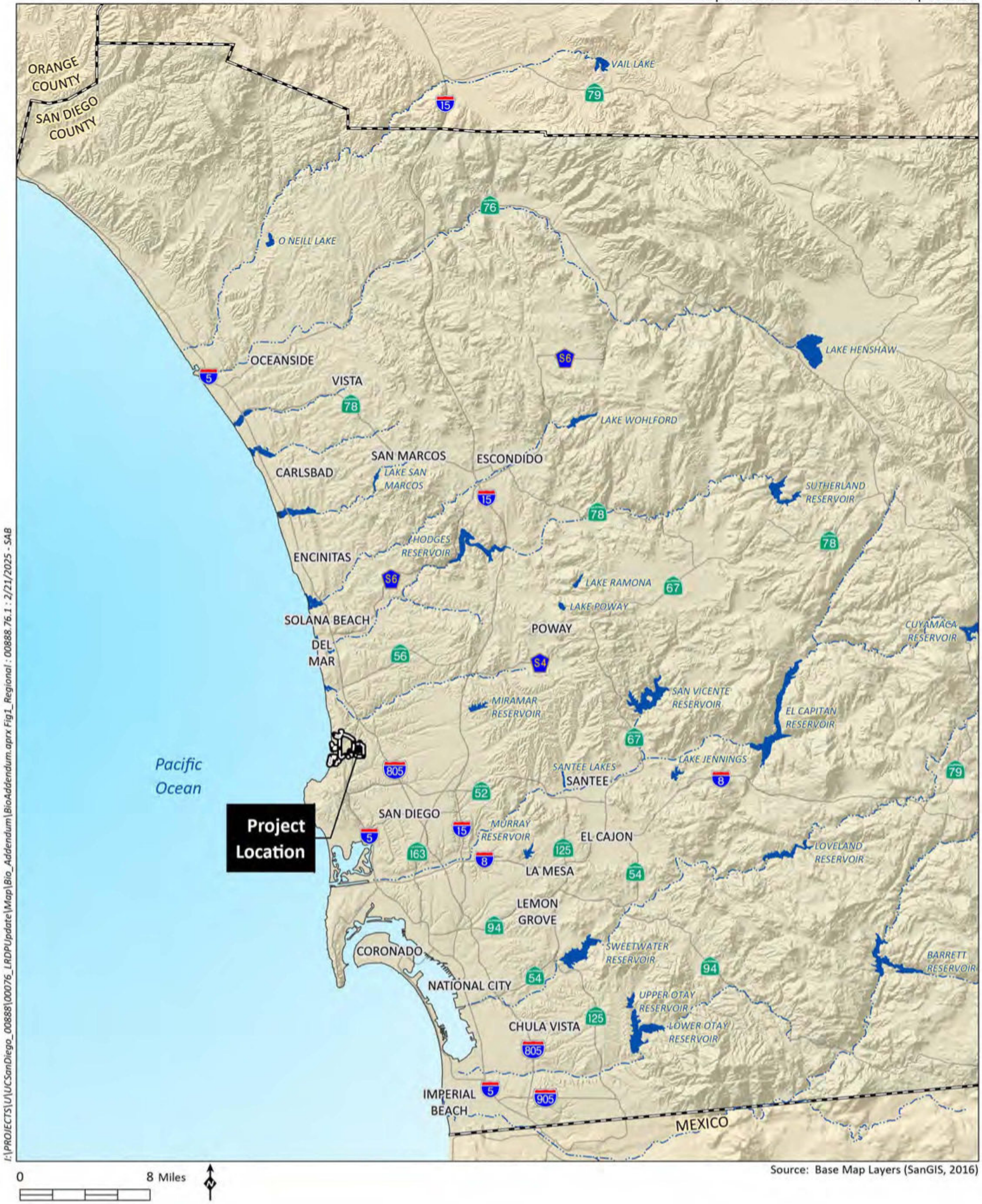

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

Source: Aerial (SanGIS 2023)

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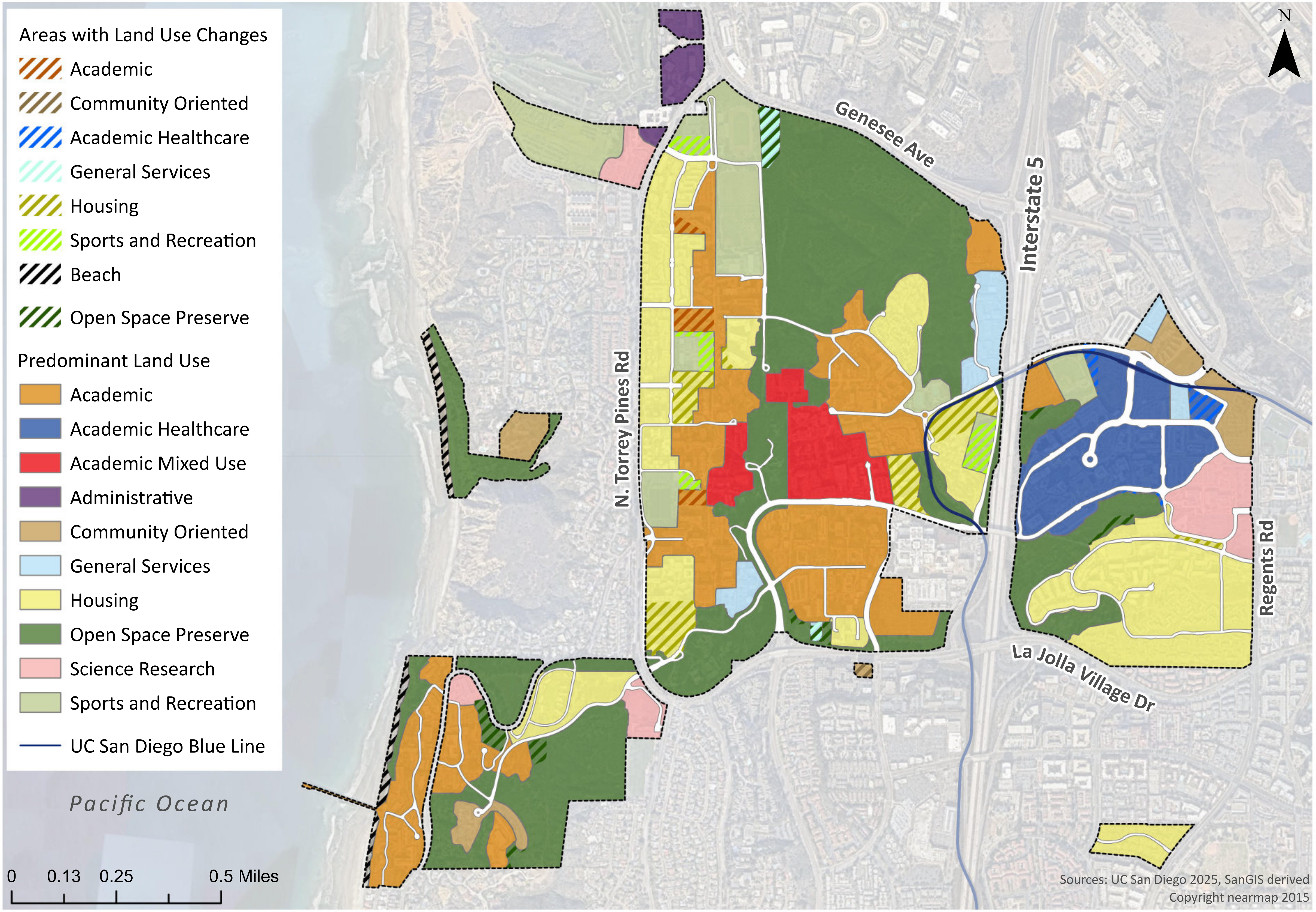
HELIX Environmental Planning

Campus Boundary

Figure 2



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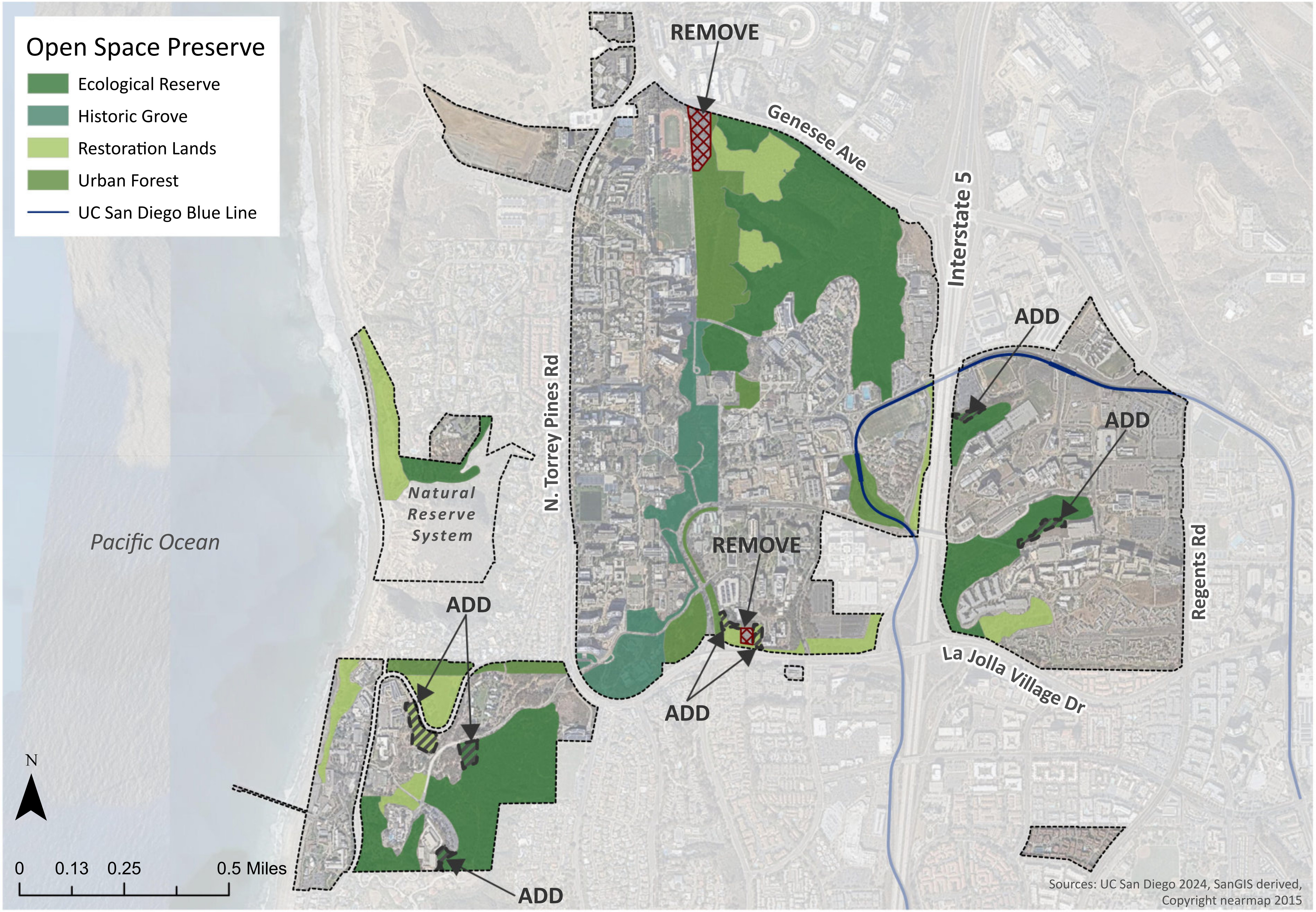
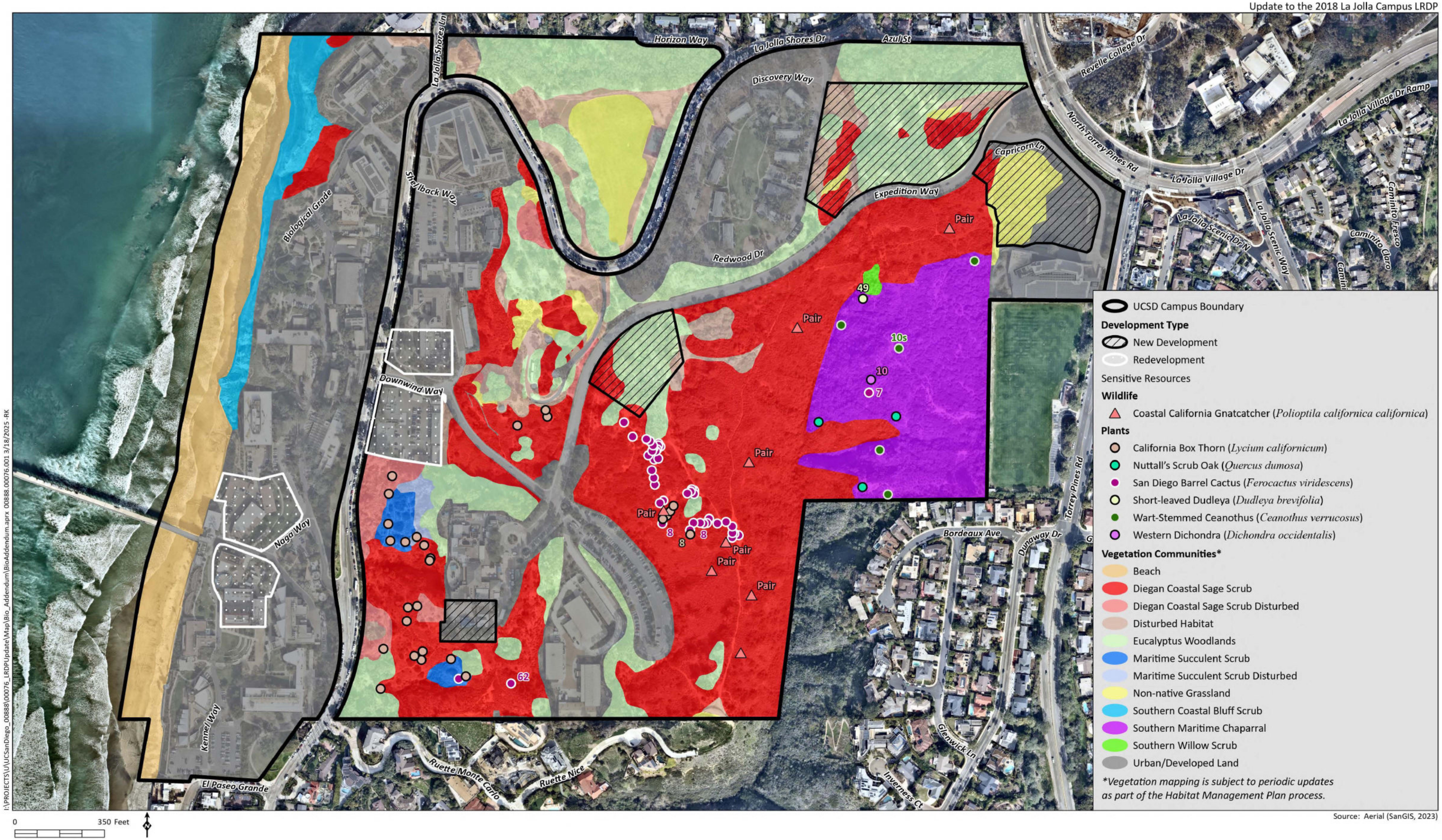
Updated Land Use Map

Figure 3



Open Space Preserve Proposed Boundary Updates

Figure 4



Source: Aerial (SanGIS, 2023)

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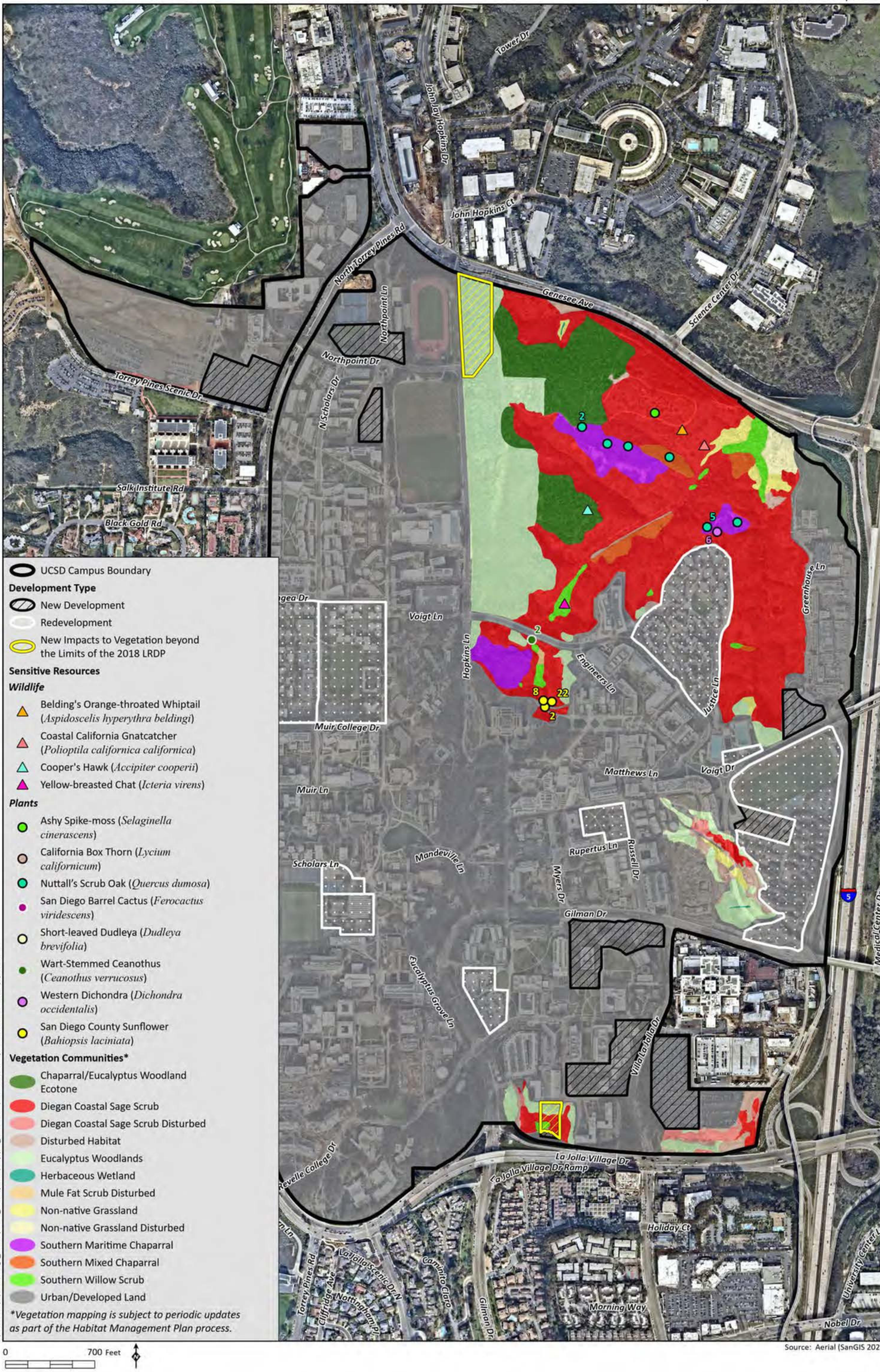
Vegetation and Sensitive Biological Resources/Impacts - SIO

Figure 5a



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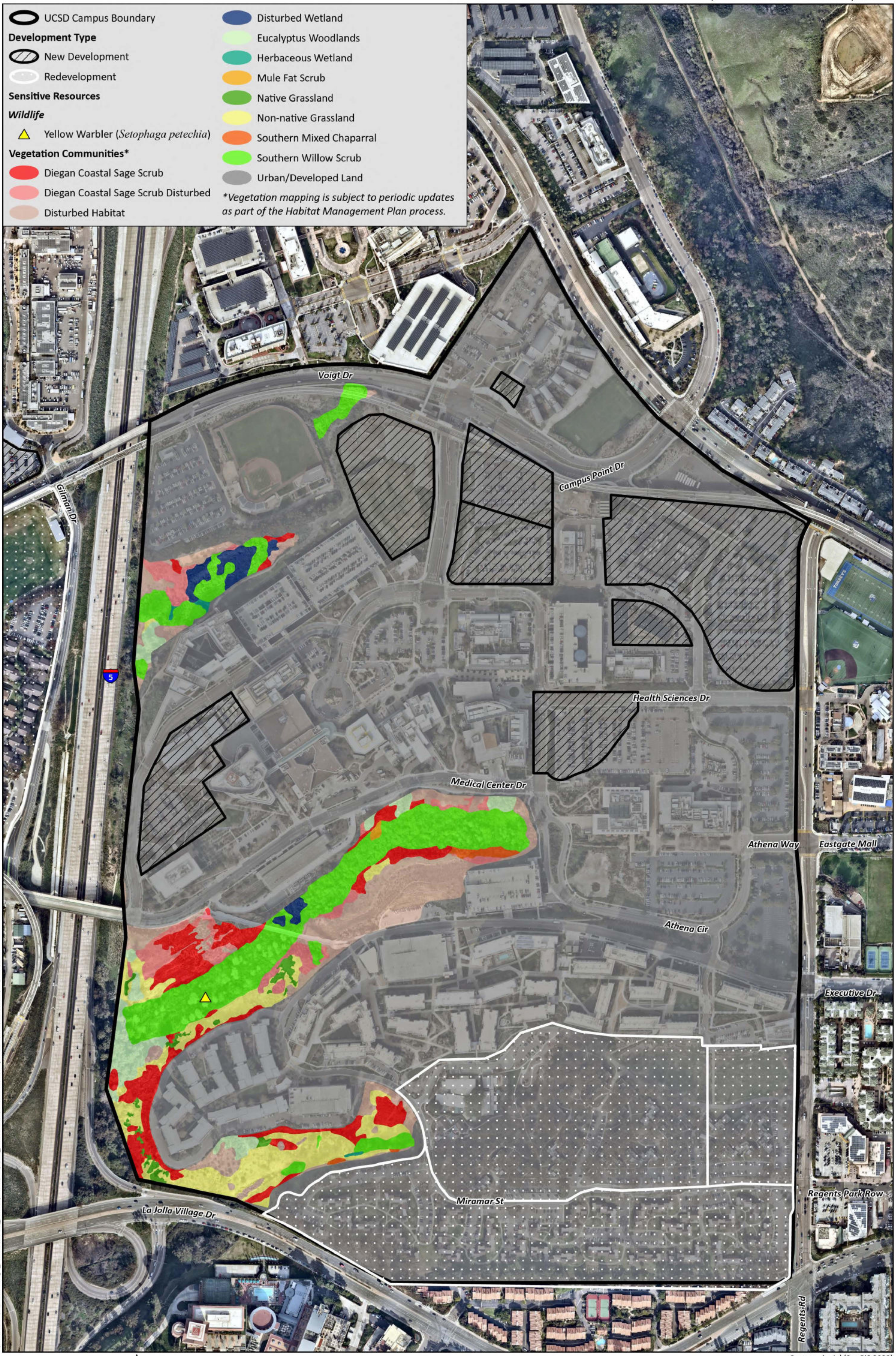
Source: Aerial (SanGIS 2023)

HELIX Environmental Planning

Vegetation and Sensitive Biological Resources/Impacts - West Campus

Figure 5b



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Source: Aerial (SanGIS 2023)

HELIX Environmental Planning

Vegetation and Sensitive Biological Resources/Impacts - East Campus

Figure 5c

Attachment A

Update to the 2018 LRDP Biological Resources Mitigation Measures

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
Sensitive Plant Species	**Bio-1A:** During the project planning phase, updated sensitive plant surveys shall be conducted for all project sites that would impact undeveloped land and that have not been surveyed within the preceding year. Sensitive plant surveys shall be conducted by a qualified biologist retained by UC San Diego during the appropriate season for detecting the species as part of the project design phase. Surveys will be floristic in nature and include lists of all plants identified in the survey area. Surveys will be conducted on foot, employing a level of effort sufficient to provide comprehensive coverage. The locations and prevalence (estimated total numbers/percent cover, as applicable) of sensitive plants will be recorded. If site-specific surveys are not required because a survey was conducted less than one year ago, impact assessment and minimization/mitigation requirements shall be based on the most recent available survey and shall also include an analysis of the potential for sensitive plant species to occur on the site based on existing site conditions. If sensitive plant species are observed, they shall be avoided by reducing or revising the impact boundary if feasible, particularly for temporary impact areas. If impacts cannot be avoided, the impacts to those species must be evaluated and any significant impacts shall be mitigated through one or a combination of the following: conservation of habitat that supports the impacted species, translocation of impacted individuals to conserved lands, and/or habitat restoration that incorporates the impacted species in the plant/seed palette. Habitat mitigation shall occur in accordance with Mitigation Measure Bio-3C. **Bio-1B:** If additional barrel cactus individuals are observed during updated sensitive plant surveys conducted under Mitigation Measure Bio-1A, mitigation for impacts to San Diego barrel cactus shall occur through preservation of habitat on UC San Diego that supports this species and salvage and translocation of any impacted San Diego barrel cactus within the project site(s) to appropriate locations within the Ecological Reserve.	Implement surveys during the planning and design phase. Implement mitigation prior to start of construction.
Sensitive Animal Species: Coastal California Gnatcatcher	**Bio-2A:** During the project planning process, a project site shall be reviewed to determine if it would directly impact Diegan coastal sage scrub or indirectly impact the coastal California gnatcatcher by being located within 500 feet of Diegan coastal sage scrub based on a review of LRDP EIR Figures 3.3-1 through 3.3-3 or updated vegetation mapping. If the potential for impacts exists, three surveys shall be conducted seven to 10 days apart in accordance with the current USFWS protocol for NCCP-enrolled agencies to determine presence/absence of the species. Surveys may be conducted either on a project-specific basis, or on a programmatic level in portions of UC San Diego likely to be subject to disturbance in the relatively near future. The permittee must submit a 15-day pre-survey notification to the USFWS Carlsbad Permits Division, including an explanation that three surveys shall be conducted and specifying	Implement surveys during the planning and design phase. Implement mitigation prior to start of construction.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
Sensitive Animal Species: Coastal California Gnatcatcher (cont.)	that UC San Diego shall mitigate all permanent impacts to Diegan coastal sage scrub at a 2:1 ratio through on-site preservation, creation, and/or enhancement, or combination thereof, in the Ecological Reserve or off-campus through habitat acquisition and preservation or the purchase of credits from an approved conservation bank, regardless of whether the impacted area is occupied by coastal California gnatcatcher. Documentation of the survey results shall be provided to USFWS in accordance with current protocol survey guidelines. **Bio-2B:** If Diegan coastal sage scrub habitat within a project site is determined to be occupied by coastal California gnatcatcher based on surveys conducted in accordance with Mitigation Measure Bio-2A, UC San Diego shall contact USFWS to discuss project permitting options, which could be accomplished through Section 7 or Section 10(a) of the FESA. Impacts to the coastal California gnatcatcher and gnatcatcher-occupied habitat shall be avoided/mitigated by the following measures (additional measures may be required as a result of the consultation/permitting process): i. Diegan coastal sage scrub occupied by coastal California gnatcatcher shall not be removed during the coastal California gnatcatcher breeding season (February 15 through August 31). If coastal California gnatcatchers are not present, then only mitigation for the habitat loss shall be required as described in Mitigation Measure Bio-3C and habitat clearing can occur at any time of the year following the survey. ii. If construction activities commence during the coastal California gnatcatcher breeding season (February 15 through August 31) and coastal California gnatcatchers are found within 500 feet of the grading limits based on the surveys required in Mitigation Measure Bio-2A, a qualified acoustician shall be consulted to identify appropriate measures for reducing construction noise levels to 60 dB(A) hourly L_{eq} or ambient, whichever is higher, during the part of the breeding season when active nests are most likely. If noise reduction measures are determined necessary, the construction contractor shall implement the measures and the acoustician shall confirm, through field measurements, that the attenuation measures are effective at maintaining noise at or below the specified threshold. iii. Permanent impacts to Diegan coastal sage scrub (regardless of coastal California gnatcatcher occupancy) shall be mitigated at a 2:1 ratio through preservation, creation, and/or enhancement, or combination thereof, of coastal sage scrub in the Ecological Reserve, or off-campus through habitat acquisition and preservation or the purchase of credits from an approved conservation bank as, described in Mitigation Measure Bio-3C.	

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
Sensitive Animal Species: Least Bell's Vireo	**Bio-2C:** During the project planning process, when a project is proposed that shall directly or indirectly impact least Bell's vireo-suitable habitat (southern willow scrub, mule fat scrub, or other suitable riparian habitat), surveys to determine presence or absence of the species shall be required. If occupied least Bell's vireo habitat could be directly or indirectly impacted by a project, it shall be avoided to the maximum extent feasible. If impacts cannot be avoided, UC San Diego shall contact USFWS and CDFW to discuss project permitting options and the following requirements shall apply: i. Occupied least Bell's vireo habitat will not be removed during the vireo breeding season (March 15 through September 15). If vireos are not present, then only mitigation for the habitat loss shall be required as described in Mitigation Measure Bio-3E. ii. If construction activities commence during the least Bell's vireo breeding season (March 15 through September 15) and least Bell's vireo are found within 500 feet of the grading limits based on the survey to determine presence/absence described above, a qualified acoustician shall be consulted to identify appropriate measures for reducing construction noise levels to 60 dB(A) hourly L_{EQ} or ambient, whichever is higher, during the part of the breeding season when active nests are most likely. If noise reduction measures are determined necessary, the construction contractor shall implement the measures and the acoustician shall confirm, through field measurements, that the attenuation measures are effective at maintaining noise at or below the specified threshold. iii. Impacts to wetland habitats (regardless of least Bell's vireo occupancy) shall be mitigated at a 3:1 ratio through one or more of the following: creation, restoration, enhancement, and/or preservation of habitat in the Ecological Reserve, or through purchase of credits at an approved wetland mitigation bank, as described under Mitigation Measure Bio-3D.	Implement surveys during the planning and design phase. Implement mitigation prior to start of construction.
Nesting Birds and Raptors	**Bio-2D:** If project construction is scheduled to commence during the raptor nesting season (generally January 15 through July 31), pre-construction surveys for raptor nests shall be performed by a qualified biologist within 500 feet of project construction activities no more than seven days prior to the initiation of construction. Construction activities within 500 feet of an identified active raptor nest shall not commence during the breeding season until a qualified biologist determines that the nest is no longer active and any young birds in the area have adequately fledged and are no longer reliant on the nest. Trees with inactive nests can be removed outside the breeding season without causing an impact.	Implement prior to start of construction.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	Bio-2E: No grubbing, trimming, or clearing of vegetation (including brush management) from project sites shall occur during the general avian breeding season (February 15 through August 31). If grubbing, trimming, or clearing cannot feasibly occur outside of the general avian breeding season, a qualified biologist shall perform a pre-construction nesting bird survey no more than seven days prior to the commencement of vegetation clearing or grubbing to determine if active bird nests are present in the affected areas. Should an active migratory bird nest be located, the project biologist shall direct vegetation clearing away from the nest until it has been determined by the project biologist that the young have fledged, or the nest has failed. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within the survey area, clearing, grubbing, and grading shall be allowed to proceed.	
Sensitive Animal Species: Crotch's Bumble Bee	**Bio-2F:** A qualified biologist will conduct a habitat assessment to determine if potentially suitable habitat for Crotch's bumble bee (i.e., native scrub habitats and native and non-native grassland habitats containing nectar resources) is present within the project footprint. If potentially suitable habitat is present, the following measures shall be implemented to reduce potential impacts to this species: 1. **Focused Survey**: Before the commencement of construction activities (i.e., demolition, earthwork, clearing, and grubbing), Crotch's bumble bee focused surveys shall be conducted. A qualified biologist familiar with Crotch's bumble bee identification and life history shall conduct three visual surveys at least seven days apart during the colony active period (April through August [CDFW 2023]). If standardized survey protocols are published before surveys are completed, surveys shall either follow these protocols or modified protocols approved by CDFW. If focused surveys are negative, no further assessment shall be required, and construction activities shall be allowed to proceed without any further requirements. **If Crotch's bumble bee is detected during focused surveys, the measures below shall be implemented.** 2. **CESA Compliance**: Prior to start of construction, required consultation with CDFW regarding the project's effects on Crotch's bumble bee must occur. If take of Crotch's bumble bee is expected, an incidental take permit issued by the CDFW must be obtained, as applicable. In addition, if an incidental take permit is issued for the project that covers Crotch's bumble bee, that document shall supersede any inconsistent measures provided in the LRDP EIR. CESA compliance shall only be required if Crotch's bumble bee remains a candidate state endangered species or is listed as a state endangered species at the time of project construction. If Crotch's bumble bee is delisted, this measure shall not be required.	Implement habitat assessment during the planning and design phase. Implement surveys during the planning and design phase or prior to start of construction. Implement mitigation prior to start of construction.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	3. **Compensatory Mitigation**: Compensatory mitigation for permanent direct impacts to Crotch's bumble bee habitat shall be offset through one or a combination of the following: preservation of habitat, habitat creation, and/or enhancement on the UC San Diego campus, or off campus through habitat acquisition and preservation or purchase of suitable habitat credits from an approved conservation bank. Compensatory mitigation sites occurring on campus shall be monitored and maintained per the campus-wide Habitat Management Plan. Compensatory mitigation sites occurring off campus shall be monitored and maintained according to a site-specific long-term management plan. If an incidental take permit is issued for the project that covers Crotch's bumble bee, that document shall supersede any measures and mitigation ratios provided in the LRDP.	
Sensitive Animal Species: Monarch Butterfly	**Bio-2G:** For any project construction activities in the Historic Grove or Urban Forest between October 1st and March 15th, including vegetation removal, a qualified biologist familiar with monarch butterfly identification and life history shall conduct biological surveys to determine the presence of overwintering monarch butterflies in trees in the project site and within 100-feet of the project site. The initial survey must occur at least 14 days before the commencement of any construction activities, and a follow-up survey must be conducted within three calendar days before the initiation of vegetation clearance or construction, whichever is earlier. Surveys must continue on a monthly basis throughout the overwintering season or until the project is completed, whichever comes first. If overwintering monarchs are found within 100 feet of the project, a qualified biologist shall monitor project activities to ensure that trees with overwintering monarchs are protected and are not removed, trimmed, or otherwise damaged by construction activities. If recommended by the biologist, temporary avoidance measures shall be implemented that may include, but are not limited to, setbacks from active overwintering trees and stopping work until observed monarch individual(s) have left, as determined by the biologist through surveys. If the monarch butterfly becomes a listed species under the federal Endangered Species Act, coordination with USFWS would be required if potential impacts to this species are proposed.	Implement surveys prior to start construction and continue through construction.
Sensitive Bird Species: Bird Safe Building Standards	**Bio-2H: Bird-Safe Building Standards:** Project design plans for proposed development on campus shall comply with bird-safe building standards for façade treatments, landscaping, lighting, and building interiors, as follows: i. For glass treatments up to the third floor (approximately 36 feet) or to the height of adjacent vegetation (whichever is taller), the amount of untreated glass shall be less than 35 percent of the building façade.	Implement during the planning and design phase.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	a. The percentage shall be calculated by dividing the square footage of glass by the building façade area, where building façade area is the width of the façade multiplied by the height to the third floor or adjacent vegetation. ii. For glass treatments up to the third floor (approximately 36 feet) or to the height of adjacent vegetation (whichever is taller), that do not meet requirement (A) above, glass shall be treated to create visual barriers for birds. Acceptable glazing treatments include fritting; netting; permanent stencils; frosted, non-reflective or angled glass; exterior screens; decorative latticework or grills; physical grids placed on the exterior of glazing; ultraviolet patterns visible to birds; and window awnings, shades, or shutters; or similar treatments. a. Where applicable, vertical elements within the treatment pattern should be at least one quarter (1/4) inch wide, at a maximum spacing of four inches; b. Where applicable, horizontal elements within the treatment pattern should be at least one eighth (1/8) inch wide, at a maximum spacing of two inches; and c. Non-reflective glazing shall have a "Reflectivity Out" coefficient of thirty percent or less. That is, the fraction of radiant energy that is reflected from glass or glazed surfaces shall not exceed 30%. iii. Building and site design shall eliminate or reduce high-threat features, such as enclosed glass walkways, glass railings, glass/transparent corners, fly-through conditions (i.e., where birds have a clear line of sight to sky or vegetation on the other side of glass), "bird traps" (e.g., glass/windowed courtyards, interior atriums, windows installed opposite each other), and similar features. iv. Trees and other vegetation shall be sited to avoid or obscure reflection on building facades such as not siting vegetation directly adjacent to reflective surfaces, and to avoid creating an effect where landscaping funnels birds toward glass (e.g., walkways, passageways, edges. a. Where applicable, horizontal elements within the treatment pattern should be at least one eighth (1/8) inch wide, at a maximum spacing of two inches; and b. Non-reflective glazing shall have a "Reflectivity Out" coefficient of thirty percent or less. That is, the fraction of radiant energy that is reflected from glass or glazed surfaces shall not exceed 30%. v. Building and site design shall eliminate or reduce high-threat features, such as enclosed glass walkways, glass railings, glass/transparent corners, fly-through conditions (i.e., where birds have a clear line of sight to sky or vegetation on the other side of glass), "bird traps" (e.g., glass/windowed courtyards, interior atriums,	

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	other side of glass), "bird traps" (e.g., glass/windowed courtyards, interior atriums, windows installed opposite each other), and similar features. vi. Trees and other vegetation shall be sited to avoid or obscure reflection on building facades such as not siting vegetation directly adjacent to reflective surfaces, and to avoid creating an effect where landscaping funnels birds toward glass (e.g., walkways, passageways, edges. vii. Buildings shall be designed to minimize light spillage and maximize light shielding to the maximum feasible extent per the following standards: a. Nighttime lighting shall be minimized to levels necessary to provide pedestrian security. b. Building lighting shall be shielded and directed downward. c. Up-lighting and use of event "searchlights" or spotlights is prohibited. d. Landscape lighting shall be limited to low-intensity and low-wattage lights. e. Red lights shall be limited to only that necessary for security and safety warning purposes. viii. Artificial night light from interior lighting shall be minimized through the utilization of automated on/off systems and motion detectors.	
Sensitive Vegetation Communities	**Bio-3A:** For project sites that contain undeveloped land, for which vegetation mapping has not been conducted on the site in the preceding five years, updated vegetation mapping shall be conducted by a qualified biologist as part of the project planning and environmental review process. **Bio-3B:** During the project planning phase, site plans shall be designed to minimize impacts to sensitive vegetation communities, to the extent feasible. Such minimization efforts include the following: i. Use of retaining walls to minimize grading impacts, to the extent that this is possible from an engineering and visual impact standpoint. ii. Locations, widths, design features, and construction methods of any new trails or overlook areas shall carefully consider how to avoid and minimize impacts to sensitive vegetation communities (e.g., routing trails along canyon rims rather than through canyons, cantilevered overlook platforms, using bridges to avoid wetland vegetation communities, clearing trails by hand). iii. To the extent practicable, a 50-foot-wide buffer shall be provided between permanent development and wetland vegetation.	Implement during the planning and design phase.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
Sensitive Vegetation Communities: Habitat Mitigation for Permanent Impacts	**Bio-3C:** Permanent impacts to sensitive upland vegetation communities shall be mitigated through the preservation of habitat, habitat creation, and/or enhancement, or combination thereof on the UC San Diego campus or off campus through habitat acquisition and preservation or purchase of credits from an approved conservation bank. Mitigation ratios for permanent impacts shall be 2:1 for Diegan coastal sage scrub, maritime succulent scrub, southern maritime chaparral, coastal bluff scrub, and native grassland habitats; 1:1 for southern mixed chaparral and chaparral/eucalyptus woodland ecotone; and 0.5:1 for non-native grassland. Mitigation for impacts to upland communities shall be in-kind, except for non-native grassland, which can be mitigated with a native or non-native grassland community, or other similarly functioning or higher quality habitat. Temporary impacts to sensitive upland vegetation communities will be restored in-place at a 1:1 ratio through appropriate seeding and/or planting pursuant to Mitigation Measure **Bio-3N**. **Bio-3D:** Mitigation required for permanent impacts to wetland habitat shall be accomplished at an overall ratio of 3:1, which includes a minimum 1:1 creation component to ensure no net-loss of these communities. The exception to the 1:1 creation component shall be where 1:1 creation is not required by the wetland permitting authorities and the no net loss of functions and values directive is met through other types of approved mitigation. Wetland mitigation shall occur through creation, restoration, enhancement, and/or preservation, or combination thereof, or through purchase of credits at an approved wetland mitigation bank. UC San Diego shall contact the appropriate permitting agencies (e.g., USACE, RWQCB, CDFW, and CCC [for projects within the Coastal Zone]) and will comply with the permit requirements of the regulating agencies. The following conditions shall also apply: i. A detailed wetland restoration plan shall be prepared for all projects requiring wetland mitigation (except for mitigation met through purchase of credits from an approved wetland mitigation bank). The plan shall include, at a minimum, the proposed location of the mitigation area(s), site preparation, plant palette, success criteria, monitoring requirements, and other details of the habitat restoration effort, and be prepared by a qualified biologist. The plan shall be subject to approval by the corresponding regulatory permitting agencies (i.e., USACE, RWQCB, CDFW, and CCC [for projects within the Coastal Zone]) as part of the wetland permitting process. ii. UC San Diego may choose to mitigate wetland impacts on a project-by-project basis, or create an advance wetland mitigation area, whereby wetland habitat is created or enhanced in advance of anticipated impacts. Mitigation activities shall be undertaken only where the habitat would be considered to be viable in the long-term, given the other surrounding uses planned by the proposed 2018 LRDP. Any Open Space Preserve areas that are used as wetland habitat mitigation shall be redesignated as Ecological	Implement prior to start of construction. Note: Permanent impacts to sensitive upland habitats will be mitigated through Mitigation Measure **Bio-3C**. Permanent impacts to wetland habitats will be mitigated through Mitigation Measure **Bio-3D**. Temporary impacts to wetlands and/or sensitive uplands will be mitigated through Mitigation Measure **Bio-3N**. Individual projects may have a less than significant finding for impacts to uplands based on a limited affected area and minimal habitat value. Factors that may contribute to a determination of minimal habitat value include small size, isolation from other habitats, lack of sensitive species, dominance of non-native plant species, and marginal/degraded habitat quality. These determinations would be made on a project-specific basis. Investigative activities such as geotechnical borings may be less than significant based on the above factors or may meet CEQA Class 6 categorical exemption.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	Reserve and be included in long-term management conducted pursuant to UC San Diego's HMP. iii. Temporary impacts to wetlands will be restored in-place at a 1:1 ratio through appropriate seeding and/or planting pursuant to Mitigation Measure **Bio-3N**.	
Sensitive Vegetation Communities: Construction Measures	**Bio-3E:** Prior to construction, a pre-construction meeting shall be held between the Project Manager, qualified biologist, Environmental Planner, and construction crews to ensure crews are informed of the sensitivity of habitats in the Open Space Preserve and adjacent undeveloped lands. i. Prior to commencement of clearing or grading activities, fencing (e.g., silt fencing, orange construction fencing, and/or chain-link fencing as determined by campus planning) shall be installed around the approved limits of disturbance to prevent errant disturbance of sensitive biological resources by construction vehicles or personnel. Installation of fencing to demarcate the approved limits of disturbance shall be verified by the project biologist prior to initiation of clearing or grading activities. All movement of construction contractors, including ingress and egress of equipment and personnel, shall be limited to designated construction zones. This fencing shall be removed upon completion of all construction activities. ii. No temporary storage or stockpiling of construction materials shall be allowed within the Ecological Reserve or Restoration Lands, and all staging areas for equipment and materials shall be located at least 50 feet from the edge of these areas. This prohibition shall not be applied to facilities that are planned to traverse Ecological Reserve or Restoration Lands (e.g., trails and utilities). Staging areas and construction sites in proximity to the Ecological Reserve or Restoration Lands shall be kept free of trash, refuse, and other waste; no waste dirt, rubble, or trash shall be deposited in these areas. iii. Equipment to extinguish small brush fires (e.g., from trucks or other vehicles) shall be present on site during all phases of project construction activities, along with personnel trained in the use of such equipment. Smoking shall be prohibited in construction areas adjacent to flammable vegetation. iv. Temporary night lighting shall not be used during construction unless determined to be absolutely necessary. If night lighting is necessary, lights shall be directed away from sensitive vegetation communities and shielded to minimize temporary lighting of the surrounding habitat. If night lighting is necessary, lights shall be directed away from sensitive vegetation communities and shielded to minimize temporary lighting of the surrounding habitat.	Implement during the planning and design phase, and during construction.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	Bio-3F: During project construction, a biological monitor shall visit the site weekly during site preparation and rough grading activities, and monthly following completion of rough grading, until construction is completed. During site visits, the monitor shall be responsible for ensuring that the construction activities and staging areas are restricted to the approved limits of work, and protective fencing is adequately maintained. The monitor shall be responsible for ensuring that the contractor adheres to the other provisions described above. The monitor, in cooperation with the on-site construction manager, shall have the authority to halt construction activities in the event that these provisions are not met. Monitors shall submit regular reports to the UC San Diego Campus Planning Office during construction documenting the implementation of construction measures Bio-3E.	
Sensitive Vegetation Communities: Operational Measures	**Bio 3G:** The following best management practices shall be implemented for each project that would remove or install tree species on UC San Diego that may be used as host trees by SHBs: i. Trees to be planted on UC San Diego shall be obtained from a reliable source and be free of sign of SHB infestation. ii. An education program for on-site workers responsible for tree installation shall be implemented. The program shall describe the signs of SHB infestation (e.g., sugary exudate on trunks or branches, and SHB entry/exit holes [approximately the size of the tip of a ballpoint pen]). iii. Sign of SHB infestation shall be reported to CDFW and UC Riverside's Eskalen Lab (https://ucanr.edu/sites/eskalenlab/) by the UC San Diego Project Manager and/or the project biologist. iv. Trees with sign of SHB infestation shall be pruned or removed, as appropriate, and potential host materials shall be chipped to less than one inch prior to composting on site or transfer to a landfill. v. Equipment that is used to prune or remove SHB-infected trees shall be disinfected prior to additional use. vi. Biologists monitoring mitigation sites shall be knowledgeable regarding sign of SHB infestation. **Bio-3H:** Areas selectively thinned for brush management shall be monitored by a qualified biologist for establishment of invasive plant species pursuant to the Campus' Habitat Management Plan.	Implement in the planning and design phase and during construction or maintenance activities, as applicable.

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	Bio-3I: Landscaping adjacent to the Open Space Preserve shall comply with the following requirements to prevent the introduction of invasive species: i. Appropriate landscaping shall be selected based on the vegetation communities within the portion of the Open Space Preserve adjacent to the project. In areas supporting native (or disturbed native) vegetation communities, revegetation of impacted slopes shall be with appropriate native plant materials. In particular, where the Open Space Preserve is disturbed by construction of the Campus Meander, installation of native plants such as lemonadeberry, toyon, deerweed (Acmispon glaber), monkey flower (Diplacus aurantiacus), and sages (Salvia spp.) are recommended to make the Open Space Preserve more impenetrable to people while reinforcing the boundaries and edges of the Campus Meander (The Harrison Studio 1997). ii. Only non-invasive plant species shall be included in the landscape plans for projects (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2006]). A qualified landscape architect and/or qualified biologist shall review landscape plant palettes prior to implementation to ensure that no invasive species are included. iii. Any planting stock brought onto a project site adjacent to the Open Space Preserve for landscaping or habitat restoration shall be inspected to ensure it is free of pest species that could invade natural areas, including but not limited to Argentine ants and South American fire ants. Inspections of planting stock for habitat restoration shall be by a qualified biologist, and inspections of planting stock for landscaping shall be the responsibility of qualified UC San Diego Project Manager or their designated assignee. Any planting stock found to be infested with such pests shall be quarantined, treated, or disposed of according to best management practices by qualified personnel, in a manner that precludes invasions into natural habitats. **Bio-3J:** Permanent lighting within or adjacent to the Ecological Reserve and Restoration Lands shall be selectively placed, shielded, and directed to minimize potential impacts to sensitive species. In addition, lighting from buildings or parking lots/structures abutting the Ecological Reserve shall be shielded and/or screened by vegetation to the extent feasible.	

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
	Bio-3K: The following best management practices shall be implemented by the campus along areas that interface with the Open Space Preserve to address runoff/water quality impacts from landscaping: i. Integrated Pest Management principles (University of California Integrated Pest Management Program) shall be implemented to the extent practicable for areas in and adjacent to the Open Space Preserve for chemical pesticides, herbicides, and fertilizers. Examples of such measures may include, but are not limited to, alternative weed/pest control measures (e.g., removal by hand) and proper application techniques (e.g., conformance to manufacturer specifications and legal requirements). ii. Irrigation for project landscaping shall be minimized and controlled in areas in and adjacent to the Open Space Preserve through efforts such as designing irrigation systems to match landscaping water needs, using sensor devices to prevent irrigation during and after precipitation, and using automatic flow reducers/shut-off valves that are triggered by a decrease in water pressure from broken sprinkler heads or pipes. **Bio-3L:** Signage and fencing shall be installed along the edge of the Ecological Reserve to protect sensitive habitats from human disturbance with the following techniques: i. Projects adjacent to the Ecological Reserve shall install open space signage along the boundary of the reserve, indicating the presence of lands supporting sensitive habitat. ii. Projects adjacent to the Ecological Reserve shall install fencing or other visual/physical barriers (such as appropriate landscaping) to discourage human encroachment into the Open Space Preserve in areas where trespass is likely to occur (gradual slopes; areas of low, open vegetation; areas of previous disturbance, etc.). **Bio-3M:** Maintenance of storm water facilities shall be conducted in a manner to minimize impacts to adjacent sensitive habitats. Maintenance will be overseen by a qualified biologist and occur outside the general bird breeding season which extends from February 15 through August 31.	

Topic	Update to the 2018 LRDP Mitigation Measure (revised 2024):	Implementation / Additional Information
Sensitive Vegetation Communities: Habitat Mitigation for Temporary Impacts	**Bio-3N:** Temporary impacts to sensitive vegetation communities including wetland habitats and sensitive upland habitats, shall be restored in place at a 1:1 ratio. Restoration shall be implemented in the final phase of construction or during an earlier phase if no additional impacts from future construction phases would occur. A Revegetation Plan shall be prepared and approved by US San Diego Campus Planning prior to construction. The plan shall include site preparation specifications, plant palette, installation procedures, development of reasonable success criteria, appropriate monitoring and reporting protocols, implementation timelines, and contingency measures in the event of restoration failure. UC San Diego Campus Planning shall provide guidance for and oversight of the Revegetation Plan and implementation, respectively. The Revegetation Plan shall also include the process for establishing and sampling a representative reference site within the La Jolla Campus and the criterion for removing and minimizing non-native plant species listed as invasive by the California Invasive Plant Council.	Implement prior to start of construction. Note: Permanent impacts to sensitive upland habitats will be mitigated through Mitigation Measure **Bio-3C**. Permanent impacts to wetland habitats will be mitigated through Mitigation Measure **Bio-3D**. Temporary impacts to wetlands and/or sensitive uplands will be mitigated through Mitigation Measure **Bio-3N**.
Jurisdictional Aquatic Resources	**Bio-4A:** During the project planning process, if a project has vegetation mapped as potential wetlands or the project site contains or is located immediately adjacent to a natural drainage course, a qualified biologist shall conduct a jurisdictional delineation. The jurisdictional delineation shall use current regulatory guidance to identify the presence of potential regulated waters and wetlands in the project vicinity. If there is potential for the project to adversely affect wetlands or waters, impacts shall be avoided and minimized during project design process, to the extent practicable, and unavoidable impacts shall be mitigated through implementation of mitigation measures Bio-3D and Bio-3N, as applicable, and conformance with applicable wetland permit conditions.	Implement in the planning and design phase.

Appendix D1

Addendum to the Archaeological Resources Letter Report
Restricted Distribution – Confidential Information

Pursuant to California Code Regulations, Title 14, Section 15120(d) and Public Resources Code Section 5097.9 and Section 5097.993, this technical appendix contains confidential information on the location of archaeological resources and is therefore not available for public review.

Appendix D2

Cultural Resources Monitoring, Discovery, and Treatment Plan

WORKING DRAFT Cultural Resources Monitoring, Discovery, and Treatment Plan for the Update to the UC San Diego La Jolla Campus 2018 Long Range Development Plan

I. SUMMARY

This document will serve as a Cultural Resources Monitoring, Discovery, and Treatment Plan ("Plan") for all projects carried forward in implementation of the UC San Diego La Jolla Campus 2018 Long Range Development Plan (2018 LRDP), including the Update to the 2018 LRDP. It is being developed in consultation with three Kumeyaay Tribes who responded to UC San Diego's request for consultation pursuant to Assembly Bill 52, including the Campo Band of Mission Indians, the San Pasqual Band of Mission Indians, and the Sycuan Band of Kumeyaay Indians; all the tribal contacts provided by the Native American Heritage Commission (NAHC) for the LRDP and the Update were Kumeyaay Tribes/Bands. In addition, this plan outlines how individual projects would comply with mitigation measures in the Update to the 2018 LRDP Subsequent Environmental Impact Report.

For all projects that require cultural resource monitoring, UC San Diego will contract with an archaeological resource management consultant to serve as Cultural Resource Manager (CRM) to provide archaeological monitoring and management support necessary to maintain compliance with this agreement, as well as Native American Monitors (NAM) from the Tribes who have requested participation in the monitoring process.

II. ROLES/RESPONSIBILITIES

- **Cultural Resource Manager:** The CRM shall serve as the program manager and qualified archaeologist for the cultural resource monitoring program. The CRM shall be the point-of-contact for scheduling of monitors and rotation of tribal government monitors and shall consult the Construction Manager/Construction Contractor on which activities are to be monitored and the appropriate number of monitors to be on site on any given day. The CRM shall act as a central collecting point for the monitors' daily logs and inform all new monitors assigned to the project on any past discoveries or other pertinent information. The CRM shall be responsible for notification of any discoveries to all parties noted in this document and shall have the authority to halt or divert work activities, along with the NAMs. The CRM may serve as the monitoring archaeologist or may direct and oversee another qualified archaeological monitor.

- **Native American Monitor**: The NAM shall be responsible for the monitoring of all ground disturbing activities as described under Monitoring Procedures and directed by the CRM. The NAM shall have the authority to halt or divert work activities. Tribes who have requested participation in UC San Diego's monitoring program shall be rotated in on a project-by-project basis. If a Tribe whose turn it is in the rotation turns down a monitoring opportunity, the next Tribe in the rotation shall be contacted. If all Tribes who have requested participation in UC San Diego's monitoring program turn down a single monitoring opportunity, UC San Diego may utilize another Tribe or company that employs Kumeyaay monitors for that opportunity.

- **Archaeological Monitor**: The archaeological monitor shall be responsible for monitoring of all ground disturbance as described under Monitoring Procedures and directed by the CRM. Only qualified archaeologists shall serve the role of archaeological monitor. The CRM may also serve as the archaeological monitor.

- **Construction Contractor/Construction Manager**: The construction contractor or construction manager shall be responsible for educating its staff and its sub-consultants, such as the grading sub-contractor, on the requirements of this cultural resource monitoring program. Tribes may be given the opportunity to contribute to site-specific training or education materials to be incorporated into the Contractor's training, consistent with the terms of this treatment plan. The construction contractor/construction manager shall also be responsible for providing adequate notice of monitoring needs as described under Monitoring Procedures.

- **UC San Diego Campus Planning**: The UC San Diego Campus Planning office shall provide oversight to ensure the requirements of this Plan are being met.

- **UC San Diego Capital Program Management/Facilities Management**: The UC San Diego CPM Project Manager or Facilities Management Project Manager, as appropriate, shall educate its project staff and contractors on the requirements of this Plan and ensure its commitments are being met.

- **UC San Diego Native American Graves Protection and Repatriation (NAGPRA) Coordinator**: The UC San Diego NAGPRA Coordinator will assist with any repatriation efforts following a discovery.

III. MONITORING LOCATIONS

Projects within or adjacent to areas of known and recorded significant or potentially significant cultural resources shall avoid impacts to cultural resources to the highest extent feasible by avoiding or minimizing ground disturbance in these areas and/or other avoidance measures. These projects require further Tribal consultation prior to project commencement which may result in additional measures and procedures from what is outlined in this plan. Projects that are assumed to have no potential to impact known/recorded significant cultural resources shall require monitoring for the potential of discovery of unknown resources as described below.

This Cultural Resources Monitoring, Discovery, and Treatment Plan shall apply to all development projects requiring ground disturbance within the following areas on campus:

- Within areas of natural deposition or undisturbed land

- Within previously disturbed/developed sites where the previous disturbance did not exceed three feet below the pre-development ground surface

For projects requiring ground disturbance within a previously developed site, prior grading plans may be reviewed to determine where prior grading/excavation activity has previously removed three feet or more of soil. Twelve soil series are mapped within the UC San Diego campus. The average depth of topsoil (in which cultural material may be present) varies from 9 to 28 inches; however, the average depth of hardpan, noncultural soil is approximately 35 inches (Bowman 1973: USDA 2025). Thus, if cultural deposits are present, they will be encountered within the upper one to three feet of soil, unless deep alluvial soils or other natural deposition is present that may have buried cultural deposits more deeply. Based on this, if prior grading/excavation activity has removed the upper three feet of native soil outside areas of natural deposition, the potential for encountering cultural material is considered to be quite low. As such, monitoring is not required in locations where three or more feet of the pre-development ground surface has been previously removed, or if project excavation will occur entirely within artificial fill.

Ground disturbance includes any movement of the top three feet of native sediments, including utilities potholing and trenching, setting posts, digging/excavation, grading, and other activities that impact the ground surface and underlying sediments. Operation of heavy equipment and vehicles, as well as vegetation removal and/or installation, may also be considered ground disturbance.

IV. MONITORING PROCEDURES

The following monitoring procedures and protocols would apply to any project determined to require cultural resource monitoring pursuant to the 2018 LRDP Mitigation Monitoring and Reporting Program (MMRP):

- A preconstruction meeting will be held prior to the start of project construction that includes the CRM, the NAM, the Construction Manager, the Grading Contractor, and other appropriate personnel to discuss logistics of implementing this Cultural Resources Monitoring Program.

- All ground-disturbing activities that have potential to unearth cultural resources will be monitored by an archaeological monitor and a NAM. The CRM, in consultation with the NAM, has the authority to determine the depth of excavation for purposes of monitoring and locations where it is necessary to monitor.

- One NAM shall be present for each construction crew conducting ground-disturbing activities.

- Each NAM will provide a completed daily log/monitoring report to the CRM, including their name, date and period of time monitored, construction activities monitored, and whether any discoveries were made or not. Daily logs will be compiled on a weekly basis and provided to the Kumeyaay Cultural Repatriation Committee (KCRC) and all Kumeyaay Tribal Chairs and/or their designees each week by the CRM. Every effort should be made to ensure the compiled logs for the previous week are distributed by Tuesday of the following week, or sooner. This notification procedure is in addition to, and will not be substituted for, the notices required in this Plan in the event of a discovery.

- The CRM and the NAMs will determine when it is appropriate to cease monitoring of a given project based on soil conditions, monitoring results and the progress of construction activities. They shall also notify UC San Diego Campus Planning, the KCRC, the Kumeyaay Historic Preservation Committee (KHPC), and the Kumeyaay Tribal Chairs in writing with their recommendation. The monitoring program may cease once all parties agree it is appropriate to close it.

- The CRM will prepare a final Monitoring Report summarizing all monitoring activities completed and any discoveries made (if any). The CRM will then provide this report to Campus Planning, the KCRC, the KHPC, and the Kumeyaay Tribal Chairs.

V. DISCOVERY PROTOCOL

The following Discovery Protocol was developed in consultation with the Tribes who responded to UC San Diego's request for consultation. The protocol will be implemented on all projects carried forward to implement the 2018 LRDP and Update to the 2018 LRDP.

- A project-specific data recovery plan will be prepared by the CRM prior to project commencement in consultation with the NAM(s), KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees. This data recovery plan would include a research design that identifies important research questions, links research topics to the data already known to be present in the site, and explains procedures that will be used in the collection, analysis, and curation and/or repatriation of recovered materials. This plan must be prepared in consultation with the NAM(s), KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees. The data recovery plan and its contents will be safeguarded as confidential, will not be publicly available, and will not be subject to public records requests.

- In the event of a discovery, or the possibility of a discovery, the NAM, archaeological monitor, and CRM have the authority, and responsibility, to divert, direct, or temporarily halt activities in the area of the discovery in order to allow for a preliminary evaluation, pursuant to Sections VI and VII, below.

- Once work is appropriately halted in the vicinity of the discovery or possible discovery, the NAM or archaeological monitor (if different from the CRM) will immediately notify the CRM. The CRM will simultaneously notify UC San Diego Campus Planning, the UC San Diego NAGPRA Coordinator, the KCRC, the KHPC, and the Kumeyaay Tribal Chairs of the findings in writing as soon as possible after the discovery is made and no later than 24 hours.

- The significance of any discovered prehistoric resources will be determined by the NAMs, the CRM, the KCRC, the KHPC, and the Kumeyaay Tribal Chairs and/or their designees. A meeting to make such determination will take place within 48 hours of the discovery. UC San Diego as the lead agency would be responsible for making this determination, based on consultation among the parties.

- Construction activities will be allowed to resume if:
    a. The discovery is determined not to be a significant resource under CEQA or NHPA, and mitigation protocols detailed in Section VI (below) have been completed,
    b. The discovery is determined to be a significant resource under CEQA or NHPA and mitigation protocols detailed in Section VII have been completed. If human remains are discovered, work will be immediately halted in that area and the procedures detailed in the California Health and Safety Code (Section 7050.5) and the California PRC (Section 5097.98) will be implemented (see Section IX, below).

- In some cases, the unique properties of a project or its site may require alterations to this discovery protocol, which would be developed in consultation with the consulting Tribes.

VI. ARTIFACT SCATTERS, SPARSELY DISTRIBUTED ARTIFACTS, REDEPOSITED DEBRIS, CONSTRUCTION DEBRIS, AND ISOLATED FINDS

As noted in Section V., the significance of all discoveries will be established through consultation with the UC San Diego NAGPRA Coordinator, Native American Monitors, the Cultural Resource Manager, members of the KCRC, the KHPC, and the Kumeyaay Tribal Chairs and/or their designees. Newly identified discoveries will undergo a preliminary assessment for California Register of Historical Resources (CRHR) eligibility. If a newly discovered resource is identified by the consulting tribes to be a potential Tribal Cultural Resource, it must be assessed per the requirements of CEQA Section 21074.

For this Monitoring and Treatment Plan, “isolated finds”, “sparsely distributed non-diagnostic artifacts”, “clearly disturbed or redeposited debris or artifacts scatters lacking integrity”, and “construction debris” are to include the resulting non-significant prehistoric or historic-period discoveries that are less than three artifacts (where any artifact broken into pieces is counted as a single item) within a 100-square-foot area (City of San Diego Historic Resource Guidelines); redeposited material (i.e., not in situ) without human remains; sparsely distributed artifact scatters without any temporally diagnostic items or consisting of materials that can be dated through radiometric techniques; or, ubiquitous infrastructure elements or construction debris consisting of concrete rubble, fill or waste containing no research value. The

100-square-foot area standard is derived from the City of San Diego's Historic Resource Guidelines, which are not binding on UC San Diego, but the 100-square-foot area is used as an appropriate standard and as reference only.

Discoveries such as the types described above with preliminary assessments and integrity analysis indicative of negative CRHR eligibility will be documented in the field by collecting a Global Positioning System (GPS) point, photographed, and recorded onto the Daily Monitoring Log.

All prehistoric artifacts and all diagnostic historic-era artifacts will be collected for cataloging and inclusion in the Monitoring Report. Once such discoveries have been documented *in situ* and recovered by the monitors, construction may resume. Locations from which cultural resources were recovered, as well as reburial areas of cultural material, will be included in confidential appendices to the Monitoring Report; these locations will not be disclosed in any publicly available documents and will not be subject to public records requests.

Discoveries meeting the above criteria will be reported to the UC San Diego Campus Planning, the UC San Diego NAGPRA Coordinator, and the KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees within 24 hours by the CRM via email. Digital photos of all discoveries in context (if possible) and a map of the feature indicating its location within the Project area will also be provided.

VII. POTENTIAL SIGNIFICANT DISCOVERIES

In the case of discoveries of *in-situ* archaeological features(s), potentially intact, or intact deposits with more than three diagnostic artifacts within a 100-square-foot area, an initial estimate of the density and quantity of cultural material within the discovery area will be recorded by the CRM for the preparation of a recommendation.

In-situ historic archaeological feature(s) or intact cultural deposits may include but may not be limited to trash pits, privy vaults, and wells and will be recorded. As noted in Section V above, the CRM will notify UC San Diego Campus Planning, the UC San Diego NAGPRA Coordinator, and the KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees immediately (on the day of discovery) of any *in-situ* archaeological feature(s) or intact (or potentially intact) deposits.

For all discoveries that are not categorized as isolated finds, sparsely distributed non-diagnostic artifacts, or clearly disturbed/redeposited debris or artifacts scatters, or construction debris, as defined in Section VI above, the CRM will prepare a brief Discovery Report. The Discovery Report will include a preliminary assessment for CRHR eligibility, assessment of effects, and then provide details of the significance determinations made through consultation with the NAM, the UC San Diego NAGPRA Coordinator, KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees. A meeting between the CRM, the NAM, the UC San Diego NAGPRA Coordinator, KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees will take place within 48 hours of the discovery. The Discovery Report will also include photos of the discoveries in context (if possible) and a map of the feature indicating its location within the Project Area of Potential Effect (APE). Such information shall be confidential. The CRM will submit the Discovery Report to UC San Diego Campus Planning within five days of the discovery.

All potential CRHR-eligible resources identified during the implementation of the undertaking will be evaluated for significance against CRHR criteria, and an adequate assessment of their archaeological integrity will be included. For *in-situ* archaeological feature(s) or intact cultural deposits, archival research such as a review of the discovery location against Sanborn maps or historic- period imagery (for historic-era discoveries); a review of Tribal records or interviews with Tribal elders, when agreed to by the

Consulting Tribe(s); or an analysis of temporally diagnostic items, may be conducted by the CRM for inclusion in the Monitoring Report. While the Discovery Report will provide basic information and a preliminary assessment of the discovered resource, the Monitoring Report will provide more in-depth information and analysis and will address all discoveries made during the monitoring program.

VIII. TREATMENT PLAN FOR POTENTIAL SIGNIFICANT DISCOVERIES

If a discovery is determined to be a significant resource under CEQA by the CRM, the NAM, UC San Diego, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees and avoidance of the resource by project construction activities is not feasible, a project-specific Treatment Plan shall be prepared by the CRM.

The Treatment Plan, including any treatment and mitigation measures, must be approved by UC San Diego, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees prior to its implementation. In the case of historic-aged properties, the CRM will consult with UC San Diego regarding their CRHR eligibility, assessment of adverse effects due to construction operations, and appropriate treatment. In the case of a CRHR-eligible prehistoric Native American discovery, the CRM will consult with the NAM, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees regarding any recovery and treatment measures.

Treatment of in-situ archaeological features or intact cultural deposits will include the excavation of the resource in 10-cm stratigraphic levels, with the soil passed through 1/8-inch screen to retrieve artifacts. Standard procedures of mapping and recordation of archaeological and/or cultural features, as well as the collection, bagging, and labeling of artifactual material will be followed as deemed culturally appropriate pursuant to the project-specific Treatment Plan (City of San Diego Historic Resources Guidelines). Artifacts will be cleaned using appropriate methods to avoid damage to the extent feasible and sorted by artifact types and material types. For cataloging, the artifacts will be identified and quantified by the minimum number of items represented, as appropriate and feasible. Item classification will be organized by functionality. For each object identified, the material, item, size, weight, references, and any other necessary additional comments will be entered into the catalog. Bulk items such as shell, faunal bone, and debitage will be cataloged by material type and provenience without weighing and measuring individual items. For historic-era cultural material, for each object identified, the activity group, material, item, type, product, technology, pattern, identification marks, manufacturer, origin, date, size, quantity, weight, references, and any other necessary additional comments will be entered into the catalog. The catalog will be shared with the Tribes upon request and will be included in the Monitoring Report.

All on-site recovery and mitigation measures in the Treatment Plan must be completed and will be officially recorded in a brief Mitigation Report prepared by the CRM in consultation with the NAM, which will then be submitted to UC San Diego, KCRC, KHPC, and Kumeyaay Tribal Chairs and/or their designees.

Once all parties have been notified about the completion of the on-site treatment measures pursuant to the Treatment Plan, and there are no objections within three working days of notification of completion of on-site treatment, the recommendation to resume construction operations in the area will be given. Post-field analysis including laboratory cataloging, artifact analysis, and special studies, as outlined in the Treatment Plan, will continue off-site and the final results of all treatment measures will be included in the Monitoring Report. Treatment and curation or repatriation of recovered resources and cultural artifacts is further addressed in Section X below.

If human remains are involved, the protocol in Section IX will be followed.

IX. DISCOVERY OF HUMAN REMAINS

If human remains are discovered during ground-disturbing activities, all work in the vicinity (a 100-foot radius) of the discovery will be stopped, and the procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken.

If human remains are discovered during soil-disturbing operations, all work will be stopped in the immediate area (within 100 feet of the discovery) and no sediments will be exported off-site. The NAM shall immediately notify the CRM, who will notify UC San Diego Campus Planning, the UC San Diego Native American Graves Protection and Repatriation (NAGPRA) Coordinator, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees. The CRM shall notify the Medical Examiner after consultation with UC San Diego Campus Planning, UC San Diego NAGPRA Coordinator, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees, either in person or via telephone.

The Medical Examiner's office, in consultation with UC San Diego Campus Planning, the UC San Diego NAGPRA Coordinator, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees, shall determine the need for a field examination to determine the origin of the remains.

If the remains are determined to be Native American, the Medical Examiner shall notify the Native American Heritage Commission (NAHC). Pursuant to subdivision (b) of Section 7050.5 of the Health and Safety Code, only the Medical Examiner is authorized to make this determination. The NAHC will identify the person or persons determined to be the Most Likely Descendent (MLD) and will contact them and provide their contact information to UC San Diego Campus Planning. UC San Diego Campus Planning, UC San Diego's NAGPRA coordinator, and the CRM shall coordinate with the MLD for additional consultation. Treatment of the remains and all subsequent actions will be completed per the California Public Resources Code (Sec. 5097.98), State Health and Safety Code (Sec. 7050.5), and this Treatment Plan.

No sediments shall be exported off-site until a determination can be made regarding the significance of the resource and the agreed upon treatment of the human remains, specifically in the case Native American resources.

X. POST CONSTRUCTION REQUIREMENTS

The CRM shall ensure that cultural material collected is cleaned, cataloged, and analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to genus and species (to the extent feasible); and that specialty studies are completed, as appropriate.

All cultural resources discovered during monitoring will be documented on appropriate California Department of Parks and Recreation (DPR) 523-series forms. The DPR 523 form(s) will be completed and submitted to the South Coastal Information Center (SCIC) for assignment of a permanent Primary (and, if applicable, Trinomial) number.

After the soil-disturbing operations are completed, a Monitoring Report will be prepared by the CRM in coordination with the NAM. The Draft Monitoring Report (even if it is negative) will be prepared in accordance with the Secretary of the Interior's Standards for Archaeological Documentation (National Park Service 1983) and will be consistent with Archaeological Resources Management Reports Guidelines (California Office of Historic Preservation 1990). These guidelines describe the methodology to record all the phases of the Archaeological Monitoring Program (with appropriate graphics).

The Monitoring Report will be submitted to UC San Diego Campus Planning, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees for review within 60 days following the completion of the monitoring program. If a Treatment Plan needs to be implemented, the methods and results of all archaeological efforts and treatment measures undertaken will be included in the Monitoring Report. A review of the Monitoring Report will be conducted by UC San Diego, KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees. A final version of the Monitoring Report will be provided to UC San Diego, KCRC, KHPC, and the Kumeyaay Tribal Chairs for their permanent records.

The CRM shall ensure that significant historic-period archaeological and/or cultural material collected during monitoring is permanently curated in an appropriate institution and that a letter of acceptance from the curation institution has been submitted to Campus Planning. The CRM will discuss with UC San Diego staff on a project-specific basis whether all historic material collected warrants permanent curation or whether documentation of the material and curation of diagnostic artifacts or a sample of the material recovered is more appropriate. For prehistoric-period archaeological and cultural material, all applicable laws and policies will be adhered to, including State and Federal NAGPRA guidelines, CEQA, California Public Records Act, and California Government Code. All prehistoric cultural resources that are removed from their original context shall be returned to whichever Tribe claims them following consultation with KCRC, KHPC, and the Kumeyaay Tribal Chairs and/or their designees. If the Tribe wishes to rebury the cultural material on UC San Diego property, UC San Diego shall enter into an agreement with the Tribe on an appropriate reburial location, subject to approval by the Regents or their designee pursuant to University policy and delegations of authority. The location shall be one that will not be subjected to ground-disturbing activities in the future. The reburial location will be documented as a reinterment location, and the Tribe may file it as such with the Native American Heritage Commission, County, City, and the California Historical Resources Information System. The site of any reburial of Native American human remains or other cultural material shall be kept confidential and not be disclosed pursuant to the California Public Records Act, California Government Code Section 6254.10, 6254(r).

Appendix E

Supplemental Historical Resources Technical Report




University of California, San Diego
Update to the 2018 Long Range Development Plan

Supplemental Historical Resources Technical Report

Prepared for:

HELIX Environmental Planning
La Mesa, CA

Prepared by:

Architectural Resources Group

Architectural Resources Group
Los Angeles, CA

February 20, 2025

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Attachments

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1. Introduction

1.1. Report Overview

Architectural Resources Group (ARG) has prepared this Supplemental Historical Resources Technical Report (Technical Report) in support of an update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan (Update to the 2018 LRDP, or LRDP Update). Composed of 1,158 acres near the La Jolla and University City communities in northwest San Diego, the La Jolla campus includes UC San Diego's main university campus and the Scripps Institution of Oceanography (SIO), in addition to several off-campus properties including a site currently occupied by two surface parking lots (2880 Torrey Pines Scenic Drive), which is identified as a potential development site in the LRDP Update.

Each campus in the University of California system is required to maintain an LRDP, a general land use plan that guides physical campus development to accommodate projected campus population increases and new program initiatives. The LRDP for UC San Diego's La Jolla campus was first adopted in 1963 and subsequently updated in 1966, 1981, 1989, 2004, and 2018. The current (2018) LRDP was adopted by the UC Regents in November 2018 to guide campus development through a planning horizon year of 2035. It anticipated the campus population would grow by 16,750, resulting in a population of 65,600 students, faculty, and staff by 2035. The LRDP planned for the addition of 8.9 million gross square feet (GSD) of new academic, research, and support facilities, and 6,700 new beds.[1]

The 2018 LRDP was prepared as many of the buildings and other improvements on the La Jolla campus had either reached, or were approaching, 50 years of age.[2] So that UC San Diego could meet its obligations related to historical resources under the California Environmental Quality Act (CEQA), the University engaged ARG to prepare a historic context statement and conduct a historic resources survey to identify, inventory, and document historical resources on the La Jolla campus. The survey was completed in 2016. Forty (40) resources were identified in the survey as eligible for federal (National Register of Historic Places) and/or state (California Register of Historical Resources) designation including 34 individual buildings, structures, and objects; four districts; and two landscapes. Resources identified in the survey are considered to be "historical resources" for purposes of CEQA, as are three resources on the campus that are already listed in the National Register.[3]

The scope of the survey included all above-ground built resources on the La Jolla campus with construction dates through 1985. The 1985 cutoff date was mutually chosen by ARG and the University to account for all resources that would become 50 years of age over the life of the 2018 LRDP, assuming a horizon year of 2035.

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[1] *University of California San Diego, 2018 Long Range Development Plan La Jolla Campus*, Nov. 2018, 3, 52-53.
[2] Generally, a resource must be at least 50 years old to be eligible for listing in the National Register of Historic Places unless it is of exceptional importance. 50 years is commonly used as an age threshold for determining historic eligibility, though there is no prescribed age requirement needed for listing in the California Register of Historical Resources.
[3] California Code of Regulations, Title 14, Chapter 3, Section 15064.5.

Following completion of the survey, ARG prepared a Historical Resources Technical Report, which analyzed potential impacts to historical resources on the La Jolla campus resulting from implementation of the 2018 LRDP. The survey findings were the basis for 2018 LRDP analysis. The Technical Report informed the 2018 LRDP Environmental Impact Report (EIR) and was included as an appendix to the EIR.

The 2018 LRDP is currently being updated to adjust previous population growth and development projections and extend the plan's horizon year from 2035 to 2040. Corresponding land use development is expected to increase from the projections outlined in the 2018 LRDP, resulting in potential increases in mass and height of future development on the La Jolla campus.

Because the horizon date of the LRDP Update is being extended by five years, ARG was engaged to conduct a supplemental historic resources survey of the La Jolla campus. The purpose of the supplemental survey is to identify potential campus historical resources with construction dates through 1990, or five years beyond the previous cutoff date of 1985, to align with the LRDP Update. At the request of the University, the supplemental survey also includes a limited evaluation of campus resources built between 1991 and 1995.

The 40 historical resources identified in the 2016 survey were not re-evaluated in this supplemental survey; in addition, it was confirmed that no additional built resources constructed in 1985 or earlier now merit consideration for historical significance based on changed circumstances, and for this reason resources built before 1985 were not re-evaluated. *Section 2.2: Project Scope* includes a detailed discussion of the supplemental survey scope.

The supplemental survey was completed in accordance with technical guidance from the National Park Service (NPS) and California Office of Historic Preservation (OHP). ARG reviewed all existing documentation, conducted extensive background research, and completed a field survey, focusing on resources with the construction dates noted above. Each eligible resource was evaluated and documented. *Section 2.3: Field and Research Methods* includes a complete discussion of methodology.

The supplemental survey identified seven additional resources that appear to be eligible for listing in the California Register, including the following:

- Irwin Mark and Joan Klein Jacobs Engineering Hall (1988)
- George Palade Laboratories for Cellular and Molecular Medicine (1990)
- Robinson Building Complex (1990)
- Mandell Weiss Forum (1991)
- Visual Arts Facility (1993)
- IGPP Revelle Laboratories (1993)
- Library Walk (1995)

These seven additional resources meet the definition of "historical resources" for purposes of CEQA and the LRDP Update, and are discussed *in Section 5: Supplemental Survey Findings*. *Section 6: Project Impacts* addresses various development scenarios associated with implementation of the LRDP Update that have the potential to result in impacts to these seven additional resources*; Section 7: Mitigation Measures* includes programmatic guidance that can be applied on a case-by-case basis to mitigate any such impacts as needed.

1.2. Preparer Qualifications

This report was prepared by Katie E. Horak, Principal; Andrew Goodrich, AICP, Senior Associate; and Brannon Smithwick, all of whom meet the Secretary of the Interior's Professional Qualification Standards in the discipline of Architectural History pursuant to the Code of Federal Regulations, 36 CFR Part 61.[4]

[4] For more information about the Secretary of the Interior's Professional Qualification Standards, refer to https://www.nps.gov/articles/sec-standards-prof-quals.htm

2. Project Background

2.1. Description of the Survey Area

The geographic scope of this supplemental historic resources survey is UC San Diego's La Jolla campus, referred to herein as the Survey Area.

The Survey Area is located in the northwest section of the City of San Diego, adjacent to the La Jolla and University City communities. It consists of approximately 1,159 acres which are divided into three discrete, but contiguous, geographical areas known as West Campus, East Campus, and the Scripps Institution of Oceanography (SIO). It also includes University-owned properties that are located off campus (Adjacent Properties). A summary description of each of the aforementioned areas is provided below.

- West Campus contains the core of the main university campus and is located to the west of Interstate 5. This area is home to UC San Diego's eight undergraduate colleges, the School of Medicine, and campus administration and student services buildings associated with the University Center.
- East Campus is located to the east of Interstate 5. It contains UC San Diego's publicly oriented programs including UC San Diego Health, the Preuss School, and the Science Research Park, and a graduate student housing complex called the Mesa Student Housing neighborhood. It is physically connected to West Campus by two bridges (on Voigt and Gilman drives) that cross Interstate 5.
- The Scripps Institution of Oceanography (SIO) occupies a stretch of coastal land immediately south and west of the main university campus. It contains academic, research, and residential uses associated with SIO, a department of UC San Diego that focuses on the ocean and earth sciences.
- Adjacent Properties include the Audrey Geisel University House and an adjacent coastal canyon and beachfront parcel; the University-owned portion of the Torrey Pines Gliderport; adjacent office buildings including Torrey Pines Center and Torrey Pines Court; and off-campus apartment complex (La Jolla del Sol), which is being used as graduate and family housing. The property at 2880 Torrey Pines Scenic Drive, which is occupied by two surface parking lots, is also included in the scope of this report.

The topography of the Survey Area is varied. Like much of San Diego, it generally consists of flat, broad mesas that are periodically bisected by canyons and ravines, resulting in a dynamic backdrop for the campus and its buildings. A grove of mature eucalyptus trees on the West Campus is considered one of the campus's most iconic visual elements. The campus also contains various open spaces that contain abundant natural features and harmonize with its buildings and other built resources.

Circulation consists of various pedestrian and vehicular amenities. Generally, West Campus has a prevailing pedestrian orientation composed of pedestrian corridors and paths, with vehicular circulation confined to areas along its perimeter. East Campus has a stronger vehicular orientation, and contains a network of streets leading to its buildings and facilities. SIO is primarily accessed by La Jolla Shores Drive, a City-owned street that connects UC San Diego and La Jolla and passes directly through the SIO campus.

2.2. Project Scope

The scope of this project is a supplemental historic resources survey of UC San Diego's La Jolla campus. The supplemental survey focuses on above-ground built resources constructed between 1986 and 1990, or five years past the existing survey's cutoff date of 1985. At the request of the University, the supplemental survey also includes a limited evaluation of resources constructed between 1991 and 1995, to provide a conservative look-ahead at resources from the recent past.

The supplemental survey addresses all aspects of the built environment, including the following:[5]

- **Buildings**, which are erected to shelter some aspect of human habitation. As buildings are the foundation of any developed area, they represent a common resource type. They house a variety of residential, commercial, institutional, and industrial uses.
- **Structures**, which are also substantive constructions composed of structural elements, but unlike buildings they serve a purpose aside from human habitation. Common examples of structures identified in a historic resource survey include bridges, tunnels, gazebos, dams, and lighthouses.
- **Objects**, which are differentiated from structures in that they are either decorative or nature, or are comparatively small and simply constructed. Resources such as signs, fountains, monuments, sculptures and public art installations, and street lamps are typically classified as objects.
- **Sites,** which are defined as areas that possess historic or cultural value and whose significance is not related to any building, structure, or object that may (or may not) be present. Some common examples include archaeological sites, natural features, parks, and designed landscapes.
- **Districts**, which are identifiable areas related geographically and by theme. Districts are significant for the interrelationship between their resources and consist of historically and/or functionally related properties. Residential neighborhoods, commercial areas, and institutional campuses are examples of resources that may be recorded as historic districts.
- **District Contributors and Non-Contributors**, which refer to the buildings, structures, objects, sites, and other features that are located within the boundaries of a historic district. Generally speaking, contributors help to convey the significance of the district. Non-contributors, on the other hand, are identified as such because they have been extensively altered or were built outside of the district's historic period (known as the period of significance.

The findings of this supplemental survey are intended to augment those of the 2016 historic resources survey. Resources with construction dates of 1985 or earlier were not re-evaluated in the supplemental

[5] Derived from *NRB 15: How to Apply the National Register Criteria for Evaluation.* For more information, refer to http://www.nps.gov/nr/publications/bulletins/nrb15/.

survey, and it was confirmed that no additional built resources constructed in 1985 or earlier now merit consideration for historical significance based on changed circumstances

2.3. Field and Research Methods

The methodology for this supplemental survey was developed in accordance with best professional practices and the following technical assistance publications from the National Park Service (NPS) and the California Office of Historic Preservation (OHP):

- National Register Bulletin (NRB) 15: *How to Apply the National Register Criteria for Evaluation*
- NRB 16A: *How to Complete the National Register Registration Form*
- NRB 16B: *How to Complete the National Register Multiple Property Documentation Form*
- NRB 24: *Guidelines for Local Surveys: A Basis for Preservation Planning*
- NPS Technical Preservation Services, Preservation Brief 36: *Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes*
- California OHP: *Instructions for Recording Historical Resources*

Specifically, the methodology included the following tasks related to research, fieldwork, and analysis:

- Review of existing historic studies and documentation, including the UC San Diego Historic Resources Survey Report (2016, ARG) and Historical Resources Technical Report (2017, ARG)
- Review of written materials and graphics prepared as part of the LRDP Update
- Focused background research, tailored to UC San Diego's developmental and architectural history between 1986 and 1995 and prevailing architectural trends of this period
- Production of GIS maps to understand broad patterns of development in the Survey Area
- Summarization of applicable historic contexts and themes from the 2016 historic resources survey, and development of supplemental contexts and themes to inform evaluation of resources constructed between 1986 and 1995, as needed
- Reconnaissance ("once-over-lightly") survey of the Survey Area, focusing specifically on resources constructed between 1986 and 1995
- Intensive survey in which each eligible resource was evaluated against National Register and California Register criteria and integrity thresholds, and documented on DPR 523 series forms
- Production of a report including a discussion of supplemental survey findings, and an analysis of potential impacts to historical resources resulting from implementation of the LRDP Update

Source materials consulted by ARG included (but were not limited to) the following:

- Historic building plans and construction documents, accessed via the UC San Diego Facilities Information System
- UC San Diego Long Range Development Plan (1963, 1966, 1981, 1989, 2004, and 2018)
- Campus planning documents including the UCSD Master Plan (1989)
- Books, journals, periodicals, and other published sources
- Articles published in campus newspapers and other local and regional periodicals
- Oral history transcripts
- Historic photographs and maps of the campus and environs
- Internet sites and online digital archives, including the UC San Diego Library Special Collections and Archives

A complete list of source materials consulted as part of this supplemental survey is included in *Section 8: Bibliography.*

3. Regulatory Environment

3.1. National Register of Historic Places

The National Register of Historic Places (National Register) is the United States' master inventory of known historic resources. Established under the auspices of the National Historic Preservation Act of 1966, the National Register is administered by the National Park Service (NPS) and includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. Eligibility for listing in the National Register is addressed in National Register Bulletin (NRB) 15: *How to Apply the National Register Criteria for Evaluation*. NRB 15 states that in order to be eligible for the National Register, a resource must both (1) be historically significant, and (2) retain sufficient integrity to adequately convey its significance.

Significance is assessed by evaluating a resource against established eligibility criteria. A resource is considered significant if it satisfies any one of the following four National Register criteria:[6]

- Criterion A (events): associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B (persons): associated with the lives of significant persons in our past.
- Criterion C (architecture): embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D (information potential): has yielded or may be likely to yield, information important in prehistory or history.

Once significance has been established, it must then be demonstrated that a resource retains enough of its physical and associative qualities – or *integrity* – to convey its significance. Integrity is best described as a resource's "authenticity" as expressed through its physical features and extant characteristics. Generally, if a resource is recognizable as such in its present state, it is said to retain integrity; if it has been extensively altered, then it does not. Whether a resource retains sufficient integrity for listing is determined by evaluating the seven aspects of integrity defined by the NPS:

- Location (the place where the historic property was constructed or the place where the historic event occurred);
- Setting (the physical environment of a historic property);
- Design (the combination of elements that create the form, plan, space, structure, and style of a property);

[6] Some resources may meet multiple criteria, though only one needs to be satisfied for National Register eligibility.

- Materials (the physical elements that were combined or deposited during a particular period of time and in a particular manner or configuration to form a historic property);
- Workmanship (the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory);
- Feeling (a property's expression of the aesthetic or historic sense of a particular period of time);
- Association (the direct link between an important historic event/person and a historic property).

Integrity is evaluated by weighing all seven of these aspects together and is ultimately a "yes" or "no" determination: a resource either retains integrity, or it does not.[7] Some aspects of integrity may be weighed more heavily than others depending on the type of resource being evaluated and the reason(s) for the resource's significance. Since integrity depends on a resource's placement within a historic context, integrity can be assessed only after it has been concluded that the resource is in fact significant.

Criteria Consideration G

Generally, a resource must be at least 50 years old to be eligible for listing in the National Register. National Register guidance explains that "fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance. This consideration guards against the listing of properties of passing contemporary interest and ensures that the National Register is a list of truly historic places."[8]

However, the NPS acknowledges that on occasion, a resource less than 50 years of age may merit consideration for listing in the National Register. Criteria Consideration G offers guidance related to the evaluation of properties that may have achieved significance within the past 50 years, setting forth the conditions under which these resources may be eligible for listing. It provides that exceptions to the age threshold may be granted if it can be demonstrated that a resource less than 50 years of age if the individual resource is: (1) of exceptional importance, or (2) an integral component of a National Register-eligible historic district whose other component parts are predominantly 50 years or older.

In justifying exceptional importance for individual resources, the NPS emphasizes the necessity of comparative analysis. The NPS states that "it is necessary to identify other properties within the geographical area that reflect the same significance or historical associations and to determine which properties *best* represent the historic context in question." It continues, "Several properties in the area could become eligible with the passage of time, but few will qualify now as exceptionally important."[9]

[7] Derived from NRB 15, Section VIII: "How to Evaluate the Integrity of a Property."
[8] Derived from NRB 15, Section VII: "How to Apply the Criteria Considerations."
[9] NRB 15, Section VII: "How to Apply the Criteria Considerations."

3.2. California Register of Historical Resources

The California Register of Historical Resources (California Register) is an authoritative guide used to identify, inventory, and protect historical resources in California. Established by an act of the State Legislature in 1998, the California Register program encourages public recognition and protection of significant architectural, historical, archeological, and cultural resources; identifies these resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA.

The structure of the California Register program is similar to that of the National Register, though the former more heavily emphasizes resources that have contributed specifically to the development of California. To be eligible for the California Register, a resource must first be deemed significant under one of the following four criteria, which are modeled after the National Register criteria listed above:

- Criterion 1 (events): associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- Criterion 2 (persons): associated with the lives of persons important to local, California, or national history;
- Criterion 3 (architecture): embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values;
- Criterion 4 (information potential): has yielded, or has the potential to yield, information important to the prehistory or history of the local area, state, or the nation.

Like the National Register, the California Register also requires that resources retain sufficient integrity to be eligible for listing. A resource's integrity is assessed using the same seven aspects of integrity used for the National Register. However, since integrity thresholds associated with the California Register are generally less rigid than those associated with the National Register, it is possible that a resource may lack the integrity required for the National Register but still be eligible for listing in the California Register.[10]

Certain properties are automatically listed in the California Register, as follows:[11]

- All California properties that are listed in the National Register;
- All California properties that have formally been determined eligible for listing in the National Register (by the State Office of Historic Preservation (OHP));
- All California Historical Landmarks numbered 770 and above; and
- California Points of Historical Interest which have been reviewed by the State Office of Historic Preservation and recommended for listing by the State Historical Resources Commission.

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[10] California Office of Historic Preservation, *Technical Assistance Series #6: California Register and National Register: A Comparison* (Sacramento, CA: California Department of Parks and Recreation, 2001), 2.
[11] California Public Resources Code, Division 5, Chapter 1, Article 2, § 5024.1.

Resources may be nominated directly to the California Register. State Historic Landmarks #770 and numbered subsequently are also automatically listed in the California Register.

Unlike the National Register, there is no prescribed age threshold for listing in the California Register, though OHP technical assistance guidelines state that resources less than 50 years old may be considered for listing as long as sufficient time has have passed "to obtain a scholarly perspective on the events or individuals associated with the resource."[12]

3.3. City of San Diego Local Criteria

The City of San Diego administers a local program for designating properties within the San Diego city limits, as governed by Chapter 12, Article 3, Division 2 (Designation of Historical Resources Procedures) of the San Diego Municipal Code. This program includes mechanisms for designating individual properties and historic districts at the local level. While UC San Diego is located within the San Diego city limits, the University of California is exempt from local regulation under California Consitution Article 9, Section 9; therefore, development on campus is not subjecte to local land use policies, regulations, or ordinances. For this reason, ARG did not evaluate potential historical resource on the UC San Diego campus against local eligibility criteria.

3.4. CEQA and Historical Resources

CEQA Thresholds

Enacted in 1970, CEQA is the principal statute mandating environmental assessment of discretionary land use and development projects in California. The primary goal of CEQA is to (1) evaluate a project's potential to have an adverse impact on the environment, and (2) minimize these impacts to the greatest extent feasible through the analysis of project alternatives and, if needed, implementation of mitigation measures.

Historical resources are considered to be a part of the environment and are thereby subject to review under CEQA. Section 21084.1 of the California Public Resources Code (PRC) states that for purposes of CEQA, "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment."[13] This involves a two-part inquiry. First, it must be determined whether the project involves a historical resource. If it does, then it must be determined whether the project may result in a "substantial adverse change in the significance" of the historical resource.

[12] California Office of Historic Preservation, *Technical Assistance Series #6: California Register and National Register: A Comparison* (Sacramento, CA: California Department of Parks and Recreation, 2001), 3.
[13] California Code of Regulations, Title 14, Chapter 3, Section 15064.5.

Guidelines related to historical resources were codified in October 1998 as Section 15064.5 of the CEQA Guidelines. These guidelines state that for purposes of CEQA compliance, a "historical resource" shall be defined as any one of the following:[14]

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources.

2. A resource included in a local register of historical resources, or identified as significant in a qualified historical resource survey, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrate that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources.

Once it has been determined that a historical resource is present, it must then be determined whether the project may result in a "substantial adverse change" to that resource. Section 5020.1 of the PRC defines a substantial adverse change as the "demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired." Furthermore, according to Title 14 of the California Code of Regulations (CCR), the significance of a historical resource is impaired when a project:

A. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

B. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

[14] Ibid.

In general, a project that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings is considered to have impacts that are less than significant.[15]

Secretary of the Interior's Standards

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* (the "Standards") provide guidance for reviewing proposed projects that may affect historical resources. The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation, rehabilitation, and maintenance of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. The Standards also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction.

From a practical perspective, the Standards have guided agencies in carrying out their historic preservation responsibilities, including state and local officials, when reviewing projects that may impact historic resources. The Standards have also been adopted by state and local jurisdictions across the country.

In addition, the Standards are a useful analytic tool for understanding and describing the potential impacts of substantial changes to historical resources. Specifically, Section 15064.5(b)(3) of the CEQA Guidelines states:

> Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource.

The Standards were issued by the National Park Service and are accompanied by Guidelines for four "treatments" for historical resources, including: (1) preservation; (2) rehabilitation; (3) restoration; and (4) reconstruction.[16] The applicable treatment for the Project is rehabilitation.

The Standards for Rehabilitation are:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

[15] State CEQA Guidelines, 15064.5(b)(3).

[16] National Park Service Technical Preservation Services. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings. 2017. Accessed June 2022. https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Guidelines for the Treatment of Cultural Landscapes

The *Secretary of the Interior's Standards* were developed so that they can be applied to a variety of resource types, including the evaluation of projects involving historically significant landscapes. However, the NPS has also developed a supplemental set of treatment guidelines, known as the *Guidelines for the Treatment of Cultural Landscapes ("the Guidelines")* that are specifically geared toward issues related to cultural landscapes. Together, the *Standards* and the *Guidelines for the Treatment of Cultural Landscapes* offer "guidance to cultural landscape owners, stewards and managers, landscape architects, preservation planners, architects, contractors, and project reviewers prior to and during the planning and implementation of project work."[17]

[17] National Park Service, "Guidelines for the Treatment of Historic Landscapes," accessed Oct. 2017, https://www.nps.gov/tps/standards/four-treatments/landscape-guidelines/index.htm.

4. Historical Background and Supplemental Context

4.1. Summary of Historic Contexts and Themes

Five broad contexts and various associated themes were identified in the 2016 historic resource survey, and were used to identify and evaluate built resources on the UC San Diego La Jolla campus. They include:

- Context: Early Campus Development
- Context: Campus Planning and Design
- Context: Social and Cultural Development
- Context: Designed Landscapes and the Natural Environment
- Context: Architecture and Design

This same framework was used to identify and evaluate buildings and other built resources in this supplemental survey, as most of these contexts and themes can also be applied to resources constructed between 1986 and 1995.

For more information about the above contexts and themes, refer to the UC San Diego Historic Resources Survey Report (2016, ARG)

4.2. Supplemental Historic Context

The 2016 historic resources survey addressed campus development through 1985. This section includes a summary discussion of campus development in the period after 1985 to facilitate an understanding of essential historical events and development patterns that shaped the campus during this period.

In addition, many of the buildings on the UC San Diego campus constructed after 1985 were designed in the Postmodern style, a derivative of the Modern movement that responded to aesthetic preferences and societal trends of the late twentieth century. The Postmodern style is associated with the broader Modern movement that has defined the visual vocabulary of the UC San Diego campus since its inception; however, it was not addressed in the 2016 historic resources survey. A summary discussion of Postmodern architecture is thus provided to facilitate the evaluation of buildings designed in that style.

Historical Background: Post-1985 Campus Development[18]

By the mid-1980s, UC San Diego once again appeared to be on the rise. Much of the capital funding that had dissipated in previous years was incrementally restored as the economy began to exhibit signs of improvement. While there had been a decrease in the total number of high school graduates in California since the 1960s, enrollment at UC San Diego had nonetheless remained steady, and demographic forecasts anticipated "that demand would at least continue, and perhaps increase, by the turn of the

[18] Excerpted and adapted from the UC San Diego Campus-Wide Historic Resources Survey Report (2016).

century." Enrollment was sufficient as to support the founding of Fifth College (later named for humanitarian and former First Lady Eleanor Roosevelt) in 1988. Fifth College was originally housed in temporary facilities before moving to its present-day site at the northwest corner of campus, and was the first new college to be established at UC San Diego in fourteen years.

In 1989, the architecture and planning firm of Skidmore, Owings and Merrill (SOM) was engaged to develop a Master Plan for UC San Diego. The Master Plan was organized around a series of key principles that would shape the location, form, character, and intensity of development endeavors on campus. First, the Master Plan emphasized the importance of developing campus "neighborhoods" that each assumed a distinctive and identifiable sense of place. Second, it called for the development of a new University Center district near the Central Library, which would be developed in the spirit of urbanity and would provide students and affiliates with a well-defined center of gravity and a proverbial "downtown." Third, the Master Plan adapted and expanded upon the college system model that had been embraced by Robert Alexander by proposing that associated academic departments be physically linked via a network of "academic corridors" that would cross-cut boundaries of individual colleges and campus neighborhoods. Fourth, it stressed the importance of "connections" – such as roads, paths, viewsheds, and landscape features – as unifying elements that would provide the campus with an overarching sense of cohesion. Fifth, environmental and natural resources were given utmost priority, and development was steered to those areas of campus that were not considered to be ecologically sensitive. In 1989, the University again revised its LRDP to incorporate the five key ideas articulated in the Master Plan and ensure consistency between the two documents.

While there was not a remarkable amount of campus growth between 1989 and the early 2000s due to an economic recession, some new development nonetheless took place following the adoption of the 1989 Master Plan and LRDP. This new development culminated in several prominent new additions to the UC San Diego campus. To the south of the Central Library (re-named Geisel Library in 1995 for university benefactors Audrey and Theodor Seuss Geisel), the University Center district began to take shape upon the completion of the Price Center (1989) and the axial corridor known as Library Walk (1995).

Also in the late 1980s and 1990s, the Warren Mall began taking shape with the construction of monumental new buildings including the Irwin Mark and Joan Klein Jacobs Engineering Hall (1988), and several new residential buildings were added to the Marshall and Warren College campuses. A state-of-the-art recreation center and multi-purpose arena (the Recreation and Intramural Athletic Complex, or RIMAC) was completed in 1995. Sixth College was founded in 2002, and in 2003 Eleanor Roosevelt College moved from temporary quarters into a new, permanent site at the north end of campus that was planned and designed by renowned architect Moshe Safdie.

At SIO, the Birch Aquarium at Scripps opened to the public in 1992, and four large research facilities were constructed between 1993-2000 including IGPP-Revelle Laboratory (1993), T. Wayland Vaughn Hall (1999), Fred N. Spiess Hall (1999), and the W.M. Keck Ocean and Atmospheric Research Building (2000).

The University's LRDP was updated in 2004 to respond to state-wide projections that student enrollment would climb tremendously over the next decade due to an increase in the absolute size of the college age population and increasing overall college participation rates. The revised document carried forward all of the core concepts and ideas that were outlined in the 1989 Master Plan and LRDP, but made minor land use designation adjustments, as well as minor boundary and circulation refinements to account for the ever-evolving state of the campus. Notably, the plan called for “increases in academic, housing, and support space to meet the demands of the anticipated growth” of UC San Diego. Emphasis was also placed on providing additional on-campus parking, expanding the provision of alternative modes of transportation to and from campus, and retaining and enhancing natural features and open spaces.

In 2018, the University again updated the LRDP. The 2018 LRDP responded to new enrollment directives and housing initiatives from the UC Office of the President that substantially increase student enrollment and additional development to support that enrollment growth, and incorporated climate action planning mandates and recent developments in sustainability and alternative transportation.

New construction following the adoption of the 2018 LRDP has largely consisted of mixed-use developments that are referred to as “Living and Learning Neighborhoods.” These developments contain student housing, academic uses, dining and retail facilities, and other amenities. The first Living and Learning Neighborhood was completed in 2020 between the campuses of Muir and Marshall colleges, and three more are currently under construction. Recent development has also involved the construction of student services buildings and facilities in the University Center district.

Postmodern Architecture

This discussion of Postmodern architecture is intended to supplement the following context/theme combination in the 2016 campus historic resources survey:

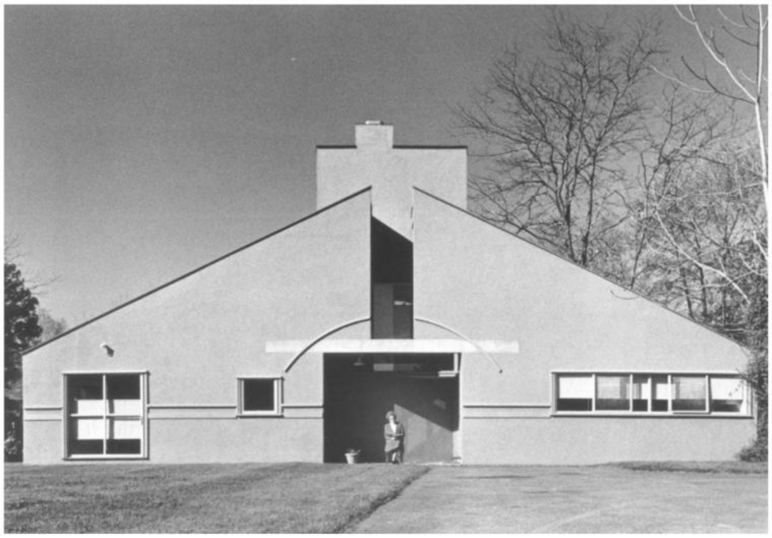
- Context: Architecture and Design
- Theme: Modernism

Postmodern architecture emerged in the latter decades of the twentieth century, largely as a reaction against the austerity and functionality of orthodox Modernism. By the 1960s, some architects and architectural critics took aim at what they believed to be the shortcomings of Modernism and the International Style. According to these critics, Modernism’s chaste appearance had become boring and insipid, and its purported social aspirations had failed to result in meaningful societal change.

The critics of Modernism responded by exploring new modes of architectural expression. Architect Robert Venturi is widely considered to be an important figure in the genesis of an alternative architectural vocabulary that came to be known as Postmodernism. In 1964, Venturi designed a small house for his mother in suburban Philadelphia that is widely regarded as one of the earliest and most important examples of Postmodernism. The Vanna Venturi House, as it is known, exhibits the hallmark characteristics of the Postmodern aesthetic. The house exhibits a complex plan; its roof is pitched instead of flat, culminating in a dramatic broken pediment and interrupted by a central chimney of exaggerated scale; and windows are of differing sizes and scales, distorting the house’s prevailing sense of symmetry.[19]

[19] Docomomo US, “Vanna Venturi House,” online, accessed Jun. 2024.

In 1966, Venturi published *Complexity and Contradiction in Architecture*. In this book, Venturi critiqued the unadorned surfaces and geometric forms of the International style as banal instead presenting an argument "that ornament, historical illusions and even humor had a place" in architecture and design.[20] In 1972, Venturi, Denise Scott Brown, and Steven Izenour published *Learning from Las Vegas*, which is considered to be another pivotal treatise of Postmodern architecture. This book focused on the irreverent, eclectic architecture of Las Vegas and particularly its frequent use of signs and symbols, and used it as a backdrop for arguing in favor of an architecture that was meaningful and communicative.[21]



The Vanna Venturi House in Philadelphia, built in 1964, is considered to be one of the earliest and most significant examples of Postmodern architecture in the United States (ArchDaily)

Architect Charles Moore is also considered a progenitor – and to some, *the* progenitor – of Postmodernism. Inspired by his worldwide travels, Moore perceived architecture as being "about feeling and about place, and its function is to enrich human emotion and enhance a sense of place" – principles that ran counter to the ubiquitous aesthetic of the International style.[22] Moore, with fellow architects Donlyn Lyndon, Richard Whitaker, William Turnbull, and Joseph Esherick, designed the Sea Ranch, a progressive community of vacation homes on a remote stretch of coast north of San Franciso, in 1965. Its design departed from the stark sterility of Modernism, instead utilizing building forms and materials that drew inspiration from, and were harmonious with, its natural environs. Later in his career, Moore expressed his architectural ideas in more expressive and theatrical ways through projects like the campus of Kresge College in Santa Cruz (1973) and the Piazza d'Italia, an urban public plaza in New Orleans (1978). Both projects exhibited a mishmash of historical references, and featured a provocative pastiche of colors, shapes, materials, and forms that are synonymous with the Postmodern movement.

[20] Fred A. Bernstein, "Robert Venturi, Architect Who Rejected Modernism, Dies at 93," *The New York Times*, Sept. 19, 2018.
[21] Josh Niland, The Lessons We're Still 'Learning from Las Vegas' After 50 Years," *Archinect*, Jan. 27, 2023.
[22] Herbert Muschamp, "Charles Moore, Innovative Post-Modern Architect, Is Dead at 68," *The New York Times,* Dec. 17, 1993.

Kresge College (left, 1973) and the Piazza d'Italia (right, 1978), both designed by Charles Moore, are considered to be significant examples of Postmodern architecture and notable representative examples of Moore's contributions to the Postmodern movement (Bluffton University; The Cultural Landscape Foundation)

In 1977, cultural and architectural historian Charles Jencks introduced the term "Postmodernism," a term borrowed from literature, to describe the emergent architectural philosophy and stylistic qualities as expressed through the work of Venturi, Scott Brown, Izenour, Moor, and their contemporaries. That year, Jencks published *The Language of Post-Modern Architecture*, another influential book that examined the paradigm shift away from Modernism and toward a new chapter in American architectural history that embodied complexity, expression, and meaning.[23]

Postmodernism reached its zenith in the 1980s. It was often expressed in the form of large commercial and institutional projects, through elements of the style were also sometimes applied to residential buildings. Postmodern buildings are notable for exuding a highly expressive and often whimsical appearance, and use a pastiche of stylistic influences to eschew conventional ideas of beauty and order.

In the mid-1980s, a movement called Deconstructivism emerged and is typically considered to be a derivative of the Postmodern movement. The term was developed by the French philosopher Jacques Derrida, who "developed the idea of fragmenting a building and exploring the asymmetry of geometry…while maintaining the core functionality of the space."[24] The style gained traction in 1988 when eminent architects Philip Johnson and Mark Wigley curated an exhibition at the Museum of Modern Art (MOMA) called *Deconstructivist Architecture*. Generally speaking, the style was defined by an absence of symmetry or continuity, the manipulation of shapes and forms, and radical complexity.

Other notable architects from the postmodern period include Michael Graves, Philip Johnson, and César Pelli, all of whom designed prominent Postmodern buildings and in doing so, imbued their own ideas and approaches to the style and its application. Postmodernism remained popular through the mid-1990s.

Character-defining features of the Postmodern style include:

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[23] Charles Jencks, *The Language of Post-Modern Architecture* (London: Rizzoli, 1977), 1-2.
[24] Dima Stouhi, "What is Deconstructivism?" *ArchDaily*, Aug. 11, 2020.

- Complex massing
- Fragmented, asymmetrical, and idiosyncratic building forms, often with a sculptural quality
- Loosely-assembled appearance
- Dramatic rooflines
- Eclectic application of building materials like cinder blocks, corrugated metal, and chain link
- Frequent use of bright colors and patterns
- Selective references to past architectural traditions, often used in combination and expressed in eclectic and unexpected ways
- Exaggerated and/or abstracted ornamentation
- Buildings exude a sense of humor, irony, and whimsy

5. Supplemental Survey Findings

5.1. Summary of Findings

ARG identified seven additional resources on the UC San Diego La Jolla campus as compared to the 2018 LRDP analysis that appear to currently be eligible for listing in the California Register. The seven resources listed herein may also become eligible for listing in the National Register over the life of the LRDP Update, once they reach the 50-year age threshold required by the National Register program.[25] The seven additional resources include the following:

- Irwin Mark and Joan Klein Jacobs Engineering Hall (1988)
- George Palade Laboratories for Cellular and Molecular Medicine (1990)
- Robinson Building Complex (1990)
- Mandell Weiss Forum (1991)
- Visual Arts Facility (1993)
- IGPP Revelle Laboratories (1993)
- Library Walk (1995)

All seven resources are individually eligible for listing under California Register Criterion 3, for reasons relating to their architecture and physical design. All are excellent examples of their respective architectural style, exhibiting a high quality of design and distinctive characteristics and retaining a high degree of integrity. Most were designed by esteemed architects or landscape architects of the late twentieth century, and are important examples of these practitioners' respective bodies of work. Individually and collectively, the seven additional resources are important in conveying trends in the campus' architectural and historical development in the late twentieth century.

Of these seven resources, six are located on West Campus, and one is located at SIO. No additional resources were identified on the East Campus, or on the University-owned off-campus properties located in the Survey Area.

Six of the additional resources are individual buildings or discrete clusters of buildings; one is a designed landscape. No new districts were identified in this supplemental survey.

Five of the 22 public art pieces within the Stuart Collection were installed between 1986-1990, within the scope of this supplemental survey. Because the majority of the Stuart Collection pieces fall outside the scope of this supplemental survey, and the collection is best evaluated as a singular unit, Stuart Collection pieces from 1986-1990 were not evaluated as part of this survey. The Stuart Collection pieces are also administered and protected by other university policies and initiatives. It is recommended that a separate

[25] None of the additional resources identified in this supplemental survey were found to meet Criteria Consideration G, which is required for resources less than 50 years of age to be eligible for listing in the National Register.

survey of public art on the UC San Diego campus be conducted in the future, so that the entire Stuart Collection and all of its requisite pieces can be evaluated holistically and as a unified whole, rather than on a piecemeal basis.

Other resources within the scope of this supplemental survey were evaluated and determined to not meet eligibility criteria at this time. Attachment B includes a list of resources that were not identified as eligible for listing. In addition, the property located at 2880 Torrey Pines Scenic Drive, which consists of surface parking lots, was not identified as eligible for listing since there is no evidence indicating that the parking lots are associated with any historic context or theme.

5.2. Eligible Resources

Each resource identified in the supplemental survey is discussed herein. For more detailed information about these resources, refer to the DPR forms which are appended to this report as Attachment A.

Irwin Mark and Joan Klein Jacobs Engineering Hall

- Year Built: 1988
- Architect: Buss, Silvers, Hughes and Associates
- Architectural Style: Brutalist

Jacobs Engineering Hall is a six-story laboratory and office building that anchors the west end of the Warren Mall on the West Campus. The building was constructed in 1988 and is a late example of the Brutalist style.

The building is individually eligible for listing in the California Register under Criterion 3, for embodying distinctive characteristics of the Brutalist style as applied to an institutional setting, and exhibiting a high quality of design through distinctive features. Notable features include its complex massing comprising intersecting rectilinear volumes, flat roof with modulating heights and no eaves, unfinished concrete exterior walls, and horizontal bands of flush-mounted metal windows.

Irwin Mark and Joan Klein Jacobs Engineering Hall (ARG, 2024)

George Palade Laboratories for Cellular and Molecular Medicine

- Year Built: 1990, 1995 (addition)
- Architect: Moore Ruble Yudell Architects and Planners
- Architectural Style: Postmodern

The George Palade Laboratories for Cellular and Molecular Medicine is a three-story laboratory and office building located at the northwest corner of the Health Sciences district on the West Campus. The building consists of two connected wings which collectively form a U-shape and open into a south-facing courtyard. The west wing was constructed in 1990, and the east wing is an addition that was constructed in 1995; both sections of the building are designed in the Postmodern style.

The building is individually eligible for listing in the California Register under Criterion 3, for embodying distinctive characteristics of the Postmodern style, and exhibiting a high quality of design through distinctive features. Notable features include its eclectic appearance, variety of exterior colors and textures, and abstracted decorative details referencing earlier architectural periods including pilasters, quoins, cornices, and colonnades. The building is an important local work of the firm Moore Ruble Yudell Architects and Planners, and is notably one of the final projects designed by pioneering Postmodern architect Charles Moore before his death in 1993. The evaluation pertains to the original (1990) west wing and the later (1995) east wing. Both were designed by Moore Ruble Yudell and are nearly identical in terms of form, massing, and appearance.


George Palade Laboratories for Cellular and Molecular Medicine (ARG, 2024)

Robinson Building Complex

- Year Built: 1990
- Architect: Kaplan, McLaughlin and Diaz Architecture and Planning
- Architectural Style: Postmodern

The Robinson Building Complex consists of three adjacent buildings located to the north of Marshall College and to the east of Roosevelt College, in the northwest section of the West Campus. The buildings are occupied by various uses including a library, an auditorium, and a classroom/office building, all of which are associated with the Graduate School of International Relations and Pacific Studies (IR/PS). All were built as a singular unit in 1990, and are designed in the Postmodern style.

The complex of buildings is eligible for listing in the California Register under Criterion 3, for embodying distinctive characteristics of the Postmodern style, and exhibiting a high quality of design through distinctive features. Notable features include asymmetrical massing, fragmented building forms, and application of traditional building materials, notably Jerusalem stone wall cladding, which helps to soften the rigidity of the buildings' massing and form.


Robinson Building Complex (ARG, 2024)

Mandell Weiss Forum

- Year Built: 1991
- Architect: Antonie Predock
- Architectural Style: Postmodern

The Mandell Weiss Forum is a one-story theater building located in the Theatre District, near the southwest corner of the West Campus. The building has an irregular plan comprising multiple intersecting geometric volumes, and is partially obscured from view by a dramatic, 270-foot-long mirrored wall. The building was constructed in 1990 and is designed in the Postmodern style.

The building is individually eligible for listing in the California Register under Criterion 3, for embodying distinctive characteristics of the Postmodern style, and exhibiting a high quality of design through distinctive features. Notable features include its eclectic appearance, asymmetrical and rounded building forms, and long mirrored exterior wall, which is juxtaposed against the building's otherwise monolithic surfaces and evinces a sense of theatricality. The building is an important local work of architect Antoine Predock, well known for his eclectic synthesis of architectural influences and a characteristically unpredictable aesthetic associated with Postmodernism.


Mandell Weiss Forum (ARG, 2024)

Visual Arts Facility

- Year Built: 1993
- Architect: Neptune-Thomas Davis, with Rebecca Binder
- Architectural Style: Postmodern (Deconstructivist)

The Visual Arts Facility is a complex of six adjacent buildings located in the Sixth College/Pepper Canyon area of the West Campus. The buildings house studios and various other support spaces for the

Department of Visual Arts. All were built as a singular unit in 1993, and are designed in a variant of the Postmodern style known as Deconstructivist architecture.

The complex is individually eligible for listing in the California Register under Criterion 3, for embodying distinctive characteristics of Deconstructivist architecture, and exhibiting a high quality of design through distinctive features. Notable features include structural expression and intersecting volumes, eclectic and seemingly unpredictable roof forms, and the use of vernacular building materials like cinder blocks for exterior finishes. The building was designed by a consortium of architects including the firm Neptune-Thomas-Davis and Rebecca Binder. Binder, a graduate of UCLA, is notable for her contributions to Southern California's Postmodern/Deconstructivist movements, and for her experimental approach to architecture in the late twentieth century.


Visual Arts Facility (ARG, 2024)

IGPP Revelle Laboratories

- Year Built: 1993
- Architect: Frederick Liebhardt
- Architectural Style: Post-and-Beam

The IGPP Revelle Laboratories, located on the SIO campus, consists of four adjacent laboratory buildings and a pedestrian bridge that crosses La Jolla Shores Drive. All four buildings and the bridge were constructed as a singular unit in 1993. The complex is a late example of the Post-and-Beam style of architecture, designed to be contextual with the post-and-beam aesthetic of the adjacent IGPP Munk Lab built in 1964.

The complex of buildings is individually eligible for listing in the California Register under Criterion 3, for embodying distinctive characteristics of the Post-and-Beam style as applied to an institutional setting, and exhibiting a high quality of design through distinctive features. Notable features include the buildings' structural expression, post-and-beam construction, flat roofs with projecting eaves, and unfinished timber exterior walls. The complex is a successful example of contextual architecture. It is also significant under Criterion 3 as an important work of architect Frederick Liebhardt, who designed many of the early buildings at UC San Diego during its formative period of development in the mid-twentieth century. Liebhardt is recognized as a master architect by the City of San Diego.

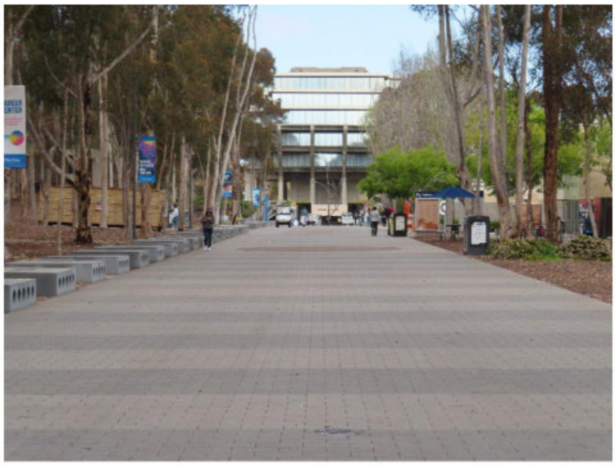
IGPP Revelle Laboratories (ARG, 2024)

Library Walk

- Year Built: 1995
- Architect: Peter Walker William Johnson and Partners
- Architectural Style: N/A (Designed Landscape)

Library Walk is a designed landscape located in the University Center area of the West Campus. The designed landscape consists of a 0.25-mile-long axial pedestrian promenade connecting the Geisel Library, the Price Center and other student services facilities, and the School of Medicine. The promenade was constructed in 1995 and is a late example of Modern landscape architecture principles. It is an iconic and unifying element of UC San Diego’s La Jolla campus.

The resource is individually eligible for listing in the California Register under Criterion 3, in the area of Landscape Architecture, for embodying distinctive characteristics of Modern landscape architecture principles as expressed in the context of late twentieth century landscape design. Notable features include the promenade’s simple form and axial orientation, alternating bands of charcoal and pewter-colored concrete pavers, and 6’ by 6’ illuminated concrete pedestals flanking the west side of the promenade. It is also significant under Criterion 3 as an important work of Peter Walker William Johnson and Partners, a renowned landscape architecture firm.




Library Walk (ARG, 2024)

6. Potential Project Impacts

This section provides programmatic guidance related to impacts to historical resources that may result from implementation of the Update to the 2018 LRDP. Note that this section applies only to the seven eligible historical resources dating to 1986 to 1995 as addressed in the supplemental survey, and previously identified resources that would be potentially impacted by land use changes or new development undertaken as part of the Update to the 2018 LRDP.

6.1. Project Description

The Update to the 2018 LRDP represents physical development and population growth capacities on UC San Diego's La Jolla campus that are projected to occur through the updated horizon year of 2040. The Update to the 2018 LRDP would revise and increase the previous population growth and development projections and extend the planning horizon year from 2035 to 2040. Corresponding land use development is also expected to increase from the projections outlined in the 2018 LRDP. To accommodate this growth, limited land use changes would be made in the West and East Campus areas. For a detailed Project Description, refer to the Supplemental EIR.

6.2. Summary of Potential Impacts to Historical Resources

Implementation of the Update to the 2018 LRDP has the potential to impact historical resources located within the Project Area. The following scenarios may take place to achieve the stated objectives of the Update to the 2018 LRDP, and have the potential to impact historical resources:

1. Renovation and modification of existing historical resources to some extent to ensure that they continue to serve a useful function. Given their age, these resources may also likely require maintenance, repairs, and/or safety and accessibility upgrades.
2. Targeted redevelopment of existing historical resources, potentially involving the removal of some that underuse their respective site and/or are considered obsolete and beyond their useful life.
3. Construction of new, purpose-built buildings and facilities throughout the campus that are sited adjacent to historical resources.

A discussion of each of the above-listed scenarios is included in the following sections.

6.3. Potential Impacts to Individual Resources

Six resources identified in this supplemental survey are individually eligible resources. These include:

- Irwin Mark and Joan Klein Jacobs Engineering Hall (1988)
- George Palade Laboratories for Cellular and Molecular Medicine (1990)
- Robinson Building Complex (1990)
- Mandell Weiss Forum (1991)
- Visual Arts Facility (1993)
- IGPP Revelle Laboratories (1993)

Renovation Projects

Implementation of the Update to the 2018 LRDP could require the renovation of existing buildings and facilities to meet the stated project goals. Renovation projects may include, but are not necessarily limited to, the following:

- Retrofitting teaching and research spaces to meet contemporary standards
- Infrastructure systems upgrades
- Americans With Disabilities Act (ADA)-related improvements
- Energy efficiency improvements (including window replacements)
- Change in use of space (e.g., classroom converted to group learning area)
- Repurposing of an existing building to accommodate a new use
- Additions to an existing building
- Removal of additions or modifications that occurred outside of the building's period of significance
- Structural or seismic retrofitting
- Improvements to landscape or hardscape features that are considered to be character-defining features of an eligible or designated historical building

Renovation projects such as these have the potential to impact historical resources as follows:

- Character-defining features and spaces that characterize a resource may be altered or removed.
- Extensive alterations to a resource may be needed to accommodate a change of use.
- New additions to a resource may be incompatible with its bulk, scale, massing, height, or style.

If the extent of alterations is such that a historical resource is no longer eligible for inclusion in the California Register, then the project would "materially impair" the historical resource per 15064.5(b)(2) of the CEQA Guidelines and would result in a significant impact to the resource.

Demolition Projects

The following language is provided in the event that demolition of any of the seven historical resources identified in this supplemental historic resources survey is required in order to meet the goals of the Update to the LRDP. In addition, this language is provided in the event that demolition of historical resources identified in the 2016 campus historic resource survey are demolished to meet the goals of the Update to the 2018 LRDP.

Demolition projects that are completed to achieve the objectives of the Update to the 2018 LRDP may include, but are not necessarily limited to, the following:

- An eligible historical resource is demolished or removed.
- An associated site or landscape feature – such as a designed landscape, hardscape element, or public art installation – associated with a historical resource is demolished or removed.

Demolition is generally considered to be an unavoidable adverse impact that cannot be mitigated to a level of less-than-significant. Thus, if an individual historical resource is demolished to achieve the stated project goals, then that action would result in a significant unavoidable impact.

New Construction Projects

New construction associated with implementation of the Update to the 2018 LRDP may include, but is not necessarily limited to, the following:

- New construction in the vicinity of an individually eligible resource may be incompatible with the historical resource in terms of bulk, scale, massing, height, and/or style.

If adjacent new construction impairs a historical resource's integrity of setting, feeling, and association in such a way that the historical resource is no longer eligible for inclusion in the California Register, then the project would "materially impair" the historical resource per 15064.5(b)(2) of the CEQA Guidelines and would result in a significant impact to the resource.

6.4. Potential Impacts to Historic Designed Landscapes

One resource identified in this supplemental survey is a historic designed landscape. This includes:

- Library Walk (1995)

Implementation of the Update to the 2018 LRDP could have the potential to modify or alter historic designed landscapes, including, but not limited to the following:

- Removal and/or replacement of landscape and hardscape features that contribute to the character and significance of a designed landscape
- Introduction of new non-original landscape and hardscape features into a designed landscape
- Encroachment upon designed landscapes to accommodate new construction or other projects associated with the Update to the 2018 LRDP

If the extent of alterations is such that a designed landscape no longer eligible for inclusion in the California Register, then the project would "materially impair" the historical resource per 15064.5(b)(2) of the CEQA Guidelines and would result in a significant impact to the resource.

6.5. Cumulative Impacts

Cumulative impacts to historical resources evaluate whether impacts of the proposed project and other projects, when taken as a whole, substantially diminish the number of historical resources within the same or similar context or property type. Impacts to historical resources tend to be site-specific. Specifically, cumulative impacts would involve projects affecting local resources with the same level or type of designation or evaluation, projects affecting other structures located within the same historic district, or projects that involve resources that are significant within the same context as other resources associated with the proposed project.

If, as part of implementation of the Update to the 2018 LRDP, multiple historic resources are removed, it may result in a significant cumulative impact to historical resources. In the Project Area, cumulative impacts may include (and are not limited to):

- Removal of most historic resources associated with a particular architect who was notable on a local, state, and/or national level and an important contributor to the development of the built environment on campus
- Removal of most historic resources that convey a particular architectural style or mode
- Removal of most historic resources that represent a significant historic context or theme
- Removal of most contributors within a historic district such that the district is no longer able to convey its significance

7. Mitigation Measures

7.1. Standard Mitigation Program

The Update to the 2018 LRDP is a general land use plan that does not commit UC San Diego to specific projects or funding priorities. Specific development projects are not identified as part of the LRDP Update. As discussed in the previous section, future development associated with the LRDP Update implementation has the potential to impact historical resources. An impact could occur if a project requires a substantial adverse change to the significance of a historical resource, generally through the alteration or demolition of resources that were identified in the supplemental historic resources survey.

The mitigation framework of the 2018 LRDP EIR will continue to address impacts of both the 2018 LRDP and the Update to the 2018 LRDP. Since only individually eligible buildings and designed landscapes were identified in this supplemental survey, only those mitigation measures applicable to individually eligible historical resources and designed landscapes are listed herein.

The measures outlined below are intended to reduce impacts to a level of less-than-significant.

- Standards Compliance. Projects involving substantial adverse impacts to historical resources shall comply with the *Secretary of the Interior's Standards for Rehabilitation*.
    1. When a development project associated with the LRDP implementation is initiated, UC San Diego shall first determine, as early as possible in the planning process, whether the project may have a substantial adverse impact on a historical resource (individual resource, district, or landscape).
    2. If the project may result in impacts to an individual historical resource, then UC San Diego shall retain the services of a qualified historic preservation professional.[26] The historic preservation professional shall be tasked with determining whether the project meets the *Secretary of the Interior's Standards*. The consultant shall evaluate the project, and prepare a memorandum or equivalent level of documentation indicating whether or not the project meets the Standards.
        a. If the project meets the Standards, then any potential impacts are presumed to be fully mitigated per the CEQA Guidelines, and no additional action is necessary.
        b. If the project does not meet the Standards, then UC San Diego shall attempt to bring the project into compliance with the Standards.
- Project Redesign. For projects involving historical resources that do not comply with the Standards, UC San Diego shall consider means of reducing the impact to a level of less-than-significant by redesigning the project or undertaking other measures deemed feasible and prudent.

[26] A "qualified historic preservation professional" is defined as one who meets the *Secretary of the Interior's Professional Qualification Standards*, 36 CFR Part 51. For more information, refer to the following link: https://www.nps.gov/history/local-law/arch_stnds_9.htm. For projects involving a historic landscape, a landscape architect, horticulturalist, or other qualified professional with experience in the treatment and management of historic landscapes shall be consulted.

1. If the project can be redesigned to meet the Standards, then any potential impacts are presumed to be fully mitigated per the CEQA Guidelines, and no additional action is necessary.
2. If the project cannot be redesigned to meet the Standards, then UC San Diego shall apply the appropriate series of mitigation measures to address the impact(s) to the historical resource.

Since individual projects associated with the Update to the 2018 LRDP have the potential to vary with respect to scope, scale, and impact, the type and amount of mitigation needed will vary based on the nature of the project as well as the specific impact(s) that are being addressed. The following mitigation measures have been developed for each of the two major types of historical resources identified in this supplemental survey: individual resources and historic landscapes. These represent the baseline measures that shall be applied any time there is an impact to a historical resource that cannot otherwise be mitigated to a level of less-than-significant by redesigning the project in a manner that complies with the Standards.

7.2. Standard Mitigation for Individual Resources[27]

Alteration of an Individual Resource

The following mitigation measure shall be applied to all projects that result in the alteration of an individual resource identified in the supplemental historic resource survey and cannot be mitigated through Standards compliance as described above.

- Documentation: HABS. If it is infeasible to redesign the project for Standards compliance, UC San Diego shall prepare archival (Historic American Building Survey, or HABS) documentation for any individual resource that will be impacted by projects undertaken as part of implementation of the LRDP. Documentation shall be undertaken prior to the commencement of construction and document existing conditions. If requested, copies of HABS documentation shall be provided to the La Jolla Historical Society, the San Diego History Center, and other interested parties to be identified.

  HABS documentation shall consist of the following:

  - architectural and historical narrative;
  - archival drawings;
  - if adequate archival drawings are not available, measured drawings will be produced; and
  - large format photography.

[27] Refer to Section 6.2 for a discussion of what types of projects associated with the 2018 LRDP implementation may constitute an impact to an individual resource.

Demolition of an Individual Resource

The following mitigation measures shall be applied to all projects that result in the demolition or removal of an individual resource.

- Relocation. UC San Diego shall consider relocating the individual resource to an appropriate receiver site, if any such site is available. When considering relocation, UC San Diego shall take into account the importance of setting to the significance of the historical resource; whether the proposed receiver site is compatible with the character and significance of the historical resource being considered for relocation; and whether the resource will retain its eligibility for the California or National Register subsequent to its relocation.[28] If the resource can be moved to an appropriate receiver site, then relocation has the potential to lessen impacts to a level of less-than-significant.
- Documentation: HABS. If relocation of the resource is infeasible, UC San Diego shall prepare HABS Level 1 documentation for any individual resource that will be impacted by projects undertaken as part of implementation of the LRDP. Documentation shall be undertaken prior to the commencement of construction. If requested, copies of HABS documentation shall be provided to the La Jolla Historical Society, the San Diego History Center, and other interested parties to be identified.

Unless a resource is relocated to an appropriate receiver site, demolition is considered to be an adverse impact that cannot be mitigated to a level of less-than-significant.

7.3. Standard Mitigation for Historic Designed Landscapes

The following mitigation measure shall be applied to all projects that entail the alteration or demolition of a historic landscape, and cannot be mitigated through Standards compliance.

- Documentation: HALS. If it is infeasible to redesign the project for Standards compliance, Prepare Historic American Landscape Survey (HALS) Level 1 documentation for any historic landscape that will be impacted by projects undertaken as part of implementation of the LRDP. Documentation shall be undertaken prior to the commencement of construction. If requested, copies of HALS documentation shall be provided to the La Jolla Historical Society, the San Diego History Center, and other interested parties to be identified.

[28] This determination is generally made by a qualified historic preservation professional meeting the Secretary of the Interior's Professional Qualification Standards.

7.4. Mitigation of Cumulative Impacts

Evaluation of cumulative impacts combines all individual resources, historic districts, and landscapes into a single, non-renewable resource base. A cumulative impact would occur if the Update to the 2018 LRDP affected the same type of resource through one or more cumulative projects. There are not anticipated to be cumulative impacts to historical resources resulting from implementation of the LRDP Update.

8. Bibliography

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Attachment A

DPR 523 Series Forms for Eligible Resources

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

***Resource Name or #** (Assigned by recorder) IGPP Revelle Laboratories

P1. Other Identifier: Institute of Geophysics and Planetary Physics Unit II

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** San Diego

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Date T ;R ; ¼of ¼ of Sec ; B.M.

c. Address 9500 Gilman Drive City La Jolla Zip 92093

d. UTM: (Give more than one for large and/or linear resources) Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The IGPP Revelle Laboratories is a complex of laboratory buildings near the northwest corner of the SIO campus. The complex was built in 1993, and was designed to emulate the architecture of the adjacent IGPP Munk Laboratory (1963). The complex consists of four Post-and-Beam style buildings that are integrated into the slope of the site and step downward. The buildings are between two and three stories tall, with irregular plans and low profiles. They are constructed of wood frame, and are clad in weathered redwood siding which exudes a sense of rusticity. Roofs are flat with projecting eaves, integral trellises, and exposed redwood beam ends. Entrances consist of flush-mounted glazed wood doors and solid metal doors. Fenestration is abundant and consists of fixed plate glass windows, most of which are arranged as continuous horizontal bands. The buildings in the complex are connected by an exterior circulation network comprising redwood decks, walkways, bridges, and stairs. Vertical circulation is provided by glazed elevator shafts that are set in wood towers with overhead trellises. The west entrance to the complex consists of a cascading set of wood stairs with wood-and-metal handrails, wood trellises, and board-formed concrete retaining walls. At the east end of the complex is a 130-foot-long reinforced concrete pedestrian bridge (Scripps Crossing Pedestrian Bridge), which crosses over La Jolla Shores Drive and connects the IGPP Revelle Laboratories with points further east on the SIO campus. The complex has no major alterations.

***P3b. Resource Attributes:** (List attributes and codes) HP15. Educational Building

***P4. Resources Present:** ☒Building ☐Structure ☐ Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View northwest, (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1993 (UC San Diego Facilities Information System)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure & Object Record ☐Archaeological Record ☐ District Record ☐Linear Feature Record ☐ Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photographic Record ☐ Other (List)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary # ______________________
HRI ______________________

BUILDING, STRUCTURE AND OBJECT RECORD

***NRHP Status Code** 3CS

B1. Historic Name: Institute of Geophysics and Planetary Physics Unit II

B2. Common Name: IGPP Revelle Laboratories

B3. Original Use: Laboratory/Research B4. Present Use: Laboratory/Research

***B5. Architectural Style** Modern movement (Post-and-Beam)

***B6. Construction History:** (Construction date, alterations, and date of alterations)
(see Page 3)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** ________ **Original Location:** ______________

***B8. Related Features:** Pedestrian Bridge (Scripps Crossing)

B9a. Architect: Liebhardt, Botton & Associates b. Builder: Nielsen Construction Co.

***B10. Significance: Theme** Architecture and Design **Area** La Jolla

Period of Significance: 1993 **Property Type:** Institutional **Applicable Criteria:** 3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Summary Statement of Significance

The IGPP Revelle Laboratories complex is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Post-and-Beam style architecture, and for representing the work of master architect Frederick Liebhardt.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

Historic Context: Post-and-Beam Architecture

Post-and-Beam architecture is a derivative of the Modern movement, a broad term that is used to describe a family of architectural styles that were introduced in the twentieth century, honed in the interwar years, and came to dominate American architecture in the decades after World War II. The tenets of Modernism are far-reaching and diverse, but generally the movement eschewed past traditions in favor of progressive paradigms that accounted for technological advances and the modernization of American society.

Post-and-Beam originated as a method of construction used in wood and heavy-timber framing, where structural load is supported by columns and beams rather than by solid walls. By virtue of its structural expression and its tendency to blur the lines between indoor and outdoor spaces, the construction method lent itself to the Modern movement. In San Diego, local architect Lloyd Ruocco developed a regionally distinctive dialect of Modernism that was rooted in Post-and-Beam construction prior to World War II; the style gained wide recognition in the postwar era through its frequent application in the highly publicized Case Study House program.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes) ______________

***B12. References:** *(see Page 3)*

B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

ARG, 2024
Base map source: ESRI World Topo Map

***Resource Name or #** (Assigned by recorder) IGPP Revelle Laboratories

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

***B6. Construction History** *(continued from page 2):*

1993 Original construction

***B10. Significance** *(continued from page 2):*

The Post-and-Beam style is applied with less frequency on the UC San Diego campus than other derivatives of Modernism, and particularly Brutalism. Nonetheless, the campus contains examples of Post-and-Beam style buildings that are juxtaposed against the heavier, more monolithic qualities of Brutalism and associated Modern idioms. Buildings like the IGPP-Munk Laboratory on the SIO campus (Lloyd Ruocco, 1963) and the Natatorium on the main campus (1967, Liebhardt and Weston) exemplify the tenets of the Post-and-Beam style, and are lighter and tauter interpretations of Modernism that are thoughtfully integrated into their natural environs.

Common characteristics of the Post-and-Beam style include horizontal massing; direct expression of the structural system; flat or shallow-pitched gabled roofs, typically with wide eaves and exposed structural members; floor-to-ceiling glazing; and an open relationship between indoor and outdoor spaces through features like atriums, sliding glass doors, and outdoor courtyards and patios.

Evaluation of Significance
The IGPP Revelle Laboratories complex is eligible for the California Register under Criterion 3. Built in 1993, the complex exhibits distinctive characteristics of Post-and-Beam style architecture; it is a late example of the style that carries forward the fundamental principles of Post-and-Beam construction that are expressed in earlier buildings on the UC San Diego campus. Specifically, the subject complex was designed to converse with the adjacent IGPP Munk Laboratory (1963). Character-defining features of the Post-and-Beam style that are expressed in the design of the subject complex include horizontal massing; direct expression of the structural system; flat roofs with wide eaves, integral trellises, and exposed wood beam ends; weathered redwood siding; abundant fenestration; and exposed circulation corridors. The complex is also significant as an important work of master architect Frederick Liebhardt, a locally significant exponent of Modern architecture. The period of significance is 1993, which corresponds to the original year of construction.

Evaluation of Integrity
To be eligible for listing in the California Register, a resource must first be deemed significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. The IGPP-Revelle Laboratories complex retains all seven aspects of historic integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2):*

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

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CONTINUATION SHEET

***Resource Name or #** (Assigned by recorder) IGPP Revelle Laboratories

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. View south, (ARG, 2024)

Image 3. View southeast, (ARG, 2024)

Image 4. View southwest, (ARG, 2024)

Image 5. View northeast (ARG, 2024)

Image 6. View east (ARG, 2024)

Image 7. View southeast (ARG, 2024)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

***Resource Name or #** (Assigned by recorder) Irwin Mark and Joan Klein Jacobs Engineering Hall

P1. Other Identifier: Engineering Building Unit 1

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** San Diego
and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** ____ **Date** ____ **T** ____ **;R** ____ ; ____ **¼of** ____ **¼ of Sec** ____ ; ____ **B.M.**
c. Address 9500 Gilman Drive City La Jolla Zip 92093
d. UTM: (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Irwin Mark and Joan Klein Jacobs Engineering Hall is an eight-story multi-purpose building at the west end of the Warren Mall, located directly east of Geisel Library. Constructed in 1988, the Brutalist style building exhibits a monumental scale and heavy massing, and has an irregular plan comprising multiple volumes with varying heights and setbacks: four wings project out from the building's primary (south) façade, creating four below-grade courtyards in the interstitial spaces framed by the projecting wings. The building's massing steps back around the perimeter to soften its size, scale, and bulk. The building is constructed of concrete, and is capped by flat roofs with flat parapets. Exterior walls are rendered in exposed concrete with visible joints and horizontal score lines; significant portions of the primary/south façade wall are glazed with a curtain wall system. Primary entrances consist of glazed metal doors set in glazed storefront systems; secondary entrances consist of solid metal doors. There are also vehicular bays at the rear (north) of the building. Fenestration consists of bands of fixed, casement, and clerestory metal windows. Metal-framed translucent awnings shade the windows on each floor. Large circular and rectangular vents are incorporated into the exterior walls on the rear (north) façade. Exterior corridors on secondary façades are delineated by low concrete walls and metal rails. Landscaping consists of perimeter trees, shrubs, and groundcover. Atop the roof of one of the building's projecting wings is a sculpture called *Fallen Star*, which was installed in 2012 as part of the Stuart Collection; the sculpture consists of an off-kilter house structure that cantilevers out over the building's eave line. Alterations include the addition of an enclosed entry at ground level, and addition of a rooftop sculpture.

***P3b. Resource Attributes:** (List attributes and codes) HP15. Educational Building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View northeast, (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1988 (UC San Diego Facilities Information System)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure & Object Record ☐Archaeological Record ☐ District Record ☐Linear Feature Record ☐ Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photographic Record ☐ Other (List)

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 3CS

B1. Historic Name: Engineering Building Unit 1

B2. Common Name: Irwin Mark and Joan Klein Jacobs Engineering Hall

B3. Original Use: Laboratory/Research B4. Present Use: Laboratory/Research

***B5. Architectural Style** Modern movement (Brutalist)

***B6. Construction History:** (Construction date, alterations, and date of alterations)

(see Page 3)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**

***B8. Related Features:** Sculpture *(Fallen Star)*

B9a. Architect: Buss, Silvers, Hughes & Associates b. Builder: Not determined

***B10. Significance: Theme** Architecture and Design **Area** La Jolla

Period of Significance: 1988 **Property Type:** Institutional **Applicable Criteria:** 3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Summary Statement of Significance

The Irwin Mark and Joan Klein Jacobs Engineering Hall is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Brutalist style architecture.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

Historic Context: Brutalist Architecture

Brutalism is a derivative of the Modern movement, a broad term that is used to describe a family of related architectural styles that were introduced in the twentieth century, were honed during the interwar years, and came to dominate American architecture in the decades after World War II. The tenets of Modernism are far-reaching and diverse, but generally the movement eschewed past traditions in favor of progressive paradigms that accounted for technological advances and the modernization of American society.

Brutalism is derived from the French term *bèton-brut*, or "raw concrete," Brutalism advocates for honesty in expression of all materials but specifically concrete, which was considered a humble but indestructible material that allowed for bold, monolithic forms. Utilized famously by the Swiss-French architect Le Corbusier in his *Unité d'Habitation* (1952) in Marseille, France, the technique made its way into the American architectural scene as early as the 1950s but proliferated in the 1960s and early '70s. Concrete was used both structurally and aesthetically, and generally lacked superfluous ornamentation. Brutalist style buildings are typically blockish, though there are examples that incorporate more organic, natural forms. The progressive and monumental nature of the style made it popular in public architecture and educational institutions, and it can be found on university campuses nationwide.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** *(see Page 3)*

B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

ARG, 2024
Base map source: ESRI World Topo Map

N

***B6. Construction History** *(continued from page 2):*

1988 Original construction
2012 Installation of public art on the building's roof (*Fallen Star*)

***B10. Significance** *(continued from page 2):*

Common characteristics of the Brutalist style include exposed concrete structural systems; monumental massing; angular and rectilinear building forms; exposed concrete exterior walls, often with visible board-forming or similar structural elements; minimal ornamentation; and base articulation, often rising above integral plazas and landscapes.

Evaluation of Significance
The Irwin Mark and Joan Klein Jacobs Engineering Hall is eligible for the California Register under Criterion 3. Built in 1988, the building exhibits the distinctive characteristics of Brutalist style architecture; it is a late example of the style that perpetuates the principles of Brutalism that are expressed in earlier buildings on the UC San Diego campus. Character-defining features of the Brutalist style that are expressed in the design of the subject building include its exposed concrete structural system; blocky, monumental massing; rectilinear building forms; exposed concrete exterior walls, with visible score lines; and a lack of applied ornament. The period of significance is 1988, which corresponds to the building's original year of construction.

Evaluation of Integrity
To be eligible for listing in the California Register, a resource must first be deemed significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. The Irwin Mark and Joan Klein Jacobs Engineering Hall retains all seven aspects of historic integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2):*

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

Architectural Resources Group. "University of California, San Diego Historic Resources Survey Report." Jun. 10, 2016.

Chute, James. "Lofty Berth: Do Ho Suh's 'Fallen Star,' Part of the Arist's Quest for the Meaning of Home, May Be the Crowning Achievement of UC San Diego's Stuart Collection." *The San Diego Union-Tribune.* Jun. 3, 2012.

"Engineering Building Set at UC Campus." *Los Angeles Times*. Nov. 24, 1985.

"Modern San Diego." Accessed Jun. 2024, http://www.modernsandiego.com/.

"New Engineering Building Unit 1." UC San Diego Press Release. Nov. 19, 1984.

Showley, Roger. "UCSD to Get Big Building." *The San Diego Union-Tribune*. Nov. 25, 1984.

Sutro, Dirk. "New Look for UCSD." *The San Diego Union-Tribune*. Dec. 1, 1988.

***Resource Name or #** (Assigned by recorder) Irwin Mark and Joan Klein Jacobs Engineering Hall

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. South façade and projecting wings as seen from Warren Mall, view northwest (ARG, 2024)

Image 3. South (right) and west (left) façades, view northeast (ARG, 2024)

Image 4. Detail of south façade and primary entrance, view northeast (ARG, 2024)

Image 5. Detail of scored concrete exterior walls, metal windows, and translucent awnings (ARG, 2024)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

*Resource Name or # (Assigned by recorder) Library Walk

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** San Diego

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Date T ;R ; ¼of ¼ of Sec ; **B.M.**

c. Address 9500 Gilman Drive City La Jolla Zip 92093

d. UTM: (Give more than one for large and/or linear resources) Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Library Walk is located in the University Center area of campus. Constructed in 1995, the resource consists of a 30-foot-wide pedestrian promenade that is oriented to the cardinal directions, charting an axial route between Geisel Library (north) and the School of Medicine campus (south). The promenade is finished with concrete unit pavers that are laid in alternating bands of charcoal and pewter hues. Spanning the west side of the promenade along its entire length are 6 foot-by-6 foot concrete plinths spaced at regular intervals; each plinth contains integral recessed lights which illuminate the promenade at night. The plinths accent the linear variations of the concrete pavers and were designed to serve various functions including seating, display areas, and performance and demonstration pedestals. The promenade is flanked on the west by a dense grove of eucalyptus trees, some of which were planted as part of the original construction of Library Walk in 1995. The resource appears to be minimally altered.

***P3b. Resource Attributes:** (List attributes and codes) HP29. Landscape Architecture

***P4. Resources Present:** ☐Building ☐Structure ☐ Object ☒Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View south (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1995 (UC San Diego Press Release)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure & Object Record ☐Archaeological Record ☐ District Record ☐Linear Feature Record ☐ Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photographic Record ☐ Other (List)

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 3CS

B1. Historic Name: Library Walk

B2. Common Name: N/A

B3. Original Use: Designed Landscape B4. Present Use: Designed Landscape

***B5. Architectural Style** N/A

***B6. Construction History:** (Construction date, alterations, and date of alterations)

(see Page 3)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**

***B8. Related Features:** None identified

B9a. Architect: Peter Walker William Johnson & Partners b. Builder: Not determined

***B10. Significance: Theme** Designed Landscapes **Area** La Jolla

Period of Significance: 1995 **Property Type:** Open Space **Applicable Criteria:** 3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Summary Statement of Significance

Library Walk is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Modern landscape design, and for representing the work of master landscape architect Peter Walker.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

Historic Context: Modern Designed Landscapes

Landscaping has been an integral component of campus design ever since the conception of UC San Diego, serving as the proverbial "glue" binding together buildings and other elements of the campus's built environment.

UC San Diego's earliest designed landscapes were created by the San Diego-based landscape architecture firm of Wimmer and Yamada. The firm was headed by Harriet Barnhard Wimmer, who had founded the practice and was known for designing residential gardens, and Joseph Yamada, who had worked with Wimmer for several years and later became her business partner. Wimmer was a horticulturalist who had studied landscapes and landscape architecture at Stanford and the University of Oregon; Yamada, who was a generation younger, had studied landscape architecture at UC Berkeley, where he studied alongside several renowned landscape architects. However, the time that the UC San Diego contract was awarded, Wimmer was approaching the later years of her career and assumed a lesser role in the firm's operations, meaning that it was Yamada who was principally responsible for work at the campus.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** *(see Page 3)*

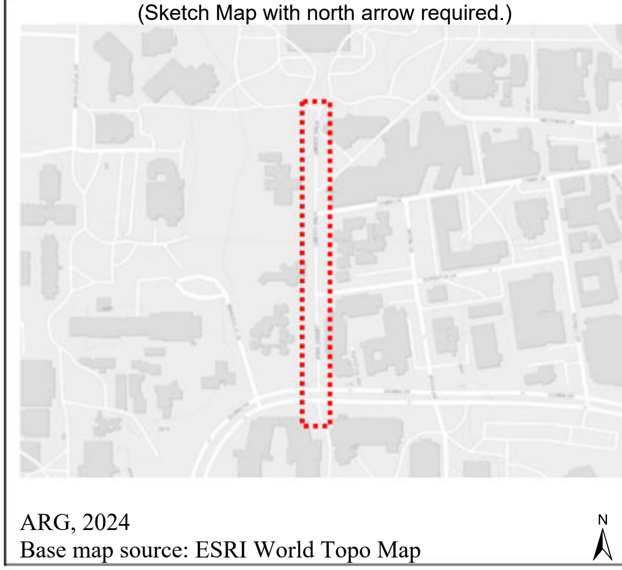
B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



ARG, 2024
Base map source: ESRI World Topo Map

***Resource Name or #** (Assigned by recorder) Library Walk

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

***B6. Construction History** *(continued from page 2):*

1995 Original construction

***B10. Significance** *(continued from page 2):*

Wimmer and Yamada designed a substantial number of landscapes at the UC San Diego campus, beginning in the 1960 and continuing in subsequent decades. Their work was influenced by the Modern Environmental Movement of the 1960s and ‘70s, which encouraged American society to adopt an ethic of environmental stewardship and advocated for the conservation of natural resources. Landscapes designed by Wimmer and Yamada accordingly embraced UC San Diego’s existing grove of eucalyptus trees and topographical complexity, thoughtfully incorporating these natural elements into the campus’s built environment. Designed landscapes helped to unify the campus, link its geographically disparate colleges and districts, and provide a sense of scale to its collection of Modern buildings.

The precedent set by Wimmer and Yamada, and by the Modern Environmental Movement generally, helped set the tone for future landscape design on the UC San Diego campus by encouraging contextually sensitive interventions to the campus’s natural environment. Library Walk is an example of how this model was successfully implemented in subsequent decades. Built in 1995, the pedestrian promenade was intended to serve as an important link within the center of campus, while respecting the adjacent grove of eucalyptus trees.

<u>Evaluation of Significance</u>
Library Walk is eligible for the California Register under Criterion 3. Built in 1995, it exhibits distinctive characteristics of Modern landscape architecture that were rooted in the Modern Environmental Movement, which emphasized the importance of striking a thoughtful balance between designing monumental statements and respecting the natural environment. Library Walk is widely considered to be a successful example of how this delicate balance was achieved. Its design, though simple, became an immediate focal point on the UC San Diego campus, and integrated pedestrian circulation and student activity with an adjacent grove of mature eucalyptus trees. It is simultaneously a bold design intervention and a contextually sensitive addition to the campus’s built environment. The resource is also significant as an important work of master landscape architect Peter Walker, an internationally renowned practitioner known for his minimalist, yet expressive landscape designs that are rooted in the tenets of the Modern movement. The period of significance has been identified as 1995, which corresponds to the resource’s original construction date.

<u>Evaluation of Integrity</u>
To be eligible for listing in the California Register, a resource must first be deemed significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. Library Walk retains all seven aspects of historic integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2):*

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

Architectural Resources Group. “University of California, San Diego Historic Resources Survey Report.” Jun. 10, 2016.

“Construction Projects Currently Underway at UCSD.” UC San Diego Press Release. Sept. 1, 1994.

“Construction to Begin on Major Campus Pedestrian Pathway.” UC San Diego Press Release. Feb. 23, 1995.

Jost, Daniel. “San Diego’s Eternal Sunshine.” *Landscape Architecture Magazine.* Jul. 2011.

PWP Landscape Architecture. “Library Walk, University of California.” Online. Accessed Jun. 2024.
https://www.pwpla.com/projects/uc-san-diego-library-walk

“UCSD Plans New Library Walkway and Eucalyptus Reforestation Project.” UC San Diego Press Release. Jan. 13, 1995.

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI

***Resource Name or #** (Assigned by recorder) Library Walk

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. View north (ARG, 2024)

Image 3. View north, with Center Hall pictured at right (ARG, 2024)

Image 4. Library Walk, view south, c. 1990s (PWP Landscape Architecture)

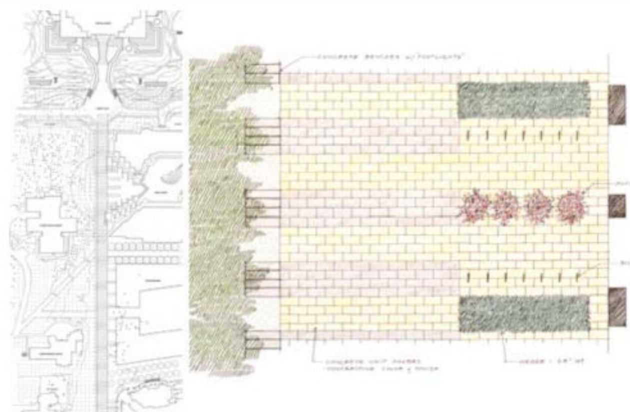


Image 5. Sketch plan, c. 1990s (PWP Landscape Architecture)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

*Resource Name or # (Assigned by recorder) Mandell Weiss Forum

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** San Diego

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Date T ;R ; ¼of ¼ of Sec ; B.M.

c. Address 9500 Gilman Drive City La Jolla Zip 92093

d. UTM: (Give more than one for large and/or linear resources) Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Mandell Weiss Forum is located in the Theatre District, at the southwest corner of the UC San Diego campus. The building is incorporated into a dense grove of eucalyptus trees. Built in 1991 and designed in the Postmodern style, the building contains a 400-seat thrust-seat theater and associated support spaces. It rises between and two stories in height, and has an irregular footprint comprising a large semi-circular volume housing the main theater and rectilinear volumes occupied by support spaces. Roof volumes are flat with flat parapets. Exterior walls are clad in stucco incised with score lines and imbued with a magenta-and-gray hue. The building is approached from the southwest, via an entrance courtyard framed by an expansive, 270-foot mirrored wall that is detached from the building. The main entrance is located on the second story and is accessed via a ramp with switchbacks and metal handrails; entrances on the building vary, but generally consist of glazed (primary entrances) and solid (secondary entrances) metal doors. Exterior façades are defined by solid planes and have minimal fenestration; where it does exist, fenestration consists of fixed metal windows. The north façade, which has street frontage and faces Revelle College, is spanned by an abstracted colonnade comprising a sequence of squared recesses. There is a loading dock on the rear (southeast) façade. Alterations include the addition of a glazed restaurant volume to the south façade, adjacent to the entrance courtyard and mirrored wall.

***P3b. Resource Attributes:** (List attributes and codes) HP10. Theater; HP15. Educational Building

***P4. Resources Present:** ☒Building ☐Structure ☐ Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View northeast, (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1991 (UC San Diego Facilities Information System)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure & Object Record
☐Archaeological Record ☐ District Record ☐Linear Feature Record ☐ Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photographic Record ☐ Other (List)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 3CS

B1. Historic Name: Mandell Weiss Forum
B2. Common Name: Mandell Weiss Forum
B3. Original Use: Theatre B4. Present Use: Theatre
***B5. Architectural Style** Modern movement (Postmodern)
***B6. Construction History:** (Construction date, alterations, and date of alterations)
(see Page 3)
***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** None identified

B9a. Architect: Antoine Predock b. Builder: Harold Kvass
***B10. Significance: Theme** Architecture and Design **Area** La Jolla
Period of Significance: 1991 **Property Type:** Institutional **Applicable Criteria:** 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Summary Statement of Significance
The Mandell Weiss Forum is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Postmodern style architecture, and for representing the work of master architect Antoine Predock.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

Historic Context: Postmodern Architecture
Postmodern architecture emerged in the latter decades of the twentieth century, largely as a reaction against what was seen as the austerity and ubiquity of orthodox Modernism and the International style. By the 1960s, some architects and architectural critics had grown disillusioned with the Modern movement and its widespread application in the post-World War II era. Critics alleged that Modernism's chaste appearance had become insipid, and that its purported social aspirations had failed to result in meaningful change.

In response, some architects began exploring alternatives to orthodox Modernism. Notably, a group of distinguished architects including Robert Venturi, Denise Scott Brown, Steven Izenour, Charles Moore, and others began experimenting with new modes of architecture that carried forward many of the fundamental principles of Modernism, but incorporated historical elements and unusual building forms and materials to give buildings a greater sense of visual interest. These ideas eventually coalesced into a new identifiable style that was coined "Postmodernism." The term was introduced in 1977 by cultural and architectural historian Charles Jencks. That year, Jencks published *The Language of Post-Modern Architecture*, an influential book that examined the paradigm shift away from Modernism and toward a new chapter in American architecture that embodied complexity, expression, and meaning.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** *(see Page 3)*

B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

ARG, 2024
Base map source: ESRI World Topo Map
N

***Resource Name or #** (Assigned by recorder) Mandell Weiss Forum

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

***B6. Construction History** *(continued from page 2):*

1991 Original construction
2005 Addition of restaurant volume to south façade

***B10. Significance** *(continued from page 2):*

Postmodernism reached its zenith in the 1980s. It was most often expressed in the form of large commercial and institutional buildings, though the style was sometimes applied to smaller residential buildings. Postmodern buildings are notable for exuding an expressive and often whimsical appearance, and use a pastiche of stylistic influences to eschew conventional ideas of beauty and order.

Common characteristics of the Postmodern style include complex massing; fragmented, asymmetrical, and idiosyncratic building forms; a loosely-assembled appearance; dramatic rooflines; eclectic application of building materials; frequent use of bright colors and patterns; selective references to past architectural traditions, often expressed in combination and in eclectic ways; exaggerated and/or abstracted ornamentation; and a subtle sense of humor, irony, and whimsy.

Evaluation of Significance
The Mandell Weiss Forum is eligible for the California Register under Criterion 3. Built in 1991, the building exhibits the distinctive characteristics of Postmodern style architecture including complex massing and idiosyncratic building forms, the use of contextual colors and patterns, selective references to past architectural traditions including an abstracted Classical colonnade, and a long mirrored wall which forges an assertive visual link between the building and its natural environs. The building is also significant as an important work of master architect Antoine Predock, who was known for his ability to design Modern buildings that were keenly attuned to their context and surroundings. The period of significance is 1991, which corresponds to the original year of construction.

Evaluation of Integrity
To be eligible for listing in the California Register, a resource must first be significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. The Mandell Weiss Forum retains all seven aspects of historic integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2):*

"$1.2 Million Gift to Create New Theatre at UCSD." UC San Diego Press Release. Apr. 13, 1988.

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

Architectural Resources Group. "University of California, San Diego Historic Resources Survey Report." Jun. 10, 2016.

Mead, Christopher Curtis. *Roadcut: The Architecture of Antoine Predock*. Albuquerque: University of New Mexico Press, 2011.

"Nationally Acclaimed Architect Antoine Predock Designs New Weiss Forum." UC San Diego Press Release. Aor. 13, 1988.

Niland, Josh. "The Lessons We're Still 'Learning from Las Vegas' After 50 Years." *Archinect*. Jan. 27, 2023.

Pearman, Hugh. *Contemporary World Architecture*. London: Phaidon, 1998.

Pincus, Robert L. "Mandell Weiss Forum Makes a Statement." *The San Diego Union-Tribune*. Jun. 21, 1991.

Predock, Antoine. *Antoine Predock*. New York: Rizzoli, 1994.

Steele, James. *Theatre Builders*. London: Academy Editions, 1996.

"UCSD Theater Hits Right Balance." *Los Angeles Times*. Jun. 13, 1991.

Venturi, Robert. *Complexity and Contradiction in Architecture*. New York: The Museum of Modern Art, 1966.

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # ______________________
HRI ______________________

***Resource Name or #** (Assigned by recorder) Mandell Weiss Forum

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. West façade and courtyard, view north(ARG, 2024)

Image 3. Detail of mirrored wall, view northwest (ARG, 2024)

Image 4. East façade, view northwest (ARG, 2024)

Image 5. South façade and loading dock, view north (ARG, 2024)

Image 6. Subject building, c. 1990s (Antoine Predock Architect)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

***Resource Name or #** (Assigned by recorder) George Palade Laboratories for Cellular and Molecular Medicine

P1. Other Identifier: Molecular Biology Research Facility Unit II; Cellular and Molecular Medicine East

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** San Diego

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Date T ;R ; ¼of ¼ of Sec ; B.M.

c. Address 9500 Gilman Drive City La Jolla Zip 92093

d. UTM: (Give more than one for large and/or linear resources) Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The George Palade Laboratories for Cellular and Molecular Medicine is located at the northwest corner of the School of Medicine campus. The building comprises two parallel volumes: a west wing (1990) and east wing (1995), which are connected at the north end and collectively form a U-shaped footprint. The east volume was designed to emulate the appearance of the west volume, resulting in a seamless transition between the two. The building varies between two and three stories tall with a partially sunken basement level, and is constructed of concrete blocks. The building is capped by a combination of standing seam shed roofs and flat roofs. The flat roof volumes are spanned by tall parapet walls that obscure mechanical equipment. Exterior walls consist of exposed concrete blocks, though some portions are clad in smooth stucco. There are multiple building entrances, which generally consist of glazed, flush-mounted metal doors. Primary entrances consist of full-height glazed doors, most of which have glazed transoms. The building has a horizontal emphasis, with horizontal floor slabs that project to create exterior balconies. The balconies are framed by metal handrails and supported by paired slender concrete columns. Fenestration consists of fixed metal windows, many of which are arranged as horizontal bands within the recesses of the balconies. The building is anchored by full-height towers that incorporate abstracted Classical motifs including pilasters with polished granite accents, quoins, cornices, and moldings; other decorative details include columns, trellises, and balconettes. The open space within the crook of the building's U-shaped form contains a public art piece (*Terrace*), expressed as a terraced landscaped courtyard. Alterations to the building include the construction of the east wing (1995).

***P3b. Resource Attributes:** (List attributes and codes) HP15. Educational Building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View southwest (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1990, 1995 (UC San Diego Facilities Information System)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure & Object Record ☐Archaeological Record ☐ District Record ☐Linear Feature Record ☐ Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photographic Record ☐ Other (List)

BUILDING, STRUCTURE AND OBJECT RECORD

 *NRHP Status Code 3CS

B1. Historic Name: Molecular Biology Research Facility Unit II; Cellular and Molecular Medicine East
B2. Common Name: George Palade Laboratories for Cellular and Molecular Medicine
B3. Original Use: Laboratory/Research B4. Present Use: Laboratory/Research
***B5. Architectural Style** Modern movement (Postmodern)
***B6. Construction History:** (Construction date, alterations, and date of alterations)
(see Page 3)
***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** Designed Landscape; Sculpture *(Terrace)*

B9a. Architect: Moore Ruble Yudell Architects and Planners b. Builder: Not determined
***B10. Significance: Theme** Architecture and Design **Area** La Jolla
Period of Significance: 1990-1995 **Property Type:** Institutional **Applicable Criteria:** 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

<u>Summary Statement of Significance</u>
The George Palade Laboratories for Cellular and Molecular Medicine is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Postmodern style architecture, and for representing the work of master architect Charles Moore of the firm Moore Rubel Yudell Architects and Planners.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

<u>Historic Context: Postmodern Architecture</u>
Postmodern architecture emerged in the latter decades of the twentieth century, largely as a reaction against what was seen as the austerity and ubiquity of orthodox Modernism and the International style. By the 1960s, some architects and architectural critics had grown disillusioned with the Modern movement and its widespread application in the post-World War II era. Critics alleged that Modernism's chaste appearance had become insipid, and that its purported social aspirations had failed to result in meaningful change.

In response, some architects began exploring alternatives to orthodox Modernism. Notably, a group of distinguished architects including Robert Venturi, Denise Scott Brown, Steven Izenour, Charles Moore, and others began experimenting with new modes of architecture that carried forward many of the fundamental principles of Modernism, but incorporated historical elements and unusual building forms and materials to give buildings a greater sense of visual interest. These ideas eventually coalesced into a new identifiable style that was coined "Postmodernism." The term was introduced in 1977 by cultural and architectural historian Charles Jencks. That year, Jencks published *The Language of Post-Modern Architecture*, an influential book that examined the paradigm shift away from Modernism and toward a new chapter in American architecture that embodied complexity, expression, and meaning.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** *(see Page 3)*

B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

ARG, 2024
Base map source: ESRI World Topo Map

***Resource Name or #** (Assigned by recorder) George Palade Laboratories

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

***B6. Construction History** *(continued from page 2)*:

1990 Construction of original building (now the west wing), landscaped courtyard, and public art
1995 Construction of east addition

***B10. Significance** *(continued from page 2)*:

Postmodernism reached its zenith in the 1980s. It was most often expressed in the form of large commercial and institutional buildings, though the style was also sometimes applied to smaller residential buildings. Postmodern buildings are notable for exuding an expressive and often whimsical appearance, and use a pastiche of stylistic influences to eschew conventional ideas of beauty and order.

Character-defining features of the Postmodern style include complex massing; fragmented, asymmetrical, and idiosyncratic building forms; a loosely-assembled appearance; dramatic rooflines; eclectic application of building materials; frequent use of bright colors and patterns; selective references to past architectural traditions, often expressed in combination and in eclectic ways; exaggerated and/or abstracted ornamentation; and a subtle sense of humor, irony, and whimsy.

Evaluation of Significance
The George Palade Laboratories for Cellular and Molecular Medicine is eligible for the California Register under Criterion 3. Built in 1990 and expanded in 1995, the building exhibits distinctive characteristics of Postmodern style architecture including complex massing; idiosyncratic building forms; eclectic application of building materials including cinder blocks, stucco, and polished granite; and abstracted Classical motifs that make selective reference to past architectural traditions. The building is also significant as an important work of master architect Charles Moore, who is widely considered to be a pivotal figure in the development of the Postmodern architectural movement. Moore's firm – Moore, Rubel Yudell Architects and Planners – designed the original building (1990) and the east addition (1995); the addition was designed to emulate the appearance of the original building. The period of significance begins in 1990, which corresponds to the building's original construction, and ends in 1995, when the addition was built.

Evaluation of Integrity
To be eligible for listing in the California Register, a resource must first be significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. The George Palade Laboratories for Cellular and Molecular Medicine retains all seven aspects of historic integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2)*:

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

Architectural Resources Group. "University of California, San Diego Historic Resources Survey Report." Jun. 10, 2016.

Emanuel, Muriel. *Contemporary Architects*. New York: St. James Press, 1994.

Keim, Kevin P. *An Architectural Life: Memoirs and Memories of Charles W. Moore*. Boston: Little Brown and Co., 1996.

Niland, Josh. "The Lessons We're Still 'Learning from Las Vegas' After 50 Years." *Archinect*. Jan. 27, 2023.

Ollman, Leah. "New Sculpture Blends Nicely With Campus." *Los Angeles Times.* Dec. 11, 1991.

Pelfrey, Patricia A. *A Brief History of the University of California,* 2nd ed. Berkeley: University of California Press, 2004.

Sutro, Dirk. "N.Y. Artist Helps Wed UCSD Lab to Setting." *Los Angeles Times*. Apr. 5, 1990.

"UCSD Buildings Receive Concrete Design Awards." UC San Diego Press Release. Aug. 26, 1994.

Venturi, Robert. *Complexity and Contradiction in Architecture*. New York: The Museum of Modern Art, 1966.

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI

***Resource Name or #** (Assigned by recorder) George Palade Laboratories

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. East façade, view northwest (ARG, 2024)

Image 3. West wing as viewed from interior courtyard, view northwest (ARG, 2024)

Image 4. West wing, detail of tower with Classical motifs, view northwest (ARG, 2024)

Image 5. East wing as viewed from interior courtyard, view northeast (ARG, 2024)

Image 6. Public art installation (*Terrace*), view north (ARG, 2024)

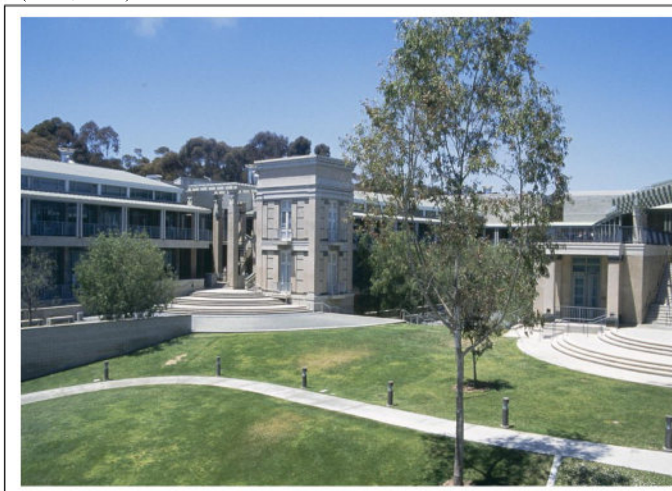


Image 7. Subject building, view northwest. c. 1990s (UC San Diego Library Digital Collections)

PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

***Resource Name or #** (Assigned by recorder) Robinson Building Complex

P1. Other Identifier: Graduate School of International Relations and Pacific Studies (IR/PS)

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** San Diego

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** ___ **Date** ___ **T** ___ **;R** ___ ; ___ **¼of** ___ **¼ of Sec** ___ ; ___ **B.M.**

c. Address 9500 Gilman Drive City La Jolla Zip 92093

d. UTM: (Give more than one for large and/or linear resources) Zone ___ ; ___ mE/ ___ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Robinson Building Complex is a complex of academic buildings in the north section of campus, on the west side of Ridge Walk and to the east of Eleanor Roosevelt College. The complex consists of three buildings: two multi-purpose academic buildings with classrooms, offices, research facilities, and a library; and an auditorium building. The buildings are all designed in the Postmodern style and were built in 1990 as a singular unit. They are constructed of concrete and vary between one and three stories tall; collectively they take the shape of a triangle. The buildings exhibit complex massing with irregular footprints, intersecting planes, geometric volumes, and cantilevers. The buildings are capped by flat and shed roofs with flat parapets. Exterior walls are clad in warm-hued Jerusalem stone set within a modular grid. There are multiple points of ingress; entrances generally consist of glazed metal doors that are incorporated into glazed storefront systems, and solid metal doors that are set flush with the face of the building. Fenestration is abundant and consists of fixed, casement, and awning windows with metal frames and mullions. Many windows are arranged in horizontal or vertical channels; some form glass curtain walls; and others are installed in cantilevered corner bays. There are exterior breezeways and stair shafts with metal handrails and exposed metal structural bracing. Large circular vents are incorporated into the exterior walls. The buildings comprising the complex open into a terraced circular courtyard with concrete steps and planters, metal handrails, and mature landscaping. The buildings comprising the complex appear to be minimally altered.

***P3b. Resource Attributes:** (List attributes and codes) HP10. Theatre; HP15. Educational Building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View northwest (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1990 (UC San Diego Facilities Information System)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure & Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photographic Record ☐Other (List)

Primary #
HRI

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 3CS

B1. Historic Name: Robinson Building Complex
B2. Common Name: Robinson Building Complex; Graduate School of International Relations and Pacific Studies (IR/PS)
B3. Original Use: Various B4. Present Use: Various
***B5. Architectural Style** Modern movement (Postmodern)
***B6. Construction History:** (Construction date, alterations, and date of alterations)
(see Page 3)
***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** Designed Landscape

B9a. Architect: Kaplan/McLaughlin/Diaz b. Builder: M.H. Golden Co.
***B10. Significance: Theme** Architecture and Design **Area** La Jolla
Period of Significance: 1990 **Property Type:** Institutional **Applicable Criteria:** 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Summary Statement of Significance
The Robinson Building Complex is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Postmodern style architecture.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

Historic Context: Postmodern Architecture
Postmodern architecture emerged in the latter decades of the twentieth century, largely as a reaction against what was seen as the austerity and ubiquity of orthodox Modernism and the International style. By the 1960s, some architects and architectural critics had grown disillusioned with the Modern movement and its widespread application in the post-World War II era. Critics alleged that Modernism's chaste appearance had become insipid, and that its purported social aspirations had failed to result in meaningful change.

In response, some architects began exploring alternatives to orthodox Modernism. Notably, a group of distinguished architects including Robert Venturi, Denise Scott Brown, Steven Izenour, Charles Moore, and others began experimenting with new modes of architecture that carried forward many of the fundamental principles of Modernism, but incorporated historical elements and unusual building forms and materials to give buildings a greater sense of visual interest. These ideas eventually coalesced into a new identifiable style that was coined "Postmodernism." The term was introduced in 1977 by cultural and architectural historian Charles Jencks. That year, Jencks published *The Language of Post-Modern Architecture*, an influential book that examined the paradigm shift away from Modernism and toward a new chapter in American architecture that embodied complexity, expression, and meaning.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** *(see Page 3)*

B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

ARG, 2024
Base map source: ESRI World Topo Map
N

***Resource Name or #** (Assigned by recorder) Robinson Building Complex

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

***B6. Construction History** *(continued from page 2):*

1990 Original construction

***B10. Significance** *(continued from page 2):*

Postmodernism reached its zenith in the 1980s. It was most often expressed in the form of large commercial and institutional buildings, though the style was sometimes applied to smaller residential buildings. Postmodern buildings are notable for exuding an expressive and often whimsical appearance, and use a pastiche of stylistic influences to eschew conventional ideas of beauty and order.

Common characteristics of the Postmodern style include complex massing; fragmented, asymmetrical, and idiosyncratic building forms; a loosely-assembled appearance; dramatic rooflines; eclectic application of building materials; frequent use of bright colors and patterns; selective references to past architectural traditions, often expressed in combination and in eclectic ways; exaggerated and/or abstracted ornamentation; and a subtle sense of humor, irony, and whimsy.

Evaluation of Significance
The Robinson Building Complex is eligible for the California Register under Criterion 3. Built in 1990, the complex exhibits distinctive characteristics of Postmodern style architecture including complex massing, idiosyncratic building forms, a fragmented and loosely assembled appearance, and selective use of traditional architectural materials – notably Jerusalem stone, which is juxtaposed against the buildings' complex geometric forms. The period of significance is 1990, which corresponds to the original year of construction.

Evaluation of Integrity
To be eligible for listing in the California Register, a resource must first be significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. The Robinson Building Complex retains all seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2):*

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

Architectural Resources Group. "University of California, San Diego Historic Resources Survey Report." Jun. 10, 2016.

Bernstein, Leonard. "Funds Proposed for Pacific Studies School at UCSD." *Los Angeles Times*. Jan. 9, 1987.

Jarmusch, Ann. "San Diegans Win Honors for Architecture." *The San Diego Union-Tribune*. Mar. 11, 1991.

Lawrence, Herb. "UCSD – New Campus Within a Campus; Style Influenced by Pacific Rim." *The San Diego Union-Tribune*. Mar. 16, 1990.

Niland, Josh. "The Lessons We're Still 'Learning from Las Vegas' After 50 Years." *Archinect*. Jan. 27, 2023.

Pelfrey, Patricia A. *A Brief History of the University of California,* 2nd ed. Berkeley: University of California Press, 2004.

Rapaport, Richard. *Kaplan McLaughlin Diaz: Placemaking, Innovation and Individuality*. Gloucester, MA: Rockport Publishers, 1998.

"UCSD Graduate School of International Relations and Pacific Studies Complex Receives Merit Award from American Institute of Architects." UC San Diego Press Release. Mar. 13, 1991.

"UCSD's Graduate School of International Relations and Pacific Studies Completes New Building Complex." UC San Diego Press Release. Mar. 1, 1990.

Venturi, Robert. *Complexity and Contradiction in Architecture*. New York: The Museum of Modern Art, 1966.

Primary #
HRI

CONTINUATION SHEET

***Resource Name or #** (Assigned by recorder) Robinson Building Complex

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. View southwest (ARG, 2024)

Image 3. View southeast (ARG, 2024)

Image 4. View east (ARG, 2024)

Image 5. Auditorium, view southeast (ARG, 2024)

Image 6. Scale model of Robinson Complex, c. 1980s (UC San Diego Library Digital Collections)

Image 7. View southeast, c. 1990 (KMD Architects)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI
Trinomial #
NRHP Status Code 3CS
Other Listings
Review Code Reviewer Date

*Resource Name or # (Assigned by recorder) Visual Arts Facility

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** San Diego
and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Date T ;R ; ¼of ¼ of Sec ; **B.M.**
c. Address 9500 Gilman Drive City La Jolla Zip 92093
d. UTM: (Give more than one for large and/or linear resources) Zone ; mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Visual Arts Facility is a complex of studio and gallery buildings in the Sixth College/Pepper Canyon area of campus. Built in 1993, the complex consists of six Deconstructivist style buildings on the east side of Russell Lane, between Lyman and Rupertus lanes. The buildings are two stories tall and are designed around a variety of building forms; some of the buildings conform to the axis of the surrounding street grid, while others are set askew and appear to be off-kilter. The buildings are constructed of concrete block and are capped by an eclectic variety of roof forms including shed, hipped, flat, and barrel volumes. Some of the roof volumes feature metal overhangs with metal bracket supports. The west entrance to the complex is capped by a metal portico supported by metal brackets and exaggerated concrete columns. Roofs are standing seam. Exterior walls are rendered in various materials including textured concrete blocks, smooth concrete blocks, and smooth stucco; weathered wood boards are also sometimes used as an accent material. There are multiple building entrances, most of which consist of solid metal doors with glazed transoms. There are also solid and paneled metal doors. Windows vary with respect to type and arrangement but generally consist of fixed, casement, and awning windows set in metal frames. There are exterior circulation corridors, balconies, and stairs, which are framed by metal pipe rails. At the west entrance to the complex are metal gates with overhead metal canopy letters. The buildings are oriented inward toward a series of utilitarian service alleys and pedestrian corridors. Alterations include the addition of painted murals to the east façades of buildings.

***P3b. Resource Attributes:** (List attributes and codes) HP15. Educational Building
***P4. Resources Present:** ☒Building ☐Structure ☐ Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.):

*P5a. Photograph or Drawing (Photograph required for buildings, structures or objects)

P5b. Description of Photo: (view, date, accession #) View northwest (ARG 2024)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1993 (UC San Diego Facilities Information System)

***P7. Owner and Address:**
University of California
1111 Franklin Street
Oakland, CA 94607

***P8. Recorded by:** Name, affiliation, and address)
Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***P9. Date Recorded:** 8/12/2024

***P10. Survey Type:** (Describe)
☒ Intensive
☐ Reconnaissance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") University of California, San Diego Update to the 2018 Long Range Development Plan, Supplemental Historical Resources Technical Report (ARG, 2024)

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure & Object Record
☐Archaeological Record ☐ District Record ☐Linear Feature Record ☐ Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photographic Record ☐ Other (List)

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 3CS

B1. Historic Name: Visual Arts Facility
B2. Common Name: Visual Arts Facility
B3. Original Use: Studio/Gallery B4. Present Use: Studio/Gallery
***B5. Architectural Style** Modern movement (Postmodern/Deconstructivist)
***B6. Construction History:** (Construction date, alterations, and date of alterations)
(see Page 3)
***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** None identified

B9a. Architect: Rebecca L. Binder, with Neptune Thomas Davis b. Builder: Not determined
***B10. Significance: Theme** Architecture and Design **Area** La Jolla
Period of Significance: 1993 **Property Type:** Institutional **Applicable Criteria:** 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Summary Statement of Significance

The Visual Arts Facility is eligible for listing in the California Register under Criterion 3, for embodying the distinctive characteristics of Postmodern/Deconstructivist style architecture, and for representing the work of master architect Rebecca L. Binder.

Since the resource is less than 50 years of age and does not meet the definition of "exceptional importance" under National Register Criteria Consideration G, it is not eligible for the National Register at this time.

Historic Context: Postmodern/Deconstructivist Architecture

Postmodern architecture emerged in the latter decades of the twentieth century, largely as a reaction against what was seen as the austerity and ubiquity of orthodox Modernism and the International style. By the 1960s, some architects and architectural critics had grown disillusioned with the Modern movement and its widespread application in the post-World War II era. Critics alleged that Modernism's chaste appearance had become insipid, and that its purported social aspirations had failed to result in meaningful change.

In response, some architects began exploring alternatives to orthodox Modernism. Notably, a group of distinguished architects including Robert Venturi, Denise Scott Brown, Steven Izenour, Charles Moore, and others began experimenting with new modes of architecture that carried forward many of the fundamental principles of Modernism, but incorporated historical elements and unusual building forms and materials to give buildings a greater sense of visual interest. These ideas eventually coalesced into a new identifiable style that was coined "Postmodernism." The term was introduced in 1977 by cultural and architectural historian Charles Jencks. That year, Jencks published *The Language of Post-Modern Architecture*, an influential book that examined the paradigm shift away from Modernism and toward a new chapter in American architecture that embodied complexity, expression, and meaning.

(continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** *(see Page 3)*

B13. Remarks:

***B14. Evaluator:** Andrew Goodrich, AICP
Architectural Resources Group
360 E. 2nd Street, Suite 225
Los Angeles, CA 90012

***Date of Evaluation:** 8/12/2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

ARG, 2024
Base map source: ESRI World Topo Map

N

Primary #
HRI

***Resource Name or #** (Assigned by recorder) Visual Arts Facility

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

***B6. Construction History** *(continued from page 2)*:

1993 Original construction

***B10. Significance** *(continued from page 2)*:

Postmodernism reached its zenith in the 1980s. It was most often expressed in the form of large commercial and institutional buildings, though the style was sometimes applied to smaller residential buildings. Postmodern buildings are notable for exuding an expressive and often whimsical appearance, and use a pastiche of stylistic influences to eschew conventional ideas of beauty and order.

In the mid-1980s, a movement called Deconstructivism emerged and is considered to be a derivative of Postmodernism. The term was introduced by the French philosopher Jacques Derrida, who "developed the idea of fragmenting a building and exploring the asymmetry of geometry…while maintaining the core functionality of the space." The style gained traction in 1988 when eminent architects Philip Johnson and Mark Wigley curated an exhibition at the Museum of Modern Art (MOMA) called *Deconstructivist Architecture*. Generally speaking, the style was defined by an absence of symmetry or continuity, the manipulation of shapes and forms, and radical complexity.

Common characteristics of the Postmodern style include complex massing; fragmented, asymmetrical, and idiosyncratic building forms; a loosely-assembled appearance; dramatic rooflines; eclectic application of building materials; frequent use of bright colors and patterns; selective references to past architectural traditions, often expressed in combination and in eclectic ways; exaggerated and/or abstracted ornamentation; and a subtle sense of humor, irony, and whimsy.

Evaluation of Significance
The Visual Arts Facility is eligible for the California Register under Criterion 3. Built in 1993, the complex exhibits the distinctive characteristics of Postmodern/Deconstructivist style architecture including complex massing, an off-kilter site plan, a fragmented and loosely assembled appearance, dramatic and eclectic roof forms, and use of functional materials like concrete blocks for exterior wall cladding. This combination of distinctive features makes the complex an excellent example of the Postmodern/Deconstructivist style. The complex is also significant as an important work of master architect Rebecca Binder, a noted Los Angeles architect who is considered to be one of Southern California's most intrepid architects of her generation and contributed to the development of a regional dialect of Postmodernism. The period of significance is 1993, which corresponds to the original year of construction.

Evaluation of Integrity
To be eligible for listing in the California Register, a resource must first be significant under one (or more) eligibility criteria. It must then retain sufficient integrity to convey its significance. The Visual Arts Facility retains all seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

***B12. References** *(continued from page 2)*:

Aguilar, Patricia. *The UCSD Master Plan and its Antecedents.* Berkeley: The Regents of the University of California, 1995.

Architectural Resources Group. "University of California, San Diego Historic Resources Survey Report." Jun. 10, 2016.

Bernstein, Fred A. "Robert Venturi, Architect Who Rejected Modernism, Dies at 93." *The New York Times*. Sept. 19, 2018.

Nesmith, Eleanor Lynn. *Rebecca L. Binder*. Rockport, MA: Rockport Publishers, 1995.

Niland, Josh. "The Lessons We're Still 'Learning from Las Vegas' After 50 Years." *Archinect*. Jan. 27, 2023.

Pelfrey, Patricia A. *A Brief History of the University of California*, 2nd ed. Berkeley: University of California Press, 2004.

Stouhi, Dima. "What is Deconstructivism?" *ArchDaily*. Aug. 11, 2020.

State of California--- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI

***Resource Name or #** (Assigned by recorder) Visual Arts Facility

Recorded By: Architectural Resources Group **Date:** 8/12/2024 ☒ Continuation ☐ Update

Image 2. Interior of complex, view northeast (ARG, 2024)

Image 3. South façade, view northeast (ARG, 2024)

Image 4. North façade, view southwest (ARG, 2024)

Image 5. East façade, view southwest (ARG, 2024)

Image 6. Visual Arts Facility under construction, 1993 (UC San Diego Library Digital Collections)

Image 7. Visual Arts Facility, west façade, view southeast, 1993 (UC San Diego Library Digital Collections)

Attachment B

Addendum to Supplemental Campus Historic Resources Survey

Architectural Resources Group

360 E. 2nd Street, Suite 225
Los Angeles, California 90012

arg-la.com

Memorandum

To	Vanessa Toscano Environmental Planning Group Manager HELIX Environmental Planning 7578 El Cajon Boulevard, La Mesa, CA 91942
Project:	UC San Diego Campus-Wide Historic Resources Survey Update
Project No.:	231012
Date:	October 23, 2024
Via:	E-mail

Re: Addendum to Supplemental Campus Historic Resources Survey, UC San Diego

At the request of the University of California, San Diego ("UC San Diego," or "the University"), Architectural Resources Group (ARG) has prepared the following memorandum to provide a summary of ARG's methodology related to the supplemental historic resources survey of UC San Diego's La Jolla campus, which was conducted by ARG in 2024.

Background

In 2016, ARG conducted a historic resources survey of UC San Diego's La Jolla campus, which was completed to inform the preparation of the 2018 UC San Diego La Jolla Campus Long Range Development Plan (LRDP). The LRDP, which was adopted by the UC Regents in November 2018, was intended to guide the campus' physical development through a planning horizon year of 2035. ARG's survey included an evaluation of all potential historical resources through 1985, to account for resources that would become age-eligible for historic designation through the 2035 horizon year.

The University is updating the LRDP to account for additional campus growth and adjust development projections. The horizon year of the updated LRDP is being extended by five years, from 2035 to 2040. ARG was asked to conduct a supplemental historic resources survey of the campus focused on resources built between 1986 and 1990, which will become age-eligible for historic designation through the new horizon year of 2040. At the request of the University, the supplemental survey also included a limited evaluation of resources built between 1991 and 1995, to provide a conservative look-ahead at resources that may become eligible in the future.

The supplemental survey identified seven resources that appear to be eligible for listing in the California Register of Historical Resources (California Register), and thus meet the definition of a "historical resource" for purposes of the California Environmental Quality Act (CEQA). This included six buildings or groupings of buildings and one designed landscape, which are summarized below. Other resources evaluated in the supplemental survey were found to not appear eligible for historic designation, and thus are not "historical resources" under CEQA.

Below is a discussion of how these determinations were made by ARG surveyors, beginning with a summary of eligible resources and continuing with a discussion of ineligible resources.

Resources Identified as Eligible for Listing

Three resources from the 1986-1990 study period were identified in the supplemental survey as eligible for listing in the California Register:

- George Palade Laboratories for Cellular and Molecular Medicine/Cellular and Molecular Medicine East (1990/1995; Moore Ruble Yudell Architects and Planners)
- Irwin Mark and Joan Klein Jacobs Engineering Hall (1988; Buss, Silvers, Hughes and Associates)
- Robinson Building Complex (1990; Kaplan, McLaughlin Diaz Architecture and Planning; comprises three buildings including Administration, Auditorium, and Library)

In addition, four resources from the 1991-1995 look-ahead period were identified in the supplemental survey as eligible for listing in the California Register:

- Mandell Weiss Forum (1991; Antoine Predock)
- Visual Arts Facility (1993; Rebecca L. Binder with Neptune Thomas Davis)
- IGPP Revelle Laboratories (1993; Liebhardt Botton and Associates)
- Library Walk (1995; Peter Walker William Johnson and Partners)

These seven resources were identified because of their demonstrated architectural significance. They were identified as excellent examples of their respective architectural style, exhibiting exceptional quality design and distinctive characteristics, with minimal alterations and a high degree of integrity. The architectural significance of these resources is documented in scholarship and other source materials including monographs, architectural trade journals, and newspapers and periodicals. Most were designed by acclaimed architects and practitioners whose contributions to late twentieth century architecture are well understood.

A discussion of each eligible resource is included in the UC San Diego Supplemental Historical Resources Technical Report (ARG, 2024).

Resources Not Identified as Eligible for Listing

Other resources from the 1986-1990 period were evaluated and determined to not be eligible for listing in the California Register. Below is a discussion of how these determinations were made.

Center for Neural Circuits and Behavior (1987)

- Location: West Campus (School of Medicine)
- Architect: Leonard Veitzer, Turnkey Design & Construction Co.
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

Electromagnetics Research Facility (1990)

- Location: SIO
- Architect: Clark/Benneche & Associates
- ARG Notes: A utilitarian building that has a unique rounded form but otherwise does not possess distinguishing architectural characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Geodesic Dome 1 (1990)

- Location: SIO
- Architect: None identified
- ARG Notes: A utilitarian building that is designed in the form of a geodesic dome; there is insufficient evidence demonstrating that this building was a significant or innovative example of this method of construction, which had become somewhat common by the late twentieth century on account of its efficiency. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Geodesic Dome 2 (1990)

- Location: SIO
- Architect: None identified
- ARG Notes: A utilitarian building that is designed in the form of a geodesic dome; there is insufficient evidence demonstrating that this resource was a significant or innovative example of this method of construction, which had become somewhat common by the late twentieth century on account of its efficiency. In addition, research did not suggest that this building is associated with historically significant events and/or persons.

Halicioğlu Data Science Institute (formerly Literature Building) (1990)

- Location: West Campus (Warren College)
- Architect: Liebhardt, Weston & Associates
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons. Building also appears to have witnessed some alterations upon its conversion to the Halicioğlu Data Science Institute.

High Bay Physics Laboratory (1990)

- Location: West Campus (Warren College)
- Architect: Liebhardt, Weston & Associates
- ARG Notes: It is a representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

Ida and Cecil Green Faculty Club (1988)

- Location: West Campus (adjacent to Muir College)
- Architect: Mosher, Drew, Watson and Ferguson
- ARG Notes: It is a representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant

architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

La Jolla del Sol (1986)

- Off campus (3353-3395 Lebon Drive; 8006-8282 Regents Road)
- Architect: Naegle Associates
- ARG Notes: A typical example of a 1980s multi-family residential complex that was subsequently acquired by the University for additional student housing; does not possess distinctive architectural or site planning characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Nori (1990)

- Location: SIO
- Architect: None identified
- ARG Notes: A utilitarian building that does not possess distinguishing architectural characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

North Campus Restrooms Building (1989)

- Location: West Campus (adjacent to athletic fields at north end of campus)
- Architect: Esao Sumida Architect, Inc.
- ARG Notes: A utilitarian building that does not possess distinguishing architectural characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Pepper Canyon Apartments (formerly Sixth College Apartments) (1988)

- Location: West Campus (Pepper Canyon)
- Architect: Alfredo Araiza and Associates; Rosen, Jones & Associates, Inc.
- ARG Notes: A typical example of a student dormitory complex; consists of 22 buildings including 19 apartment buildings, one student lounge building (Pepper Canyon Apartment Lodge), and two laundry buildings (Pepper Canyon North Laundry and Pepper Canyon South Laundry). The buildings have some architectural features that are associated with 1980s institutional design, but overall do not possess distinctive architectural or site planning characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Powell Structural Systems Laboratory (1986)

- Location: West Campus (Warren College)
- Architect: Leonard Veitzer, Turnkey Design & Construction Co.
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this building is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

Price Center West (1989)

- Location: West Campus (University Center)
- Architect: Kaplan, McLaughlin, Diaz Architecture and Planning
- ARG Notes: Research indicated that the construction of Price Center West was a significant addition to the UC San Diego campus when it was completed in 1989; the complex provided the campus community with a long-desired central gathering space, and the architecture of the complex was noted for its thoughtful scale and distinctive physical features, notably its angular volumes and Jerusalem stone wall cladding. Because of this, the resource was initially flagged by ARG for further study; however, supplemental research indicates that the complex has been altered. In 2008, it was significantly expanded, including the construction of a large addition to the east (rear) façade; an addition to the south façade to accommodate an expansion of the bookstore, which has a strong public presence; and the insertion of new entrances to the building. Collectively, these alterations have significantly changed the original (1989) design intent of the building, and ARG concluded that it does not retain sufficient integrity for inclusion in the California Register.

Revelle 12KV Switching Station (1990)

- Location: West Campus (Revelle College)
- Architect: None identified
- ARG Notes: A utilitarian building that does not possess distinguishing architectural characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

School of Medicine Building 1 (1988)

- Location: West Campus (School of Medicine)

- Architect: Mark W. Steele
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

School of Medicine Building 3 (1988)
- Location: West Campus (School of Medicine)
- Architect: Mark W. Steele
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

School of Medicine Building 4 (1988)
- Location: West Campus (School of Medicine)
- Architect: Mark W. Steele
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

Scripps Institution of Oceanography Sea Containers (1988)
- Location: SIO
- Architect: None identified
- ARG Notes: A utilitarian building that does not possess distinguishing architectural characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Scripps Pier Laboratory (1988)
- Location: SIO
- Architect: Ferver Engineering Company

- ARG Notes: A simple, vernacular building that does not possess distinguishing characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Spanos Athletic Training Facility (1988)
- Location: West Campus (adjacent to athletic fields at north end of campus)
- Architect: Pepper, Iness and Associates
- ARG Notes: A simple, vernacular building that does not possess distinguishing characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Thurgood Marshall Residence Halls/Oceanview Terrace (1988)
- Location: West Campus (Marshall College)
- Architect: Delawie/Bretton Wilkes Associates
- ARG Notes: A typical example of a student dormitory complex; consists of ten buildings including nine residence halls and one dining hall (Oceanview Terrace). The buildings have some architectural features that are associated with 1980s institutional design, but overall do not possess distinctive architectural or site planning characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Torrey Pines Center North – Parking (1987)
- Location: Off Campus (N. Torrey Pines Road at UCSD Northpointe Driveway)
- Architect: Howard Oxley Associates
- ARG Notes: A utilitarian parking structure that does not possess distinguishing architectural characteristics. In addition, research did not suggest that this resource is associated with historically significant events and/or persons.

Torrey Pines Center South (1986)
- Location: Off Campus (N. Torrey Pines Road at UCSD Northpointe Driveway)
- Architect: Brian Paul and Associates, Inc.
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant

architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

Warren Lecture Hall (1990)

- Location: West Campus (Warren College)
- Architect: Liebhardt, Weston & Associates
- ARG Notes: A representative, rather than significant, example of its respective architectural style; it does not embody the distinctive characteristics of a type or period. Research did not suggest that this resource is considered to have been a significant architectural achievement upon its construction, or that it is associated with historically significant events and/or persons.

Resources that were built in the look-ahead period of 1991-1995 were generally not evaluated unless there was substantial documentary evidence suggesting that they merited further study.

Appendix F

Subsequent Greenhouse Gas Emissions Analysis

Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan

Subsequent
Greenhouse Gas Emissions Analysis

March 2025 | 00888.00076.001

Prepared for:

University of California San Diego
Campus Planning
9500 Gilman Drive, MC 0074
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Prepared by:

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ACRONYMS AND ABBREVIATIONS

2022 Scoping Plan	2022 Scoping Plan for Achieving Carbon Neutrality
AB	Assembly Bill
ADT	average daily trips
AR4	Fourth Assessment Report
AR5	Fifth Assessment Report
C_2F_6	hexafluoroethane
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CF_4	tetrafluoromethane
CH_4	methane
City	City of San Diego
CNG	compressed natural gas
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	San Diego County
East Campus	eastern area of the campus
EIR	Environmental Impact Report
EO	Executive Order
EPIC	Energy Policy Initiatives Center
EPP	Environmentally Preferable Purchasing
GHG	greenhouse gas
GSF	gross square feet
GWP	global warming potential
HELIX	HELIX Environmental Planning, Inc.
HFC	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
IPPS	Integrated Procure-to-Pay Solutions
LEED	Leadership in Energy and Environmental Design
LLG	Linscott, Law, and Greenspan Engineers
LRDP	Long Range Development Plan

ACRONYMS AND ABBREVIATIONS (cont.)

MMT	million metric tons
MT	metric ton
N_2O	nitrous oxide
NHTSA	National Highway Traffic Safety Administration
PFC	perfluorocarbon
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDG&E	San Diego Gas and Electric
SEIR	Subsequent Environmental Impact Report
SF_6	sulfur hexafluoride
SIO	Scripps Institution of Oceanography
SOV	single-occupancy vehicles
TCR	The Climate Registry
TDM	Transportation Demand Management
UC	University of California
UNFCCC	United Nations Framework Convention on Climate Change
USD	University of San Diego
USEPA	U.S. Environmental Protection Agency
West Campus	western area of the UCSD campus

EXECUTIVE SUMMARY

This report presents a greenhouse gas (GHG) emissions analysis in support of the Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan (2018 LRDP) (Update to the 2018 LRDP) Subsequent Environmental Impact Report (SEIR). This technical report provides a supplementary assessment of potential impacts associated with implementation of the Update to the 2018 LRDP, as compared to those identified in the 2018 LRDP EIR. This report has been prepared to comply with the California Environmental Quality Act (CEQA) Guidelines Section 15162(a) related to subsequent review. The report serves as a supplemental analysis to the 2018 LRDP EIR GHG analysis (AECOM 2018) and reflects updates to the CEQA guidelines that occurred since the 2018 LRDP EIR was certified.

The Update to the 2018 LRDP would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 25 percent on the West Campus and 35 percent on the East Campus as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development are proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at the Scripps Institution of Oceanography (SIO) beyond the approved 2018 LRDP. GHG emissions are directly correlated with population and building square footage. Additionally, the GHG thresholds utilized in the 2018 LRDP are dependent on the operational year. As such, the extended horizon year of 2040 requires additional analysis.

The 2018 LRDP EIR identified potentially significant impacts based on an assessment of whether emissions would exceed efficiency metrics developed for consistency with California's GHG emissions reduction goals set by Assembly Bill (AB) 32, Senate Bill (SB) 32, and Executive Order (EO) S-3-05. The 2018 LRDP EIR analyzed two scenarios: projects that would be built by 2025 (2025 Scenario) and projects that would be built between 2025 and 2035 (2035 Scenario). The analysis concluded that with implementation of the GHG-reducing actions implemented by UC San Diego as part of the 2018 LRDP, emissions for the 2025 Scenario would result in a less than significant impact. For the 2035 Scenario, impacts were concluded to be less than significant with the implementation of mitigation measures GHG-1A, requiring the decarbonization of the central utilities plant, GHG-1B, requiring the installation of electric vehicle chargers, and GHG-1C, requiring UC San Diego to prepare annual inventory updates and purchase carbon credits to achieve a campus-wide emission rate of no more than 2.36 MT CO_2e/capita by 2035.

The analysis contained herein for the Update to the 2018 LRDP analyzes the extended horizon year of 2040. With implementation of mitigation measure GHG-1A identified in the 2018 LRDP EIR, the Update to the 2018 LRDP would not result in emissions in excess of the efficiency metric developed for consistency with the UC Sustainable Practices Policy for the 2040 buildout year, resulting in a less than significant impact with mitigation through 2040.

The 2018 LRDP was found to be consistent with the UC Sustainable Practices Policy in place at the time in the areas of green building, clean energy, climate protection, sustainable transportation, sustainable operations, recycling and waste management, environmentally preferable purchasing, sustainable foodservices, and sustainable water systems. Further, the 2018 LRDP EIR included three GHG Reduction Actions pertaining to the campus central utilities plant, green building design, and carbon neutral grid purchased power. Therefore, it was concluded that the 2018 LRDP would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions and impacts were considered less than significant.

Implementation of the Update to the 2018 LRDP would not conflict with the following aspects of the UC Sustainable Practices Policy requirements set forth by the UC Office of the President: Green Building Design and Sustainable Operations, Sustainable Building and Laboratory Operations for Campuses; Zero Waste; Sustainable Procurement; Sustainable Foodservices; Sustainable Water Systems; and Sustainable Transportation. The Update to the 2018 LRDP would also be consistent with the 2021 Regional Plan.

With regards to the Clean Energy and Climate Action components of the UC Sustainable Practices Policy, impacts would be potentially significant, due in part to the former GHG Reduction Action that required a switch to biogas for the central utilities plant being removed as part of the Update to the 2018 LRDP because it was superseded by the goal in the 2024 Decarbonization Study to replace the natural gas boilers at the central utilities plant with electrode boilers. Therefore, the Update to the 2018 LRDP would require the implementation of mitigation measure GHG-1A, requiring the decarbonization of the central utilities plant, to ensure impacts are reduced to a less than significant level.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

HELIX Environmental Planning, Inc. (HELIX) has completed this greenhouse gas (GHG) emissions technical report in support of the Update to the 2018 University of California (UC) San Diego La Jolla Campus Long Range Development Plan (LRDP) (Update to the 2018 LRDP) Subsequent Environmental Impact Report (SEIR). This technical report examines the degree to which the Update to the 2018 LRDP may result in a substantial increase in the severity of impacts associated with GHG emissions compared to the 2018 LRDP. This study includes a description of existing conditions, a summary of applicable regulations, and an analysis of construction and operational impacts that may result with implementation of the Update to the 2018 LRDP. This report has been prepared to comply with the California Environmental Quality Act (CEQA). The report serves as a supplemental analysis to the 2018 LRDP Environmental Impact Report (EIR) GHG analysis (AECOM 2018) and reflects updates to the CEQA guidelines and other related regulations that occurred since the 2018 LRDP EIR was certified.

This report incorporates all applicable analysis contained in the 2018 LRDP EIR by reference and updates the previous analysis to focus on new or substantially more severe significant impacts in accordance with CEQA's subsequent review standards as legally required in light of the proposed changes to the 2018 LRDP, including the revised land use development plan, and/or due to new information of substantial importance that has become available since certification of the previous EIR.

1.2 PROJECT DESCRIPTION

1.2.1 Background

The UC requires that each campus in the UC system maintain a LRDP. The LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected enrollment increases and new program initiatives. The current LRDP for the UC San Diego La Jolla campus (2018 LRDP) and its EIR (State Clearinghouse No. 2016111019) were adopted on November 15, 2018 by the UC Regents. The 2018 LRDP EIR analyzed and disclosed impacts from implementation of the 2018 LRDP.

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total student enrollment of 42,400 during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 8,900 new residential beds.

1.2.2 Project Location

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego (see Figure 1, *Regional Location*, and Figure 2, *Campus Boundary*). UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus). The East and West Campuses are bisected by Interstate 5 but are internally connected via two vehicular bridges. The La Jolla del Sol housing complex is located southeast of these larger geographical areas and is not contiguous to the campus. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel, and the Torrey Pines Gliderport, Torrey Pines Center and Torrey Pines Court.

1.2.3 Project Description

The Update to the 2018 LRDP would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development are proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP.

1.2.4 Greenhouse Gas Reduction Actions

The following UC policies and campus-wide actions would be implemented by UC San Diego as part of the Update to the 2018 LRDP. UC San Diego GHG Reduction Actions A and B would be implemented by the campus at a programmatic level and, as such, are included in the analysis as components of the Update to the 2018 LRDP.

> Action A: Green Building Design. Consistent with the UC Sustainable Practices Policy, all 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).
>
> Action B: Carbon Neutral Grid Purchased Power. Consistent with the UC Sustainable Practices Policy, by 2025, all purchased electricity would be 100 percent carbon neutral electricity.

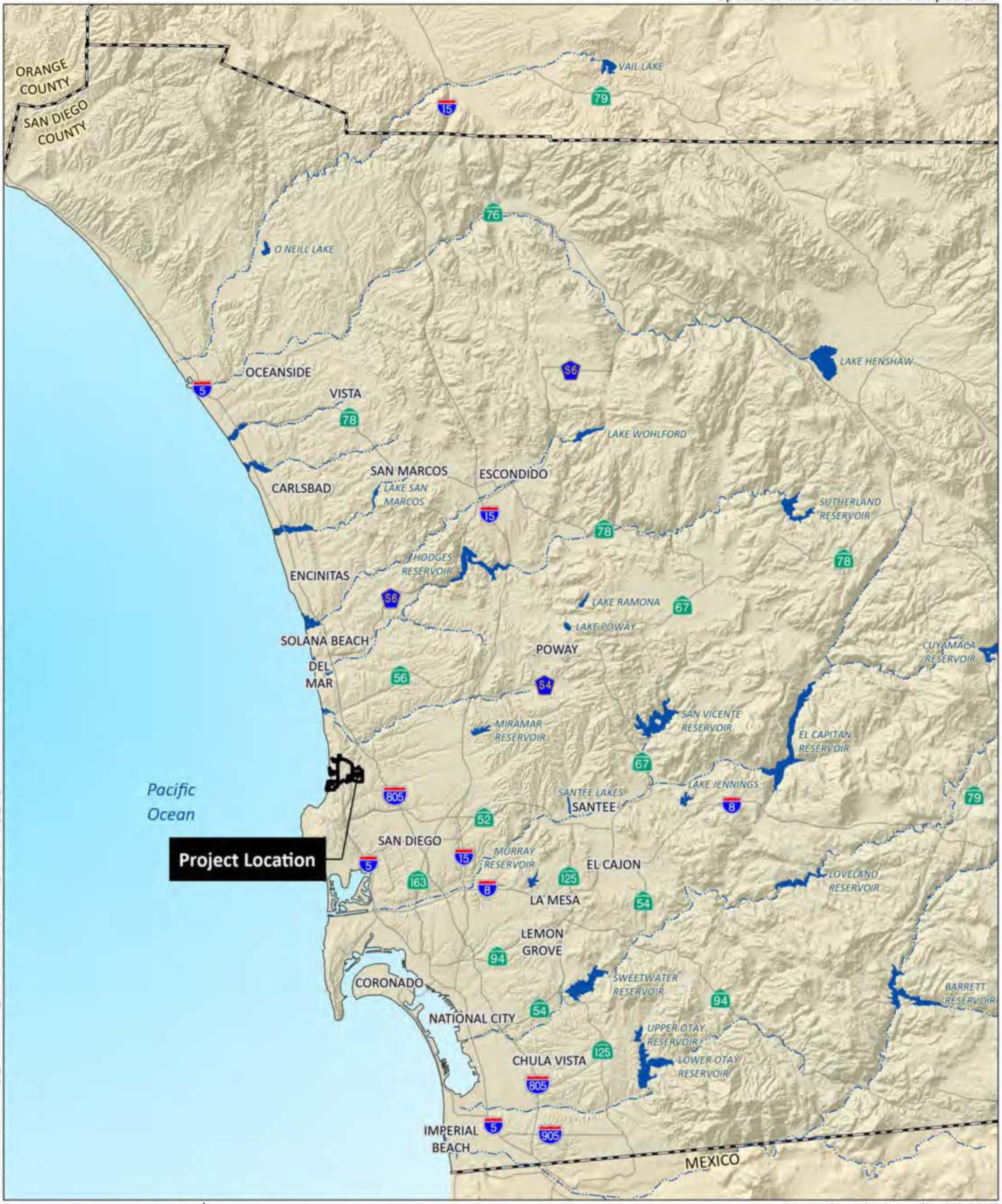
2.0 2018 LONG RANGE DEVELOPMENT PLAN EIR

2.1 SUBSEQUENT REVIEW

As outlined in CEQA Guidelines Section 15162(a), when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) *Substantial changes are proposed in the project which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*

(2) *Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*



Source: Base Map Layers (SanGIS, 2016)

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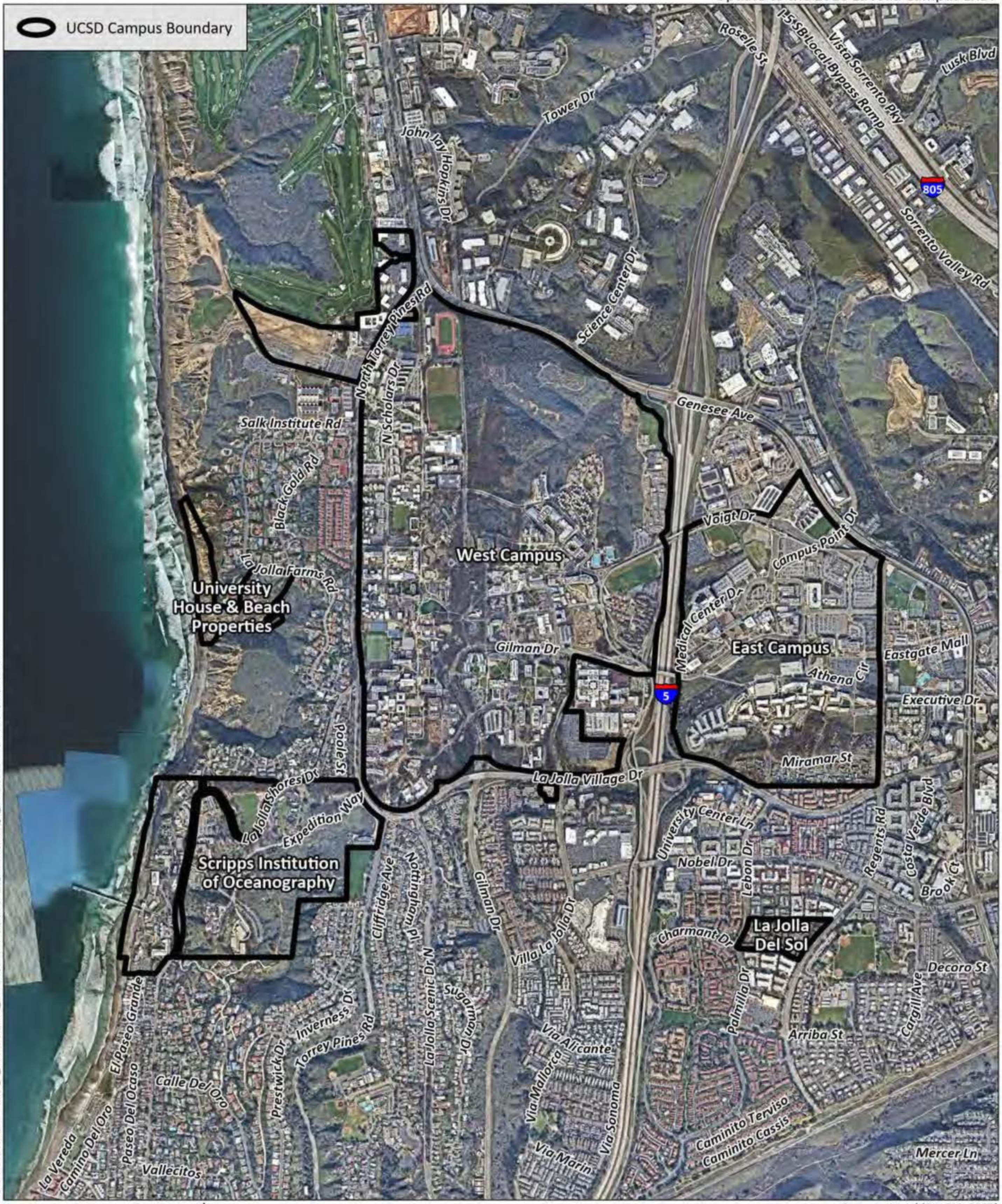
HELIX Environmental Planning

Regional Location

Figure 1



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0 2,000 Feet

Source: Aerial (SanGIS, 2023)

HELIX
Environmental Planning

Campus Boundary

Figure 2

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was adopted, shows any of the following:

A. The project will have one or more significant effects not discussed in the EIR;

B. Significant effects previously examined will be substantially more severe than shown in the EIR;

C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

D. Mitigation measures or alternatives which are considerably different from those in the EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

3.0 EXISTING CONDITIONS

Section 2 of the 2018 LRDP EIR's GHG analysis (AECOM 2018) provides a description of the science behind global climate change, GHG's of concern, and GHG emission sources, which are applicable to this report. As discussed therein, because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to carbon dioxide (CO_2). Historically, GHG emission inventories have been calculated using the GWPs from the Intergovernmental Panel on Climate Change's (IPCC's) Second Assessment Report. In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5) (IPCC 2013). However, United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values. Therefore, statewide and national GHG emission inventories have not yet updated their GWP values to the AR5 values. For consistency with the UNFCCC guidelines and existing state and national inventories, the analysis contained herein relies upon the AR4 GWP values. By applying the GWP ratios, project-related carbon dioxide equivalent (CO_2e) emissions can be tabulated in metric tons (MT) per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 1, *Global Warming Potentials and Atmospheric Lifetimes.*

Table 1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

3.1 GREENHOUSE GAS INVENTORIES

In an effort to evaluate and reduce the potential adverse impact of global climate change, international, state, and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. Section 2.2 of the 2018 LRDP EIR's GHG analysis (AECOM 2018) provides summaries of inventories available at the time. The updated results of the inventories for World, National, State, County and City are provided below for informational purposes. The analysis is based on UC San Diego GHG inventories.

3.1.1 Worldwide and National Greenhouse Gas Inventories

In 2022, total anthropogenic GHG emissions worldwide were estimated at 49,400 million metric tons (MMT) of CO_2e emissions (Climate Watch 2024). The five largest emitting countries and the European Union, together account for about 63 percent of total global GHG emissions: China (29 percent), the United States (13 percent), the European Union (about 7 percent), India (7 percent), the Russian Federation (4.1 percent) and Japan (2.4 percent). These countries also have the highest CO_2 emission levels (Climate Watch 2024).

Per U.S. Environmental Protection Agency (USEPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022, total United States GHG emissions were approximately 6,341 MMT CO_2e in 2022 (USEPA 2024). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 79.8 percent of total GHG emissions (5,057 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.7 percent of CO_2 emissions in 2022 (4,690 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2022 were lower by 3.1 percent, down from a high of 15.2 percent above 1990 levels in 2007. Gross emissions increased from 2021 to 2022 by 0.3 percent (16.4 MMT CO_2e). Net emissions (i.e., including sinks) were 5,487 MMT CO_2e in 2022. Overall, net emissions increased by 1.3 percent from 2021 to 2022 and decreased by 16.6 percent from 2005 levels. Between 2021 and 2022, the increase in total GHG emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion across most end-use sectors due in part to increased energy use from the continued rebound of economic activity after the height of the COVID-19 pandemic (USEPA 2024).

3.1.2 State Greenhouse Gas Inventory

California Air Resources Board (CARB) performed statewide inventories for the years 1990 to 2020, as shown in Table 2, *California Greenhouse Gas Emissions by Sector*. The inventory is divided into six broad sectors of economic activity: agriculture, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in MMT CO_2e. As shown in Table 2, statewide GHG source emissions totaled 431 MMT CO_2e in 1990, 462 MMT CO_2e in 2000, 442 MMT CO_2e in 2010, and 369 MMT CO_2e in 2020. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007 and CARB 2022a).

Table 2
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR (MMT CO_2E)

Sector	1990	2000	2010	2020
Agriculture and Forestry	18.9 (4%)	30.8 (7%)	33.6 (8%)	31.6 (9%)
Commercial	14.4 (3%)	14.6 (3%)	20.1 (5%)	22.0 (6%)
Electricity Generation	110.5 (26%)	105.2 (23%)	90.6 (20%)	59.8 (16%)
Industrial	105.3 (24%)	101.2 (22%)	97.9 (22%)	85.3 (23%)
Residential	29.7 (7%)	31.5 (7%)	32.1 (7%)	30.7 (8%)
Transportation	150.6 (35%)	178.5 (39%)	168.0 (38%)	139.9 (38%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
Total	**430.7**	**461.8**	**442.3**	**369.3**

Source: CARB 2007 and CARB 2022a
MMT = million metric tons; CO_2e = carbon dioxide equivalent

3.1.3 County of San Diego Greenhouse Gas Inventory

In conjunction with the County of San Diego's 2024 Climate Action Plan (CAP), a regional emissions inventory for unincorporated San Diego was prepared by the University of San Diego (USD) School of Law, Energy Policy Initiatives Center (EPIC). This represents updated information relative to what was disclosed in the 2018 LRDP EIR's GHG analysis and is provided here for informational purposes only. This 2019 emissions inventory update for Unincorporated San Diego County is presented in Table 3, *San Diego County Greenhouse Gas Emissions by Sector in 2019*. The sectors included in this inventory are different from those in the statewide inventory. Similar to the statewide emissions, transportation related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 3
SAN DIEGO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR IN 2019

Sector	2019 Emissions MT CO_2e (% total)[1]
On-Road Transportation	1,331,000 (45%)
Electricity	599,000 (20%)
Natural Gas	478,000 (16%)
Solid Waste	193,000 (6%)
Agriculture	134,000 (4%)
Propane	121,000 (4%)
Off-Road Transportation	71,000 (2%)
Water	39,000 (1%)
Wastewater	18,000 (1%)
Total	**2,984,000**

Source: USD EPIC 2023. Unincorporated County of San Diego 2019 Greenhouse Gas Inventory and Projections. Prepared by the University of San Diego School of Law, Energy Policy Initiatives Center (EPIC).
[1] Percentages may not total 100 due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

3.1.4 City of San Diego Greenhouse Gas Inventory

As part of their 2022 CAP update, the City of San Diego (City) compiled an updated GHG inventory. The CAP baseline inventory is presented in Table 4, *City of San Diego Greenhouse Gas Emissions by Sector*. As shown in Table 4, the on-road transportation sector contributed the most to GHG emissions in the City in 2019. This represents updated information relative to what was disclosed in the 2018 LRDP EIR's GHG analysis and is provided here for informational purposes only.

Table 4
CITY OF SAN DIEGO GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	2019 Emissions (MMT CO_2e)
On-road Transportation	5.81 (55%)
Electricity	2.38 (23%)
Natural Gas	1.91 (18%)
Solid Waste	0.28 (3%)
Off-Road Transportation (Construction Equipment Only)	0.07 (1%)
Water	0.07 (1%)
Wastewater	0.03 (<1%)
Total	**10.53**

Source: City 2022
MT = metric tons; CO_2e = carbon dioxide equivalent

3.1.5 University of California San Diego Greenhouse Gas Inventory

UC San Diego reports the annual GHG emissions inventory to an independent reporting organization, The Climate Registry (TCR). Table 5, *UC San Diego La Jolla Campus Greenhouse Gas Emissions*, provides campus GHG emissions for 2019 and 2022. The 2022 emissions are the most recent available for comparison with the conditions disclosed in the 2018 LRDP EIR GHG analysis (AECOM 2018) while the 2019 emissions serve as a baseline for GHG emissions reductions goals and the threshold considered in this analysis.

The UC San Diego TCR inventory reported a total of 246,271 MT CO_2e for the UC San Diego main campus for the 2022 reporting year, representing a less than one percent increase from the 2015 emissions (244,564 MT CO_2e) inventory in the 2018 LRDP EIR GHG analysis (AECOM 2018). As shown in Table 5, the TCR report included 176,137 MT CO_2e from Scope 1 emissions, 17,820 MT CO_2e from Scope 2 emissions, and 52,314 MT CO_2e from Scope 3 emissions (UC San Diego 2024a). The TCR inventory reported a total of 266,174 MT CO_2e for the campus for 2019, including 176,307 MT CO_2e from Scope 1 emissions, 9,292 MT CO_2e from Scope 2 emissions, and 80,575 MT CO_2e from Scope 3 emissions (UC San Diego 2020).

Scope 1 emissions include direct emissions from stationary combustion such as the campus cogeneration plant, boilers, and refrigerant use, as well as non-stationary combustion of fuels from the UC San Diego fleet vehicles. Scope 2 emissions are indirect stationary sources, such as emissions from purchased electricity and purchased steam for leased facilities. Scope 3 emissions result from activities associated with the campus but generated by sources not owned or controlled by UC San Diego. Examples of Scope 3 emissions include commuting by students, faculty, and staff and University-paid business air travel.

Table 5
UC SAN DIEGO LA JOLLA CAMPUS GREENHOUSE GAS EMISSIONS

Scope	Sector	2019 Emissions[1] (MT CO_2e)	2022 Emissions[1] (MT CO_2e)
Scope 1	Stationary Combustion	168,951 (63%)	170,495 (69%)
	Mobile Combustion	4,657 (2%)	4,538 (2%)
	Fugitive/Other Emissions	2,699 (1%)	1,103 (<1%)
Scope 2	Purchased Electricity and Biomass Combustion	9,292 (3%)	17,820 (7%)
Scope 3	Air Travel and Commuting	80,575 (30%)	52,314 (21%)
	Total	**266,174**	**246,271**

Source: UC San Diego 2024a; UC San Diego 2020
[1] Totals and percentages may not total 100 due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

4.0 REGULATORY SETTING

Section 3 of the 2018 LRDP EIR's GHG Analysis (AECOM 2018) provides the regulatory framework addressing GHGs and climate change. The regulatory framework identified in that document remains applicable to the Update to the 2018 LRDP. In addition, the following updates are also applicable:

4.1 FEDERAL STANDARDS

4.1.1 Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

In December 2021, USEPA issued a new rule formally adopting standards previously proposed in August 2021 for model years 2023 and 2024 and finalizing more stringent standards than previously proposed for model years 2025 and 2026. The rule assumes a 17 percent electric vehicle market penetration by 2026. Although this is a departure from the National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards, USEPA did coordinate with NHTSA during development of the new standards. On March 20, 2024, USEPA announced new, more ambitious final standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027. The final standards build upon USEPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to result in benefits to Americans ranging from reducing climate pollution, to improving public health, to saving drivers money through reduced fuel and maintenance costs. The standards will phase in over model years 2027 through 2032.

4.2 STATE STANDARDS

4.2.1 Assembly Bill 1279

Approved by Governor Newsom on September 16, 2022, Assembly Bill (AB) 1279, *The California Climate Crisis Act*, declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and almost complete transition away from fossil fuels.

4.2.2 Senate Bill 905

Approved by Governor Newsom on September 16, 2022, Senate Bill (SB) 905, *Carbon sequestration: Carbon Capture, Removal, Utilization, and Storage Program*, requires CARB to establish a Carbon Capture, Removal, Utilization, and Storage Program to evaluate the efficacy, safety, and viability of carbon capture, utilization, or storage technologies and CO_2 removal technologies and facilitate the capture and sequestration of CO_2 from those technologies, where appropriate. SB 905 is an integral part of achieving the state policies mandated in AB 1279.

4.2.3 California Air Resources Board Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in short-lived climate pollutants; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022b).

4.2.4 Senate Bill 100

SB 100 (2018) increased the standards set forth in SB 350 establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the goal not be realized through resource shuffling.

4.2.5 Senate Bill 1020

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers, come from eligible renewable energy resources and zero-carbon resources:

- 90 percent by December 31, 2035;
- 95 percent by December 31, 2040; and
- 100 percent by December 31, 2045.

4.3 REGIONAL AND LOCAL STANDARDS

The University of California is exempt from local regulation under California Constitution Article 9, Section 9; however, information related to changes in regional and local plans is included below for informational purposes.

4.3.1 SANDAG

SANDAG’s 2021 Regional Plan is the long-range planning document developed to address the San Diego region’s housing, economic, transportation, environmental, and overall quality-of-life needs (SANDAG 2021). The Regional Plan is a 30-year plan that considers how the San Diego region will grow, where residents will live, and how residents and visitors will move around the region. It combines the Regional Transportation Plan (RTP), Sustainable Communities Strategy (SCS), and Regional Comprehensive Plan. Per SB 375, described further in Section 3.6.2.2 of the 2018 LRDP EIR, the SCS must provide a land use strategy for the region that achieves GHG emissions reduction targets set by the CARB. The following are the “5 Big Moves” identified in the 2021 Regional Plan, including use of complete corridors; a transit leap to provide a network of high-capacity, high-speed, and high-frequency transit service; mobility hubs where high concentrations of people, destinations, and travel choices converge; flexible fleets to provide a variety of on-demand shared vehicles including micro transit, bikeshare, scooters, and other modes of transportation that connect to transit; and “Next Operating System”, a digital platform that ties the transportation system together in real time.

- **Complete Corridors**: Roadways that offer dedicated, safe space for everyone, including people who walk, bike, drive, ride transit, and use Flexible Fleets, as well as those who drive freight vehicles. Complete Corridors use technology to dynamically manage the flow of traffic.

- **Transit Leap**: A complete network of fast, convenient, and reliable transit services that connect people from where they live to where they want to go.

- **Mobility Hubs**: Vibrant centers of activity where transit and on-demand travel options, supported by safe streets, connect people with their destinations and businesses with their customers. Mobility Hubs are also planned to accommodate future growth and development.

- **Flexible Fleets**: Transportation services of many forms, varying in size from bikes to scooters to shuttles, which offer first- and last-mile connections to transit and alternatives to driving alone.

- **Next OS**: The underlying technology that allows people to connect to transportation services and a digital platform that allows for dynamic management of roadways and transit services.

West Campus and East Campus areas of the UC San Diego La Jolla campus are identified in the 2021 Regional Plan as being located within a Mobility Hub and therefore are areas recommended for future growth and development under SANDAG's Regional Plan.

4.3.2 County of San Diego

In February 2018, the San Diego County's (County's) Board of Supervisors adopted a CAP to serve as a long-term programmatic plan that identifies strategies and measures to meet the County's targets to reduce GHG emissions by 2020 and 2030, consistent with the State's legislative GHG reduction targets.

In March 2018, several petitioners filed a lawsuit against the County. In December 2018, the San Diego County Superior Court issued a writ ordering the approval of the CAP and the CAP Supplemental Environmental Impact Report to be set aside. In January 2019, the County appealed the San Diego County Superior Court's ruling, but the Fourth District Court of Appeal, Division One (Case No. D064243) upheld the trial Superior Court's ruling. In September 2020, the County Board of Supervisors voted to rescind the CAP and Supplemental Environmental Impact Report. The County was directed to prepare a new CAP (CAP Update). The new Draft CAP and Draft Supplemental Environmental Impact Report were available for public review from October 26, 2023, to January 5, 2024. Draft Final CAP Update project documents were considered by the County Planning Commission on June 14, 2024 and adopted by the Board of Supervisors on September 11, 2024 (County of San Diego 2024).

4.3.3 City of San Diego

On August 2, 2022, the San Diego City Council adopted the 2022 CAP update to establish a community-wide goal and roadmap to net-zero emissions by 2035. The 2022 CAP includes the following six strategies: decarbonization of the built environment, access to clean and renewable energy, mobility and land use, circular economy and clean communities, resilient infrastructure and healthy ecosystems, and emerging climate actions (City of San Diego 2022). The City of San Diego is in the process of preparing an implementation plan to achieve the goals of the 2022 CAP.

As proposed in the 2022 CAP, in October 2022, the City Council approved an amendment to the Land Development Code (SDMC Chapter 14, Article 3, Division 14), which established the CAP Consistency

Regulations. The CAP Consistency Regulations replaced the CAP Consistency Checklist previously established by the 2015 CAP as the measures that could be implemented on a project-by-project basis pursuant to CEQA Guidelines Section 15183.5(b)(1)(D). Implementation of these measures would ensure that new development projects are consistent with relevant CAP strategies that work toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through compliance with the CAP Consistency Regulations may rely on the CAP for the cumulative impact analysis of GHG emissions.

4.3.4 UC Sustainable Practices Policy

In 2003, the UC adopted a comprehensive policy of detailed guidelines for Green Building Design and Clean Energy Standards (UC Sustainable Practices Policy). This policy has been revised several times, the most recent version becoming effective in April 2024, which commits UC to implementing actions intended to minimize the UC’s impact on the environment and reduce the UC’s dependence on non-renewable energy (UC 2024). The policy covers the areas of green building design, clean energy, climate action, sustainable transportation, sustainable operations, recycling and waste management, sustainable procurement, sustainable food services, and sustainable water systems. The UC Sustainable Practices Policy establishes guidelines and includes climate change goals for all campuses. It also requires each campus to complete an update of its climate action plan with the goal of reducing GHG emissions to 90 percent below 2019 levels by 2045 (UC 2024). The specific directives of the UC Sustainable Practices Policy are described in more detail in the evaluation of policy consistency in Section 6.2.

4.3.5 UC San Diego Climate Action Plan

In 2008, UC San Diego approved the first campus CAP for implementing the its climate strategy to meet state and UC climate policies and objectives, including reducing GHG emissions to 1990 levels by 2020, achieving climate neutrality for Scope 1 and 2 emissions by 2025, and continuing to certify new and existing buildings under the Leadership in Energy and Environmental Design (LEED) rating system. The CAP also identified how the campus would include climate neutrality and sustainability in curriculum and research, identifies goals for reducing emissions and impacts from purchasing, campus operations, transportation, and water usage, and identifies mechanisms for tracking progress and financing mechanisms.

The 2019 update to the 2008 CAP, provides a climate change mitigation strategy for meeting the UC Office of the President’s Carbon Neutrality Initiative (2013) committing each campus to achieve carbon neutrality in scopes 1 and 2 emissions by 2025, and full carbon neutrality in scopes 1, 2, and 3 by 2050. The development of the updated CAP was based on work initiated by UC San Diego’s Student Sustainability Collective, with support from campus staff.

The May 2023 revision to the UC Sustainable Practices Policy committed each campus to prepare an updated CAP to establish and achieve a 90 percent reduction in total GHG emissions by no later than calendar year 2045 relative to a 2019 baseline year. UC San Diego is currently in the process of updating the CAP to provide a climate change mitigation strategy directed at achieving this target. The updated CAP is expected to be completed in 2025. The updated CAP will also integrate climate adaptation and resilience considerations.

4.3.6 UC San Diego Decarbonization Study

At the direction of the UC Sustainable Practices Policy, UC San Diego completed a "Decarbonization Study" in 2024 to identify decarbonization, sustainability, electrification, and energy savings actions that will allow the campus to achieve a 90 percent reduction in its emissions from the combustion of fossil fuels on campus by 2045. The proposed actions range from comprehensive plans for entire campus systems to individual building energy improvements. The Decarbonization Study creates a high-level plan that acts as a road map to implement campus decarbonization, electrification and sustainability efforts. It evaluates potential energy alternatives to the existing natural gas cogeneration plant, the other major campus natural gas loads, and to the current fossil fuel transportation fleet, as well as an evaluation of required upgrades to the campus electrical infrastructure. The plan identifies specific actions that UC San Diego can take to reduce Scope 1 carbon emissions by UC Sustainable Practices Policy target years of 2030, 2035, 2040, and 2045, using current or emerging technologies and leveraging strategies and projects that have already been identified and are underway. The key strategies to phase out fossil fuel use by 2045 include:

- Replace the natural gas boilers at the campus' cogeneration Central Utilities Plan with electrode boilers.
- Replace gas-fired heating systems with electric air and water source heat pumps.
- Reduce peak heating requirements to avoid costly electrical upgrades through energy efficiency measures, thermal energy storage, and backup gas heating and steam systems.
- Maximize solar photovoltaic systems, solar thermal systems, and battery storage.
- Continue to monitor emerging, carbon-free technologies over time.

5.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

5.1 METHODOLOGY AND ASSUMPTIONS

Development resulting from the Update to the 2018 LRDP would result in GHG emissions during both construction and operations. Emissions were calculated using development projections provided by UC San Diego and appropriate models and emission factors for the given sources as discussed below. All modeling files are included in Appendix A.

5.1.1 Construction

Sources of construction-related GHG emissions include construction equipment exhaust; construction-related trips by workers, delivery trucks, and material-hauling trucks; and construction-related power consumption. The quantity of GHG emissions generated by the construction of projects in any given year under the Update to the 2018 LRDP would vary depending upon the number of projects occurring and the size of each individual project. Since the Update to the 2018 LRDP is a land use plan that guides physical development of the campus through 2040, specific construction details, such as the exact number and timing of all development projects are uncertain. The intensity of construction activity associated with the Update to the 2018 LRDP could be the same during each year. It is more likely, however, that some periods of construction (and associated emissions) would be more intense than other periods based on campus growth priorities and associated development demands.

To evaluate the potential construction-related GHG emissions from projects that could occur under the Update to the 2018 LRDP, average annual construction emissions were estimated by dividing total anticipated construction-related GHG emissions over the length of the plan. Based upon current UC San Diego projections of construction activity, the Update to the 2018 LRDP includes construction over two scenarios: projects that could potentially be built by 2030 (2030 Scenario) and projects that could potentially be built between 2030 and 2040 (2040 Scenario).

Construction period GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air quality management and pollution control districts (CAPCOA 2022). CalEEMod includes default estimates on the required construction equipment, phases, and activities when project-specific information is unavailable. The default estimates are based on surveys of typical construction projects, which provide a basis for scaling equipment needs and schedule with a project size. Emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters.

5.1.2 Operations

After construction, day-to-day activities associated with the operation of the project would generate emissions from a variety of sources. The analysis estimated operational GHG emissions from sources including transportation, stationary, energy (electricity and natural gas), solid waste, water and wastewater, and area-source emissions associated with implementation of the Update to the 2018 LRDP. Operational GHG emissions were estimated for the buildout of the Update to the 2018 LRDP assumed to occur in 2040. Detailed assumptions by source type are provided below.

5.1.2.1 Area Sources

Area-source emissions would be associated with the use of landscaping and maintenance equipment and fireplaces/fire pits. Landscaping emissions are based on land use and building square footage along with emission rates provided in CARB’s Small Off-Road Engines Model v1.1 (CAPCOA 2022). The modeling analysis for the area sources used model default emissions factors, as well as specific campus project features associated with new developments. For example, since the land uses involve on-campus apartments and residence halls, the Update to the 2018 LRDP is not anticipated to include any natural gas or wood fireplaces.

5.1.2.2 Mobile Sources

Trip generation associated with the Update to the 2018 LRDP EIR was estimated using an updated approach compared to the 2018 LRDP EIR. The methodology for the Update to the 2018 LRDP EIR now relies on the estimated campus population projections, combined with detailed, self-reported, Winter 2023 mode split data. Previous methodology was based on more generalized trip generation standards, including those from the City of San Diego, which may not have as accurately accounted for the more nuanced transportation patterns of a university campus. For additional details, please refer to the Trip

Generation Calculation Memorandum prepared by LLG (LLG 2025; also attached as Appendix B to this report).

Using this updated methodology, the average daily vehicle trips (ADT) for buildout of the Update to the 2018 LRDP were estimated to be approximately 73,915 trips in 2040 (LLG 2025). The weekday VMT for buildout of the Update to the 2018 LRDP were estimated to be approximately 657,476 miles in 2040 (LLG 2025; provided as Appendix B). Mobile source emissions for trips and miles traveled were estimated using CalEEMod.

GHG emission estimates were also calculated for business travel (i.e., Scope 3 emissions) based on estimates provided in TCR entity report for emissions year 2022 (UC San Diego 2024a). The estimates of business travel were increased proportionally to the increase in total campus population estimated for 2040.

5.1.2.3 Energy Sources

UC San Diego's energy use includes electricity generated on campus at the campus cogeneration plant, electricity purchased from San Diego Gas and Electric (SDG&E), and natural gas purchased from SDG&E. An important element of the campus's energy use and energy-related infrastructure is its centralized cooling and heating systems and cogeneration operations for on-site electric power production.

Electricity and natural gas consumption for the campus were based on the estimates provided in the *Decarbonization Study Prepared for University of California, San Diego* (Salas O'Brien 2024). Consistent with the Green Building Design requirements of the UC Sustainable Practices Policy, new facilities would be electric only. As a Direct Access customer, UC San Diego obtains its purchased electricity via the UC Energy Services Unit which is 100 percent carbon neutral.

5.1.2.4 Water and Wastewater Sources

GHG emissions are generated from the use of energy to supply, distribute, and treat water and wastewater. Water-related energy intensities (i.e., kilowatt-hour per gallon of water) in CalEEMod are based on the California Energy Commission's Refining Estimates of Water-Related Energy Use in California.

Water consumption and wastewater generation estimates for buildout of the Update to the 2018 LRDP were obtained from UC San Diego's Update to the 2018 LRDP Domestic Water Study prepared by Latitude 33 Planning & Engineering ([Latitude 33] 2024). Latitude 33 reported UC San Diego's campus flow rates are projected to be an average of 4.46 million gallons per day in 2040.

5.1.2.5 Solid Waste Sources

GHG emissions associated with solid waste disposal for the Update to the 2018 LRDP were calculated assuming the same waste generation rate per capita as provided in the 2018 LRDP EIR GHG analysis (AECOM 2018). Solid waste was estimated based on projected UC San Diego population. The analysis conservatively assumed a waste diversion rate consistent with the 2022 to 2023 academic year of 73 percent for all future years, though the diversion rate is expected to continue to increase over time as campus solid waste reduction programs progress (UC San Diego 2024b).

5.1.2.6 Stationary Sources

Stationary sources include equipment that burns fossil fuel, typically either natural gas or diesel fuel, to generate either heat or electricity. Stationary sources on campus that burn natural gas include the Biomedical Science Building crematory, the Moores Cancer Center thermal Fluid heaters, central utilities cogeneration turbines and boilers, and other boilers located throughout campus. Emissions associated with stationary sources burning natural gas are estimated following the methods described in Section 5.1.2.3, Energy Sources, using campuswide natural gas consumption rates included in the Decarbonization Study (Salas O'Brien 2024). Stationary sources that burn diesel fuel include emergency generators.

Activity data, such as fuel consumption rates and operating time, were used to estimate emissions from diesel emergency generators. GHG emission factors were obtained from CARB's Mobile Source Emissions Inventory for off-road equipment. Operational emissions for emergency generators would result from intermittent use for maintenance and testing purposes. Future diesel emergency generators were based on a comparison of recently approved campus projects (Ridge Walk North Living and Learning Neighborhood and Theater District Living and Learning Neighborhood) versus proposed square footage.

Additionally, stationary source emissions would include leaks, servicing, and disposal of equipment that use hydrocarbons, such as refrigerants, aerosol propellants, foam blowing agents, solvents, and fire retardants. Emissions from refrigerant use were estimated using CalEEMod default values by land use type and quantity.

5.2 SIGNIFICANCE CRITERIA

Given the relatively small levels of emissions generated by a typical project in relationship to the total amount of GHG emissions generated on a national or global basis, individual projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from individual projects could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts.

According to Appendix G of the State CEQA Guidelines, implementation of the Update to the 2018 LRDP and its incremental contribution to global climate change would be considered significant if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific quantitative thresholds, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the way other impact areas are handled in CEQA (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's greenhouse gas emissions or rely on a "qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). The CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

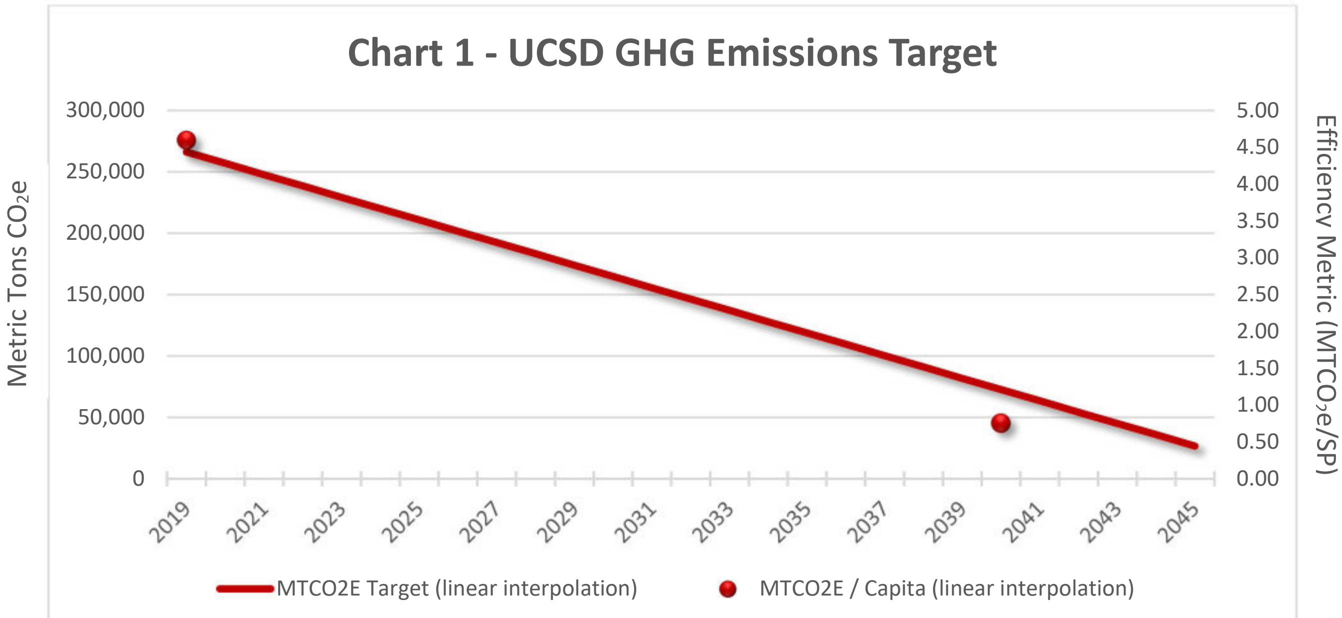
In addition, the CEQA Guidelines specify that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

Neither the State of California, the San Diego Air Pollution Control District, nor UC San Diego has adopted quantitative emission-based thresholds of significance for GHG emissions under CEQA. In the absence of any adopted numeric threshold, this document strives to establish a significance threshold consistent with CEQA Guidelines Section 15064.4.

The significance of GHG emissions for the 2018 LRDP was based on efficiency metrics developed for consistency with California's GHG emissions reduction goals set by AB 32, SB 32, and Executive Order (EO) S-3-05. Since the adoption of the 2018 LRDP, California has adopted the 2022 Scoping Plan, which lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The UC Sustainable Practices Policy sets an even more aggressive goal, directing UC campuses to reduce GHG emissions to 90 percent below 2019 levels by 2045 (UC 2024). Therefore, the significance of emissions generated by the Update to the 2018 LRDP is evaluated against a UC San Diego-specific efficiency metric developed based on UC San Diego's GHG inventory and targets consistent with the UC Sustainable Practices Policy. By achieving the more aggressive targets set by the UC Sustainable Practices Policy, the Update to the 2018 LRDP would also achieve the State's targets.

To develop efficiency metric targets, one simply divides the mass emissions target by the total residential population and employment, yielding an emissions "budget" per population + employment that is consistent with intended goals. Since the Update to the 2018 LRDP includes both a residential component (e.g., beds) and an employment component (e.g., educational, research, healthcare, and office), "service population" is the selected metric used to convert mass emissions to a rate of emissions. An efficiency metric is the quantity of emissions that can be permitted on a per capita basis without significantly impacting the environment. This approach focuses on the overall GHG efficiency of a project relative to regulatory GHG reduction goals.

The UC Sustainable Practices Policy guides sustainability efforts across the 10 campuses, five academic health centers and other university facilities in thirteen areas of sustainable practice. The Policy describes UC's commitments to reduce operational GHG emissions supporting California's aggressive climate goals to address the climate crisis while mitigating impacts on vulnerable populations. The UC Sustainable Practices Policy calls for each campus to achieve a 90 percent reduction in total emissions by no later than calendar year 2045 relative to 2019 emissions (Section III.C.1. of the UC Sustainable Practices Policy). The 2019 UCSD GHG inventory shows emissions totaling 266,174 MT CO_2e (UC San Diego 2020); thus, the 2045 target would be 26,617 MT CO_2e. The GHG target for the Update to the LRDP buildout year, 2040, is calculated using linear interpolation. The trend line and calculated efficiency metric are illustrated in Chart 1, *UCSD GHG Emissions Target*.



Note: Trendline is based on 90% reduction from 2019. 2045 population is unknown; therefore, no per capita target can be estimated for 2045.

Table 6, *UCSD Efficiency Metric*, presents the emissions targets and calculated efficiency metric being applied in this analysis.

Table 6
UC SAN DIEGO EFFICIENCY METRIC

	2019	2040
Target (MT CO_2e)	266,174	72,686
Population (students, faculty, and staff)	57,900	96,300
Efficiency Metric (MT CO_2e/capita)	4.60	0.75

MT = metric ton; CO2e = carbon dioxide equivalent

6.0 GREENHOUSE GAS IMPACTS

The following analysis discusses potential changes to impacts discussed in the 2018 LRDP EIR with respect to global climate change, specifically in reference to CEQA standards for subsequent review.

Will the current proposed project result in substantial changes in the project or with respect to project circumstances, or new information of substantial importance, which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects?

The 2018 LRDP EIR identified potentially significant impacts under threshold Issue 1 related to GHG emissions and less than significant impacts under threshold Issue 2 related to consistency with plans adopted for the purpose of reducing GHG emissions. There are changes with respect to circumstances under which the Update to the 2018 LRDP would be undertaken and potentially new information of substantial importance that has become available relative to these issues. Therefore, these issue areas are further discussed below.

6.1 ISSUE 1: GREENHOUSE GAS EMISSIONS

6.1.1 Summary of Analysis in the 2018 LRDP EIR

Under Issue 1, the 2018 LRDP EIR identified potentially significant impacts based on an assessment of whether emissions would exceed efficiency metrics developed for consistency with California's GHG emissions reduction goals set by AB 32, SB 32, and EO S-3-05. The 2018 LRDP EIR analyzed two scenarios: projects that would be built by 2025 (2025 Scenario) and projects that would be built between 2025 and 2035 (2035 Scenario). The analysis concluded that with implementation of GHG-reducing actions implemented by UC San Diego as part of the 2018 LRDP emissions for the 2025 Scenario would total 4.00 MT CO_2e/capita, which is less than the 2025 threshold of 4.07 MT CO_2e/capita, resulting in a less than significant impact.

Emissions for the 2035 Scenario with implementation of the GHG reducing actions would total 3.57 MT CO_2e/capita, exceeding the 2035 threshold of 2.36 MT CO_2e/capita, resulting in a potentially significant impact requiring the implementation of mitigation measures. The 2018 LRDP EIR prescribed three mitigation measures to reduce emissions associated with the 2035 Scenario: GHG-1A required the decarbonization of the central utilities plant after 2032; GHG-1B required the installation of electric vehicle chargers; and GHG-1C required UC San Diego to prepare annual inventory updates and purchase carbon credits to achieve a campus-wide emission rate of no more than 2.36 MT CO_2e/capita. Impacts were concluded to be less than significant with the implementation of the prescribed mitigation measures.

6.1.2 Analysis of Update to the 2018 LRDP

6.1.2.1 Construction Emissions

Construction associated with implementing projects under the Update to the 2018 LRDP could occur in different portions of the campus at a given time. Construction emissions were estimated separately for the West Campus, East Campus, and SIO. However, since construction activities could occur at all three areas at the same time, emissions from each area were combined. As shown in Table 7, *Construction-*

Related Greenhouse Gas Emissions, construction activities would generate a total of 79,172 MT CO_2e. This can be compared to and is slightly greater than the total construction emissions estimated for the 2018 LRDP of 70,089 MT CO_2e. For construction emissions, the standard practice for environmental impact analysis purposes is that the emissions be amortized (i.e., averaged) over 30 years and added to operational emissions. Averaged over 30 years, the construction activities would contribute approximately 2,639 MT CO_2e emissions per year. Additional modeling assumptions and details are provided in Appendix A.

Table 7
CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS

Campus	Emissions (MT CO_2e)
2030 Scenario (2025-2029)	
West Campus	13,432
East Campus	15,535
SIO	5,027
Total	**33,994**
2040 Scenario (2030-2040)	
West Campus	21,792
East Campus	14,346
SIO	9,041
Total	**45,178**
Total Construction Emissions[1]	**79,172**
Amortized Construction Emissions	**2,639**

[1] Total Construction Emissions are the sum of GHG emissions under the 2030 and 2040 Scenarios, or the total construction-related emissions associated with implementation of the Update to the 2018 LRDP.
Notes: Totals may not sum due to rounding. Modeling data are provided in Appendix A.
MT CO_2e = metric tons carbon dioxide equivalents; SIO = Scripps Institution of Oceanography

6.1.2.2 Operational Emissions

Operational GHG emissions were estimated for the buildout of the Update to the 2018 LRDP assumed to occur in 2040. As described in Section 1.2.4, the following UC policies and campus-wide actions would be implemented by UC San Diego as part of the Update to the 2018 LRDP. UC San Diego GHG Reduction Actions A and B would be implemented by the campus at a programmatic level and, as such, are included in the analysis as components of the Update to the 2018 LRDP.

> Action A: Green Building Design. Consistent with the UC Sustainable Practices Policy, all 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).
>
> Action B: Carbon Neutral Grid Purchased Power. Consistent with the UC Sustainable Practices Policy, by 2025, all purchased electricity would be 100 percent carbon neutral electricity.

Table 8, *Estimated Annual Greenhouse Gas Emissions with UC San Diego GHG Reduction Actions*, presents the emissions for buildout of the Update to the 2018 LRDP with implementation of UC San Diego GHG Reduction Actions A and B that are proposed as part of the Update to the 2018 LRDP.

Table 8
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS WITH UC SAN DIEGO GHG REDUCTION ACTIONS

Source	2040 Emissions ($MT\ CO_2e$/year)
Area Sources	216
Generators	293
Purchased Electricity	0
Natural Gas	190,131
Mobile	50,280
Solid Waste	2,438
Water	862
Business Travel	5,508
Refrigerants	91
Operational Emissions	***249,819***
Annual Construction Emissions	2,639
Total Annual Emissions	**252,458**
Service Population	96,300
Emissions Per Service Population	**2.62**
Efficiency Threshold	0.75
Exceeds Threshold?	**Yes**

Notes: Totals may not sum due to rounding. Modeling data are provided in Appendix A.
MT CO_2e = metric tons carbon dioxide equivalents

Based on the total GHG emissions presented in Table 8, the analysis estimated emissions of approximately 252,458 MT CO_2e, or 2.62 MT CO_2e per service population, per year in 2040. As such, buildout of the Update to the 2018 LRDP would exceed the emissions per service population threshold of 0.75 MT CO_2e. Therefore, implementation of the Update to the 2018 LRDP could result in the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Although the 2040 GHG inventory demonstrates a downward trend in GHG emissions when compared to the 2025 and 2035 GHG inventories presented in the 2018 LRDP EIR, implementation of the Update to the 2018 LRDP, in the unmitigated scenario, would not achieve the efficiency target developed to show substantial progress toward the UC Sustainable Practices Policy's 2045 target. As such, implementation of the following mitigation measures (MM) at a programmatic level would be required to reduce GHG emissions:

Measure Removed from 2018 LRDP EIR

Mitigation measure GHG-1C from the 2018 LRDP EIR, below, required annual inventory updates and the purchase of carbon credits. This measure has been deemed no longer applicable for two reasons. First, as mentioned in Section 4.3.5, the UC San Diego campus is currently updating the 2019 CAP to ensure that the campus meets the goals in the latest update to the UC Sustainable Practices Policy and is developing a strategy to achieve a 90 percent reduction in total GHG emissions by no later than calendar year 2045 relative to a 2019 baseline year. Part of the implementation of the strategy would be to monitor emissions annually, as required by the UC Sustainable Practices Policy. Second, the updates to the UC Sustainable Practices Policy, upon which the Update to the 2018 LRDP's thresholds are based, explicitly state "Voluntary offsets purchased to meet obligations under the California Environmental Quality Act…will not count toward a location's GHG reduction targets" (Section III.C.6.a. of the UC Sustainable Practices Policy). Therefore, even if carbon credits were purchased to reduce the Update to the 2018 LRDP's emissions, they could not be used to achieve the thresholds developed to demonstrate quantified consistency with the UC Sustainable Practices Policy targets. For these reasons, mitigation measure GHG-1C from the 2018 LRDP EIR has been removed.

GHG-1C (removed) Annual Inventory Updates and Carbon Credit Purchase. UC San Diego shall continue to prepare annual inventory updates to monitor and track campus emissions relative to the trajectory analyzed in this EIR. The annual inventory updates may be completed in conjunction with the annual reporting completed for the TCR and supplemented to include all sources (e.g., solid waste, water, and area sources) consistent with the methodology used to develop the proposed 2018 LRDP inventory and forecasts. If, based on the annual inventory updates, UC San Diego determines that credits are required to achieve a campus-wide emission rate of no more than 2.36 MT CO2e per service population by 2035, they shall be purchased, in an amount sufficient to ensure that campus-wide emissions achieve that target rate, from the California Air Pollution Control Officers Association (CAPCOA) GHG Reduction Exchange program, American Carbon Registry Climate Action Reserve, or other similar carbon credit registry consistent with policy recommendations included within ARB's 2017 Climate Change Scoping Plan Update.

New and/or Revised Measures for the Update to the 2018 LRDP SEIR

Mitigation measures GHG-1A and GHG-1B have been updated from the 2018 LRDP EIR, as noted in strikeout/underline below.

GHG-1A Decarbonization of the Central Utilities Plant. UC San Diego shall decarbonize ~~of~~ the central utilities plant ~~after 2032~~ before 2040. Decarbonization could take one of the several paths, including electrification, biomass, complete conversion to directed biogas possibly augmented with renewably produced hydrogen (if available), or new technology.

GHG-1B Electric Charging Stations. UC San Diego shall continue to expand and update the on-campus alternative fueling infrastructure by installing electric vehicle chargers ~~by 2035~~ to be available for campus fleet and public charging.

Decarbonization of the central utilities plant required by mitigation measure GHG-1A would lead to a reduction of approximately 185,515 MT CO_2e. The extent to which mitigation measure GHG-1B would be applied could vary depending on the timeline of installation and design as well as subsequent use of the infrastructure. Thus, mitigation measure GHG-1B has conservatively not been quantified at this time. Table 9, *Estimated Annual Greenhouse Gas Emissions with Mitigation*, presents the emissions for the 2040 Scenario with implementation of mitigation measure GHG-1A.

Table 9
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS WITH MITIGATION

Source	2040 Scenario ($MT\ CO_2e$/year)
Area Sources	216
Generators	293
Purchased Electricity	0
Natural Gas	4,616
Mobile	50,280
Solid Waste	2,438
Water	862
Business Travel	5,508
Refrigerants	91
Operational Emissions	64,304
Annual Construction Emissions	2,639
Total Annual Emissions	**66,943**
Service Population	96,300
Emissions Per Service Population	**0.70**
Efficiency Threshold	0.75
Exceeds Threshold?	**No**

Notes: Totals may not sum due to rounding. Modeling data are provided in Appendix A.
MT CO_2e = metric tons carbon dioxide equivalents

As shown in Table 9, emissions would be reduced to approximately 66,943 MT CO_2e, or 0.70 MT CO_2e per service population, per year in 2040 with mitigation. As such, buildout of the Update to the 2018 LRDP would not exceed the emissions per service population threshold of 0.75 MT CO_2e with mitigation. Therefore, implementation of the Update to the 2018 LRDP would achieve the 2040 efficiency target developed to show substantial progress toward the UC Sustainable Practices Policy's 2045 target resulting in a less than significant impact with mitigation. This can also be compared to, and is less than, the emissions per service population estimated in the 2018 LRDP EIR of 4.00 MT CO_2e per service population in 2025 and 2.36 MT CO_2e per service population in 2035.

6.2 ISSUE 2: CONSISTENCY WITH LOCAL PLANS ADOPTED FOR THE PURPOSE OF REDUCING GREENHOUSE GAS EMISSIONS

6.2.1 Summary of Analysis in the 2018 LRDP EIR

For purposes of the analysis, the evaluation of the 2018 LRDP was based on consistency with the UC Sustainable Practices Policy in place at the time, rather than whether the LRDP met quantified emission reduction goals, such as carbon neutrality by 2025. The 2018 LRDP was found to be consistent with the UC Sustainable Practices Policy areas of green building, clean energy, climate protection, sustainable transportation, sustainable operations, recycling and waste management, environmentally preferable purchasing, sustainable foodservices, and sustainable water systems. Further, the 2018 LRDP EIR included three GHG Reduction Actions pertaining to the campus cogeneration plant, green building design, and carbon neutral grid purchased power. Therefore, it was concluded that the 2018 LRDP would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions and impacts were considered less than significant.

6.2.2 Analysis of Update to the 2018 LRDP

State and regional plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades. As discussed in Section 3, CARB released the 2022 Scoping Plan that includes strategies to ensure that California meets its GHG reduction targets consistent with AB 1279. CEQA Guidelines Section 15064.4(b) provides that, among the factors a lead agency should consider in evaluating GHG emissions, is whether the project would comply with “regulations and requirements” that have been adopted by the relevant public agency through a public review process, to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Although the Scoping Plan and other regional plans, such as the San Diego Association of Governments (SANDAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), provide overall direction on how the state and region will meet GHG emission reduction goals, there are no regulations or requirements that have been adopted by relevant public agencies to implement those plans within the meaning of CEQA Guidelines Section 15064.4(b). Therefore, no CEQA significance finding will be made based on consistency with these state and regional plans; however, an analysis of consistency with the 2021 Regional Plan, including the SCS, is provided below. Instead, the CEQA significance determination under Issue 2 is based on compliance with UC policies and plans, which themselves are consistent with achievement of the GHG reduction targets in AB 1279.

The UC Sustainable Practices Policy has very aggressive targets for carbon neutrality (90 percent reduction in total emissions by no later than 2045), more so than targets set forth by the State of California pursuant to AB 1279. For purposes of this analysis, and consistent with the 2018 LRDP EIR, the evaluation of the Update to the 2018 LRDP is based on consistency with the UC Sustainable Practices Policy, rather than whether the LRDP meets quantified emission reduction goals. Additional analysis of consistency with the 2021 Regional Plan is provided to assess compliance with regional plans for GHG emissions reduction targets that are also consistent with statewide goals.

The UC Sustainable Practices Policy commits UC campuses to implementing actions intended to minimize the UC’s impact on the environment in the areas of green building, clean energy, climate action, sustainable transportation, sustainable operations, zero waste, sustainable procurement, sustainable foodservices, and sustainable water systems. The 2021 Regional Plan includes 5 Big Moves intended to create a more sustainable land use pattern and transportation system for the region. Consistency of the Update to the 2018 LRDP with components of these two plans is described below.

6.2.2.1 UC Sustainable Practices Policy - Green Building Design and Sustainable Operations

The UC Sustainable Practices Policy requires 20 percent or better energy performance compared to Title 24 requirements for new construction and contains different metrics for acute care hospitals and medical office buildings. New buildings on the UC San Diego campus have integrated innovative mechanical and control system technologies into campus facilities, oftentimes achieving more than the 20 percent reduction above Title 24. In addition, new construction and major renovations on the UC San Diego campus will be 100 percent electric and can use an alternative compliance pathway based on whole-building energy performance targets, now recognized as the best practice method for designing energy efficient buildings. The campus also currently has 58 LEED accredited buildings. UC San Diego has committed to achieving at least LEED Gold Certification (and strives to meet LEED Platinum Certification where possible) for all new buildings, as well as LEED Certification for all major renovations, consistent with the UC Sustainable Practices Policy. Further, the Update to the 2018 LRDP sustainability goals include optimizing the use of existing facilities, sites, and campus space while embracing sustainable facility designs, which is consistent with building renovations and sustainable operations requirements included within the UC Sustainable Policy. Parking structures are rated per the ParkSmart requirements and UC San Diego has committed to achieving at least ParkSmart Silver in new structures. Lastly, the Update to the 2018 LRDP would continue to include GHG Reduction Action A: Green Building Design, which requires all new building or major renovation projects not to use natural gas for space and water heating. The Update to the 2018 LRDP would therefore not conflict with the Green Building Design provisions of the UC Sustainable Practices Policy.

6.2.2.2 UC Sustainable Practices Policy - Clean Energy

The UC Sustainable Practices Policy also commits the UC system to obtain 100 percent clean electricity by 2025, which has already been achieved through the Clean Power Program. UC San Diego has built an advanced microgrid system, which is key to creating a carbon neutral campus. The microgrid provides a flexible, resilient, reliable, secure energy distribution system that is capable of generating approximately 85 percent of the electricity used on campus annually.

Power is provided from several sources including the campus' 30-megawatt cogeneration plant- and 2.4 megawatts of solar arrays. The campus' solar network includes an array of rooftop, carport, and ground mounted systems, including several integrated with advanced energy systems. Additionally, all purchased electricity is 100 percent carbon neutral through the UC Wholesale Power Program. Cogeneration uses one fuel source (natural gas) to produce two forms of energy (electricity and heat). State-of–the-art gas turbines equipped with pollution controls are 45 to 50 percent more efficient than conventional natural gas power plants and produce 75 percent fewer emissions. As described in Section 4.3.6, at the direction of the UC Sustainable Practices Policy, UC San Diego completed a "Decarbonization Study" in 2024 to identify decarbonization, sustainability, electrification, and energy savings actions that will allow the campus to achieve a 90 percent reduction in its emissions from the combustion of fossil fuels on campus by 2045. The plan identifies specific actions that UC San Diego can take to reduce Scope 1 carbon emissions by UC Sustainable Practices Policy target years of 2030, 2035, and 2045, using current or emerging technologies and leveraging strategies and projects that have already been identified and are underway. The key strategies to phase out fossil fuel use by 2045 include:

- Replace the natural gas boilers at the campus' cogeneration Central Utilities Plan with electrode boilers.
- Replace gas-fired heating systems with electric air and water source heat pumps.
- Reduce peak heating requirements to avoid costly electrical upgrades through energy efficiency measures, thermal energy storage, and backup gas heating and steam systems.
- Maximize solar photovoltaic systems, solar thermal systems, and battery storage.
- Continue to monitor emerging, carbon-free technologies over time.

Because of the goal listed above to replace the natural gas boilers with electrode boilers, the former 2018 LRDP GHG Reduction Action that set a goal to switch the campus cogeneration plant to 40 percent biogas by 2030 was removed as it was superseded by the Decarbonization Study goals. As discussed under Issue 1, without decarbonization of the cogeneration plant, implementation of the Update to the 2018 LRDP would not achieve the efficiency target developed to show substantial progress toward the UC Sustainable Practices Policy's 2045 target and therefore, impacts would be considered potentially significant. Mitigation measure GHG-1A would be required, as described above under Issue 1.

6.2.2.3 UC Sustainable Practices Policy - Climate Action

The UC Sustainable Practices Policy commits each campus to prepare an updated CAP to establish and achieve a 90 percent reduction in total GHG emission by no later than calendar year 2045 relative to a 2019 inventory year. As discussed previously under Issue 1 in Section 6.1.2, implementation of the Update to the 2018 LRDP would achieve the 2040 efficiency target developed to show substantial progress toward the UC Sustainable Practices Policy's 2045 target with the implementation of mitigation measures GHG-1A and GHG-1B. UC San Diego is also currently in the process of updating the CAP to provide a climate change mitigation strategy directed at achieving this target. Consistent with the directives of the UC Sustainable Practices Policy, the updated CAP will also integrate environmental justice, climate adaptation, and climate resiliency strategies. Therefore, with the implementation of mitigation measures GHG-1A and GHG-1B, the Update to the 2018 LRDP would not conflict with the UC Sustainable Practices Policy interim goal.

6.2.2.4 UC Sustainable Practices Policy - Sustainable Transportation

As of July 2024, the UC San Diego fleet consists of approximately 65 percent alternative fuel vehicles, including hybrid electric vehicles, compressed natural gas (CNG) vehicles that use 100 percent renewable CNG, and diesel vehicles that use R-100 renewable diesel. This is consistent with the UC Sustainable Practices Policy requiring at least 50 percent of each campus fleet to be zero emission vehicles or hybrid vehicles by 2025.

Requirements in the UC Sustainable Practices Policy also call for campuses to reduce their percentage of employees and students commuting by single-occupancy vehicles (SOV) by 10 percent relative to 2015 SOV rates and by 2050 to have no more than 40 percent of employees and no more than 30 percent of all employees and students commuting to the campus by SOV. In the academic calendar year 2023-24, UC San Diego Transportation Services' annual commute mode survey concluded that approximately 44% of campus commuters commute via SOV; representing an approximately 5 percent reduction in SOV relative to 2015 SOV rates thereby demonstrating substantial progress towards the 2050 target. To continue to meet the programmatic policy and further reduce SOV rates, the Update to the 2018 LRDP would continue and enhance UC San Diego's extensive Transportation Demand Management (TDM) measures and provide additional campus housing for students and staff/faculty. The Update to the 2018 LRDP would continue and/or enhance the following TDM programs: commuting/alternative transportation, campus mobility, shuttle service, parking policies, and resources and services. These campus-wide programmatic TDM programs are consistent with the TDM programs recommended in the Sustainable Transportation practices. The UC San Diego Transportation Services Department continually monitors and develops future TDM strategies for UC San Diego's transportation programs and facilities.

The extension of the existing regional San Diego Trolley system to serve the campus was anticipated in the 2018 LRDP EIR and has since begun operations, providing a connection between the UC San Diego campus and downtown San Diego, as well as the Old Town Transit Center. UC San Diego is served by two stations on campus, and two additional stations nearby. Additionally, the campus shuttle service offers nine primary shuttle routes, which reduce vehicle trips between key locations on and off campus.

The additional housing included within the Update to the 2018 LRDP would also reduce the need for students, staff, and faculty to commute to campus, while also decreasing the campus' transportation impacts on the region. The trip generation analysis evaluated the proposed daily trips from students, staff, and faculty to the campus. The commute mode split analysis includes a reduction to the ADT of 19 percent based on the number of on campus student residents (LLG 2025).

Consistent with the Sustainable Transportation practices, the Update to the 2018 LRDP would develop parking structures only as needed and after careful consideration of anticipated demands and programmatic needs to accommodate growth of the campus. This includes considering opportunities to co-locate parking structures with other facilities (e.g., housing, office, academic) to minimize construction of new parking facilities. In addition, existing parking policies at UC San Diego, including the requirement to pay for parking and restrictions for first and second year student parking permits, discourage SOV use. In addition, implementation of mitigation measure GHG-1B would further expand and update the on-campus fueling infrastructure by installing electric vehicle chargers. The Update to the 2018 LRDP is therefore consistent with the Sustainable Transportation provisions of the UC Sustainable Practices Policy.

6.2.2.5 UC Sustainable Practices Policy – Sustainable Building and Laboratory Operations for Campuses

As discussed previously, new buildings on the UC San Diego campus would be required to adhere to the UC Sustainable Practices Policy requiring 20 percent or better energy performance compared to Title 24 requirements, or achieve another applicable metric for medical office/hospital buildings. In addition, new construction and major renovations on the UC San Diego campus will be 100 percent electric and all electricity will be 100 percent renewable. Laboratory buildings will be designed, constructed, and commissioned to achieve a minimum of LEED Gold Certification as well as meeting the prerequisites of the Laboratories for the 21st Century Environmental Performance Criteria. The Update to the 2018 LRDP would therefore not conflict with the Green Building Design provisions of the UC Sustainable Practices Policy.

6.2.2.6 UC Sustainable Practices Policy - Zero Waste

To measure compliance with UC's zero waste goal, campuses need to meet or exceed 90 percent diversion of municipal solid waste. UC San Diego has developed a Zero Waste Plan to meet the UC zero waste goal. This Zero Waste Plan is a living document and will be continually updated to reflect new programs with UC San Diego's waste hauler; changes in regional infrastructure and partnerships; new technologies for zero waste; new city, regional, state and UC-wide policies and regulations; and the transformation of the campus as outlined in its LRDP (UC San Diego 2019). The Update to the 2018 LRDP would implement diversion and source reduction strategies identified in the Zero Waste Plan. In the 2022-23 academic year, the campus achieved a diversion rate of 73 percent of solid waste (UC San Diego 2024b). In addition, tracking of construction and demolition waste for all capital projects is in progress. The Update to the 2018 LRDP would not conflict with the Zero Waste provisions of the UC Sustainable Practices Policy.

6.2.2.7 UC Sustainable Practices Policy – Sustainable Procurement

UC San Diego's Integrated Procure-to-Pay Solutions (IPPS) is comprised of several integrated units that represent all of the procurement, fulfillment, and payment functions of UC San Diego. IPPS has a commitment to local, diverse small businesses, advocating for sustainable purchasing practices, and utilizing innovative tools that streamline campus purchasing. IPPS practices Environmentally Preferable Purchasing (EPP) by procuring items that have minimized or reduced environmental effects. Below are a few examples of what UC San Diego's IPPS is currently doing to make the campus supply chain more sustainable.

Fisher Scientific: Tote Program

In July 2015, IPPS partnered with Fisher Scientific, the campus' largest agreement lab supply distributor, to develop the nation's first reusable tote program in higher education. By utilizing these reusable totes, UC San Diego is eliminating hundreds of cardboard boxes from the campus supply chain. Every ton of cardboard saved equates to saving 17 trees, 380 gallons of oil, 4,000 kilowatts of energy, and 7,000 gallons of water.

VWR International: Pallet Program

In June 2015, IPPS partnered with VWR International, the campus' second largest agreement lab supply distributor, to develop VWR's first reusable pallet program in higher education. These reusable pallets can be used hundreds of times with an average lifespan of 10 years. A similar program is currently being developed with Fisher Scientific and is scheduled to launch in the second quarter of the next fiscal year.

Thermo Scientific: Expanded Polystyrene Program

UC San Diego is the only university in the UC system that has an expanded polystyrene program (Styrofoam) cooler reuse program in place with Thermo Scientific, the system's largest agreement life sciences reagent supplier. This program was developed in 2012 in partnership with Core Bio Services and has prevented thousands of pounds of Styrofoam waste from coming to campus. This program continues to improve year over year and has sent back and reused more than 1,375 coolers.

This existing strategy is anticipated to continue with implementation of the Update to the 2018 LRDP. Therefore, the Update to the 2018 LRDP would not conflict with the Sustainable Procurement provisions of the UC Sustainable Practices Policy.

6.2.2.8 UC Sustainable Practices Policy – Sustainable Foodservices

UC San Diego is working to achieve the goals of the UC Sustainable Practices Policy to procure 25 percent sustainable food products by the year 2030. As of fiscal year 2022-2023, UC San Diego has achieved 18 percent sustainable food spend and 23 percent plant-based food spend. Actions taken by UC San Diego include the sale of Fair Trade Certified coffee and sugar at the markets and dining locations, cage-free eggs, and seafood sourced from certified Marine Stewardship Council (MSC) or certified by the Monterey Bay Aquarium Seafood Watch. UC San Diego launched the Triton2Go Mobile Ordering App and Reusable Container Program in the Fall Quarter 2020 resulting in the diversion of more than 945,000 single-use containers from the landfill. Markets and dining hall kitchens have been composting pre-consumer food waste since 2009 and launched post-consumer food waste collection Fall Quarter 2020. These existing strategies are anticipated to continue with implementation of the Update to the 2018 LRDP. Therefore, the Update to the 2018 LRDP would not conflict with the Sustainable Foodservices provisions of the UC Sustainable Practices Policy.

6.2.2.9 UC Sustainable Practices Policy - Sustainable Water Systems

UC San Diego saves millions of gallons of water annually through implementation of a comprehensive Water Action Plan. Per the UC Sustainable Practices Policy, locations will reduce the growth-adjusted potable water consumption 36 percent by 2025, when compared to a three-year average baseline of fiscal year 2005/06, 2006/07, and 2007/08. This target has already been achieved with UC San Diego observing a 38 percent reduction in water use from baseline in 2023 and a 59 percent reduction in water use from baseline in 2024 (UC San Diego 2024c). The campus will continue to incorporate design features, technological adaptations, and/or planning principles into future campus projects to conserve resources and minimize waste products. Consistent with the UC Sustainable Practices Policy, the Update to the 2018 LRDP promotes the efficient use of water and contains goals such as minimizing water use by further extending reclaimed water infrastructure and through innovative water capture techniques. The Update to the 2018 LRDP is therefore consistent with the Sustainable Water Systems provisions of the UC Sustainable Practices Policy.

6.2.2.10 2021 Regional Plan – 5 Big Moves

The Update to the 2018 LRDP proposes a land use and growth pattern consistent with the 5 Big Moves of the 2021 Regional Plan: Complete Corridors, Transit Leap, Mobility Hubs, Flexible Fleets, and Next OS. UC San Diego creates complete streets throughout campus to allow for safe and efficient circulation via walking, biking, and public transportation. While the Update to the 2018 LRDP does not propose specific new transit infrastructure, the recent opening of the San Diego Trolley stations on campus and the continued service of the UC San Diego shuttle system would provide public transit throughout campus consistent with the Transit Leap big move. The Gilman Transit Center in the heart of the campus also provides direct access to several local and regional public bus routes. As a result of the robust public transportation system available to and from campus, the majority of the campus is within a Mobility Hub; therefore, the proposed growth within this area is consistent with the strategy of the 2021 Regional Plan to focus growth where high-quality transit is available. UC San Diego supports flexible fleets via its TDM program, which includes support for shared scooter and car programs on campus. UC San Diego provides shuttle alerts and real-time updates via the TransLoc mobile application. The Update to the 2018 LRDP would support the 5 Big Moves identified in the 2021 Regional Plan, thereby contributing to the GHG reduction strategy for the region.

6.2.3 Summary

As shown above, implementation of the Update to the 2018 LRDP would not conflict with the following aspects of the UC Sustainable Practices Policy requirements set forth by the UC Office of the President: Green Building Design and Sustainable Operations, Sustainable Building and Laboratory Operations for Campuses; Zero Waste; Sustainable Procurement; Sustainable Foodservices; Sustainable Water Systems; and Sustainable Transportation. The Update to the 2018 LRDP would also be consistent with the 2021 Regional Plan.

With regards to the Clean Energy and Climate Action components of the UC Sustainable Practices Policy, impacts would be potentially significant, due in part to the former GHG Reduction Action that required a switch to biogas for the cogeneration plant being removed as part of the Update to the 2018 LRDP because it was superseded by the goal in the 2024 Decarbonization Study to replace the natural gas boilers at the cogeneration plant with electrode boilers. Therefore, the Update to the 2018 LRDP would require the implementation of mitigation measures GHG-1A and GHG-1B to ensure impacts are reduced to a less than significant level.

7.0 LIST OF PREPARERS

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Appendix A

Emissions Modeling Outputs

GHG Emissions Summary

Annual GHG Emissions with UC San Diego GHG Reduction Actions

Emissions Source	Horizon - 2040
Area	216
Generators	293
Purchased Electricity	-
Natural Gas	190,131
Mobile (Commuting)	50,280
Solid Waste	2,438
Water and Wastewater	862
Business Travel	5,508
Refrigerants	91
Operational Emissions	249,819
Annual Construction Emissions	2,639
Total Annual Emissions	252,458
Service Population	96,300
Emissions Per Service Population	2.62
Threshold	0.75
Exceeds Threshold?	Yes

Annual GHG Emissions with UC San Diego GHG Reduction Actions and Mitigation

Emissions Source	Horizon - 2040
Area	216
Generators	293
Purchased Electricity	-
Natural Gas	4,616
Mobile (Commuting)	50,280
Solid Waste	2,438
Water and Wastewater	862
Business Travel	5,508
Refrigerants	91
Operational Emissions	64,304
Annual Construction Emissions	2,639
Total Annual Emissions	66,943
Service Population	96,300
Emissions Per Service Population	0.70
Threshold	0.75
Exceeds Threshold?	No

GHG Emissions Construction Summary

2030 and 2040 Scenarios Construction-Related GHG Emissions (MT CO_2e)

2030 Scenario (2025-2030)	Modeled Year (2025)	Annual Average
West Campus	3,358	448
East Campus	3,884	518
SIO	1,257	168
2030 Total	8,498	1,133
2040 Scenario (2030-2040)	**Modeled Year (2030)**	**Annual Average**
West Campus	5,448	726
East Campus	3,587	478
SIO	2,260	301
2040 Total	11,295	1,506

Notes: MT CO2e = metric tons carbon dioxide equivalents; SIO = Scripps Institution of Oceanography

GHG Emissions - CalEEMod Summary

2040 Scenario (MT CO2e / year) With Renewable Electricity	
Mobile	50,280
Area	216
Electricity	-
Natural Gas	190,131
Refrigerants	91
Total	**240,719**

2040 Scenario (MT CO2e / year) With Decarb Plan	
Mobile	50,280
Area	216
Electricity	-
Natural Gas	4,616
Refrigerants	91
Total	**55,203**

UCSD LRDP Update 2040 Scenario Operation Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update 2040 Scenario Operation
Operational Year	2040
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	9500 Gilman Dr, La Jolla, CA 92093, USA
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	12,700	Dwelling Unit	334	5,245,000	0.00	—	12,700	—
Hotel	350	Room	11.7	310,000	0.00	—	—	—

University/College (4yr)	8,999	Student	38.0	3,047,000	0.00	0.00	—	—
Medical Office Building	600	1000sqft	13.8	600,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment

2. Emissions Summary

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	222	205	117	1,573	4.48	2.06	477	479	1.92	121	123	—	455,500	455,500	16.3	15.9	233	460,885
Area	263	257	8.10	896	0.04	0.63	—	0.63	0.47	—	0.47	0.00	2,634	2,634	0.11	0.02	—	2,643
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	487	463	148	2,489	4.66	4.45	477	481	4.17	121	125	0.00	1,013,722	1,013,722	122	28.4	782	1,026,019
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	221	204	129	1,467	4.27	2.06	477	479	1.92	121	123	—	434,768	434,768	17.1	16.9	6.03	440,229

Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	389	371	152	1,486	4.41	3.83	477	480	3.70	121	125	0.00	990,357	990,357	122	29.4	555	1,002,719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	149	138	86.9	1,008	2.95	1.41	323	325	1.32	82.0	83.3	—	299,933	299,933	11.5	11.4	68.8	303,697
Area	214	211	3.99	442	0.02	0.31	—	0.31	0.23	—	0.23	0.00	1,299	1,299	0.05	0.01	—	1,304
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	365	349	114	1,469	3.11	3.49	323	327	3.32	82.0	85.3	0.00	856,820	856,820	117	23.9	618	867,491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.3	25.1	15.9	184	0.54	0.26	59.0	59.3	0.24	15.0	15.2	—	49,657	49,657	1.91	1.89	11.4	50,280
Area	39.0	38.4	0.73	80.7	< 0.005	0.06	—	0.06	0.04	—	0.04	0.00	215	215	0.01	< 0.005	—	216
Energy	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	91,984	91,984	17.4	2.07	—	93,036
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	90.9
Total	66.7	63.8	20.8	268	0.57	0.64	59.0	59.6	0.61	15.0	15.6	0.00	141,856	141,856	19.3	3.96	102	143,623

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	222	205	117	1,573	4.48	2.06	477	479	1.92	121	123	—	455,500	455,500	16.3	15.9	233	460,885
Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,801	555,801	105	12.5	—	562,156
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	390	372	140	1,592	4.62	3.83	477	480	3.69	121	125	0.00	1,011,301	1,011,301	121	28.4	782	1,023,591
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	221	204	129	1,467	4.27	2.06	477	479	1.92	121	123	—	434,768	434,768	17.1	16.9	6.03	440,229
Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,588	555,588	105	12.5	—	561,941
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	389	371	152	1,486	4.41	3.83	477	480	3.70	121	125	0.00	990,357	990,357	122	29.4	555	1,002,719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	149	138	86.9	1,008	2.95	1.41	323	325	1.32	82.0	83.3	—	299,933	299,933	11.5	11.4	68.8	303,697
Area	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	555,693	555,693	105	12.5	—	562,047
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Total	318	305	110	1,027	3.09	3.18	323	326	3.09	82.0	85.0	0.00	855,626	855,626	117	23.9	618	866,293

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.3	25.1	15.9	184	0.54	0.26	59.0	59.3	0.24	15.0	15.2	—	49,657	49,657	1.91	1.89	11.4	50,280
Area	30.3	30.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	92,001	92,001	17.4	2.07	—	93,053
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	90.9
Total	58.0	55.6	20.1	187	0.56	0.58	59.0	59.6	0.56	15.0	15.5	0.00	141,659	141,659	19.3	3.96	102	143,425

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	527,783	527,783	103	12.4	—	534,059
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	87,381	87,381	17.0	2.06	—	88,420
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	87,381	87,381	17.0	2.06	—	88,420

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
University/College (4yr)	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.56	1.28	23.3	19.6	0.14	1.77	—	1.77	1.77	—	1.77	—	27,805	27,805	2.46	0.05	—	27,882
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Universit y/Colleg e (4yr)	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	4,603	4,603	0.41	0.01	—	4,616
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.47	0.23	4.25	3.57	0.03	0.32	—	0.32	0.32	—	0.32	—	4,603	4,603	0.41	0.01	—	4,616

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consum er Product s	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coating s	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipm ent	96.7	90.8	8.10	896	0.04	0.63	—	0.63	0.47	—	0.47	—	2,634	2,634	0.11	0.02	—	2,643
Total	263	257	8.10	896	0.04	0.63	—	0.63	0.47	—	0.47	0.00	2,634	2,634	0.11	0.02	—	2,643

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	27.7	27.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.56	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	8.70	8.17	0.73	80.7	< 0.005	0.06	—	0.06	0.04	—	0.04	—	215	215	0.01	< 0.005	—	216
Total	39.0	38.4	0.73	80.7	< 0.005	0.06	—	0.06	0.04	—	0.04	0.00	215	215	0.01	< 0.005	—	216

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	152	152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	166	166	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	27.7	27.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.56	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	30.3	30.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.6	37.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	485	485
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	11.8
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.3	15.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.6	37.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	485	485
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	11.8
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.3	15.3

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	549	549
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.22	6.22
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80.2	80.2
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.95	1.95
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.54	2.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	90.9

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	83,043	0.00	0.00	20,760,682	675,731	0.00	0.00	168,932,815

5.10. Operational Area Sources

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10621125	3,540,375	5,935,500	1,978,500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	0.00	170	0.0330	0.0040	0.00
Hotel	0.00	170	0.0330	0.0040	0.00
University/College (4yr)	1,135,614,740	170	0.0330	0.0040	86,759,000
Medical Office Building	0.00	170	0.0330	0.0040	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
University/College (4yr)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
University/College (4yr)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
University/College (4yr)	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
University/College (4yr)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

8. User Changes to Default Data

Screen	Justification
Land Use	Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Operations: Hearths	No hearths
Operations: Energy Use	Electricity and NG from UCDS Decarb Report (Salas O'Brien 2024)
Operations: Water and Waste Water	Water consumption calculated outside CalEEMod
Operations: Solid Waste	Solid waste emissions calculated outside CalEEMod
Operations: Consumer Products	San Diego County specific general category EF (AECOM 2018).

UCSD LRDP Update 2040 Scenario Operation - BAU Natural Gas Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update 2040 Scenario Operation - BAU Natural Gas
Operational Year	2040
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	9500 Gilman Dr, La Jolla, CA 92093, USA
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	12,700	Dwelling Unit	334	5,245,000	0.00	—	12,700	—
Hotel	350	Room	11.7	310,000	0.00	—	—	—

University/College (4yr)	8,999	Student	38.0	3,047,000	0.00	0.00	—	—
Medical Office Building	600	1000sqft	13.8	600,000	0.00	—	—	—

2. Emissions Summary

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—
Mobile	—	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	—	1,145,227	1,145,227	101	2.16	1,148,403
Water	0.00	0.00	0.00	0.00	0.00	0.00
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	1,145,227	1,145,227	101	2.16	1,148,403
Daily, Winter (Max)	—	—	—	—	—	—
Mobile	—	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	—	1,145,227	1,145,227	101	2.16	1,148,403
Water	0.00	0.00	0.00	0.00	0.00	0.00
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	1,145,227	1,145,227	101	2.16	1,148,403
Average Daily	—	—	—	—	—	—
Mobile	—	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	—	1,145,227	1,145,227	101	2.16	1,148,403
Water	0.00	0.00	0.00	0.00	0.00	0.00

Waste	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	1,145,227	1,145,227	101	2.16	1,148,403
Annual	—	—	—	—	—	—
Mobile	—	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	—	189,605	189,605	16.8	0.36	190,131
Water	0.00	0.00	0.00	0.00	0.00	0.00
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	189,605	189,605	16.8	0.36	190,131

4. Operations Emissions Details

4.2. Energy

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—
Apartments Mid Rise	—	0.00	0.00	0.00	0.00	0.00
Hotel	—	0.00	0.00	0.00	0.00	0.00
University/College (4yr)	—	1,145,227	1,145,227	101	2.16	1,148,403
Medical Office Building	—	0.00	0.00	0.00	0.00	0.00
Total	—	1,145,227	1,145,227	101	2.16	1,148,403
Daily, Winter (Max)	—	—	—	—	—	—
Apartments Mid Rise	—	0.00	0.00	0.00	0.00	0.00
Hotel	—	0.00	0.00	0.00	0.00	0.00
University/College (4yr)	—	1,145,227	1,145,227	101	2.16	1,148,403
Medical Office Building	—	0.00	0.00	0.00	0.00	0.00

Total	—	1,145,227	1,145,227	101	2.16	1,148,403
Annual	—	—	—	—	—	—
Apartments Mid Rise	—	0.00	0.00	0.00	0.00	0.00
Hotel	—	0.00	0.00	0.00	0.00	0.00
University/College (4yr)	—	189,605	189,605	16.8	0.36	190,131
Medical Office Building	—	0.00	0.00	0.00	0.00	0.00
Total	—	189,605	189,605	16.8	0.36	190,131

8. User Changes to Default Data

Screen	Justification
Land Use	Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Operations: Hearths	No hearths
Operations: Energy Use	NG from UCDS Decarb Report (Salas O'Brien 2024)
Operations: Water and Waste Water	Water consumption calculated outside CalEEMod
Operations: Solid Waste	Solid waste emissions calculated outside CalEEMod
Operations: Consumer Products	Modeling for NG only.
Operations: Landscape Equipment	Modeling for NG only.
Operations: Refrigerants	Modeling for NG only.

UCSD LRDP Update East Campus 2030 Scenario Construction Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update East Campus 2030 Scenario Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.87819463071624, -117.22354583325222
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6908
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	1,150	Dwelling Unit	30.3	593,750	0.00	—	1,150	—

University/College (4yr)	132	Student	0.56	7,500	0.00	0.00	—	—
Medical Office Building	45.0	1000sqft	1.03	45,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	33.3	30.6	110	155	0.20	4.37	21.3	25.6	4.02	7.75	11.8	—	32,934	32,934	1.41	0.98	47.1	33,308
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	33.2	30.6	111	149	0.20	4.37	21.3	25.6	4.02	7.75	11.8	—	32,363	32,363	1.46	1.01	1.22	32,701
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	23.7	21.8	79.0	107	0.15	3.13	15.1	18.2	2.88	5.52	8.39	—	23,203	23,203	1.02	0.72	14.5	23,458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.32	3.98	14.4	19.5	0.03	0.57	2.76	3.33	0.53	1.01	1.53	—	3,842	3,842	0.17	0.12	2.41	3,884

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	22.2	21.7	24.6	160	0.20	0.44	21.3	21.7	0.43	7.75	8.18	—	32,934	32,934	1.41	0.98	47.1	33,308
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	22.2	21.6	25.2	154	0.20	0.44	21.3	21.7	0.43	7.75	8.18	—	32,363	32,363	1.46	1.01	1.22	32,701
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	15.8	15.4	18.0	111	0.15	0.31	15.1	15.4	0.31	5.52	5.83	—	23,203	23,203	1.02	0.72	14.5	23,458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.88	2.81	3.28	20.2	0.03	0.06	2.76	2.82	0.06	1.01	1.06	—	3,842	3,842	0.17	0.12	2.41	3,884

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.04	1.71	15.9	14.2	0.02	0.66	—	0.66	0.60	—	0.60	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.90	2.60	< 0.005	0.12	—	0.12	0.11	—	0.11	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.03	13.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	< 0.005	13.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.86	8.86	< 0.005	< 0.005	0.01	9.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.03	13.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	< 0.005	13.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.86	8.86	< 0.005	< 0.005	0.01	9.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.82	2.37	22.6	21.6	0.03	0.98	—	0.98	0.90	—	0.90	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.13	3.94	0.01	0.18	—	0.18	0.16	—	0.16	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.29	21.2	20.2	0.04	0.88	—	0.88	0.81	—	0.81	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.87	3.69	0.01	0.16	—	0.16	0.15	—	0.15	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.81	7.47	9.32	0.02	0.31	—	0.31	0.28	—	0.28	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.71	3.41	2.59	39.2	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	8,022	8,022	0.37	0.28	30.1	8,145

Vendor	0.28	0.13	4.38	2.03	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,292	3,292	0.15	0.47	8.54	3,443
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	3.35	2.88	34.3	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	7,575	7,575	0.41	0.30	0.78	7,675
Vendor	0.28	0.13	4.55	2.09	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,294	3,294	0.15	0.47	0.22	3,436
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.58	2.37	2.05	24.9	0.00	0.00	5.05	5.05	0.00	1.18	1.18	—	5,465	5,465	0.28	0.21	9.29	5,545
Vendor	0.20	0.09	3.23	1.47	0.02	0.03	0.60	0.63	0.03	0.16	0.20	—	2,355	2,355	0.10	0.33	2.65	2,459
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.43	0.37	4.54	0.00	0.00	0.92	0.92	0.00	0.22	0.22	—	905	905	0.05	0.04	1.54	918
Vendor	0.04	0.02	0.59	0.27	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	390	390	0.02	0.06	0.44	407
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.24	2.02	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.71	3.41	2.59	39.2	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	8,022	8,022	0.37	0.28	30.1	8,145
Vendor	0.28	0.13	4.38	2.03	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,292	3,292	0.15	0.47	8.54	3,443
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	3.35	2.88	34.3	0.00	0.00	7.15	7.15	0.00	1.68	1.68	—	7,575	7,575	0.41	0.30	0.78	7,675
Vendor	0.28	0.13	4.55	2.09	0.02	0.04	0.84	0.89	0.04	0.23	0.28	—	3,294	3,294	0.15	0.47	0.22	3,436
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	2.58	2.37	2.05	24.9	0.00	0.00	5.05	5.05	0.00	1.18	1.18	—	5,465	5,465	0.28	0.21	9.29	5,545
Vendor	0.20	0.09	3.23	1.47	0.02	0.03	0.60	0.63	0.03	0.16	0.20	—	2,355	2,355	0.10	0.33	2.65	2,459
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.43	0.37	4.54	0.00	0.00	0.92	0.92	0.00	0.22	0.22	—	905	905	0.05	0.04	1.54	918
Vendor	0.04	0.02	0.59	0.27	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	390	390	0.02	0.06	0.44	407
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.68	0.57	5.33	7.14	0.01	0.25	—	0.25	0.23	—	0.23	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.97	1.30	< 0.005	0.05	—	0.05	0.04	—	0.04	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	0.82	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	10.8	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	1.98	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.68	0.52	7.83	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,604	1,604	0.07	0.06	6.02	1,629
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.67	0.58	6.86	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,515	1,515	0.08	0.06	0.16	1,535
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.47	0.41	4.98	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	1,093	1,093	0.06	0.04	1.86	1,109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.91	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	181	181	0.01	0.01	0.31	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	15.2	15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	10.8	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	1.98	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.68	0.52	7.83	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,604	1,604	0.07	0.06	6.02	1,629
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.67	0.58	6.86	0.00	0.00	1.43	1.43	0.00	0.34	0.34	—	1,515	1,515	0.08	0.06	0.16	1,535
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.47	0.41	4.98	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	1,093	1,093	0.06	0.04	1.86	1,109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.91	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	181	181	0.01	0.01	0.31	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	12/31/2025	5.00	261	—
Site Preparation	Site Preparation	1/1/2025	12/31/2025	5.00	261	—
Grading	Grading	1/1/2025	12/31/2025	5.00	261	—
Building Construction	Building Construction	1/1/2025	12/31/2025	5.00	261	—
Paving	Paving	1/1/2025	12/31/2025	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.17	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	846	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	132	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	169	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.17	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	846	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	132	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	169	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	1,202,344	400,781	78,750	26,250	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,845	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
University/College (4yr)	0.00	0%
Medical Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update East Campus 2040 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update East Campus 2040 Scenario Construction
Construction Start Date	1/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.87819463071624, -117.22354583325222
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6908
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	750	Dwelling Unit	19.7	281,250	0.00	—	750	—

Hotel	53.0	Room	1.77	76,956	0.00	—	—	—
University/College (4yr)	498	Student	2.10	168,750	0.00	0.00	—	—
Medical Office Building	150	1000sqft	3.44	150,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	28.1	26.1	86.2	131	0.21	3.19	19.8	23.0	2.93	7.40	10.3	—	30,348	30,348	1.01	0.92	24.8	30,672
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	28.1	26.1	86.6	127	0.21	3.19	19.8	23.0	2.93	7.40	10.3	—	29,920	29,920	1.03	0.92	0.64	30,221
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	20.1	18.6	61.8	90.8	0.15	2.28	14.1	16.3	2.10	5.27	7.37	—	21,441	21,441	0.74	0.66	7.65	21,663
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	3.66	3.40	11.3	16.6	0.03	0.42	2.57	2.98	0.38	0.96	1.35	—	3,550	3,550	0.12	0.11	1.27	3,587

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	18.7	22.6	141	0.21	0.42	19.8	20.2	0.41	7.40	7.81	—	30,348	30,348	1.01	0.92	24.8	30,672
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	18.7	23.1	137	0.21	0.42	19.8	20.2	0.41	7.40	7.81	—	29,920	29,920	1.03	0.92	0.64	30,221
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	13.5	13.4	16.3	98.2	0.15	0.30	14.1	14.4	0.30	5.27	5.57	—	21,441	21,441	0.74	0.66	7.65	21,663
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.46	2.44	2.98	17.9	0.03	0.05	2.57	2.62	0.05	0.96	1.02	—	3,550	3,550	0.12	0.11	1.27	3,587

3. Construction Emissions Details

3.1. Demolition (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.78	1.49	13.0	13.4	0.02	0.51	—	0.51	0.47	—	0.47	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.37	2.44	< 0.005	0.09	—	0.09	0.09	—	0.09	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	< 0.005	11.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.13	8.13	< 0.005	< 0.005	0.01	8.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41

3.2. Demolition (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	< 0.005	11.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.13	8.13	< 0.005	< 0.005	0.01	8.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41

3.3. Site Preparation (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.0	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.29	3.71	0.01	0.14	—	0.14	0.13	—	0.13	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.94	15.5	19.2	0.04	0.63	—	0.63	0.58	—	0.58	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	2.83	3.50	0.01	0.12	—	0.12	0.11	—	0.11	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.00	9.21	0.02	0.19	—	0.19	0.17	—	0.17	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.10	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.19	1.48	23.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,996	5,996	0.09	0.23	14.9	6,081

Vendor	0.22	0.12	3.80	1.85	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,198	3,198	0.11	0.46	5.37	3,343
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.18	1.70	20.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,664	5,664	0.11	0.23	0.39	5,735
Vendor	0.22	0.11	3.95	1.91	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,201	3,201	0.11	0.46	0.14	3,342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.57	1.54	1.08	15.0	0.00	0.00	4.13	4.13	0.00	0.97	0.97	—	4,086	4,086	0.08	0.16	4.61	4,141
Vendor	0.16	0.08	2.81	1.34	0.02	0.02	0.66	0.67	0.02	0.18	0.20	—	2,288	2,288	0.08	0.33	1.66	2,390
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.28	0.20	2.74	0.00	0.00	0.75	0.75	0.00	0.18	0.18	—	676	676	0.01	0.03	0.76	686
Vendor	0.03	0.01	0.51	0.25	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.04	—	379	379	0.01	0.06	0.28	396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	2.01	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.19	1.48	23.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,996	5,996	0.09	0.23	14.9	6,081
Vendor	0.22	0.12	3.80	1.85	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,198	3,198	0.11	0.46	5.37	3,343
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	2.18	1.70	20.8	0.00	0.00	5.85	5.85	0.00	1.37	1.37	—	5,664	5,664	0.11	0.23	0.39	5,735
Vendor	0.22	0.11	3.95	1.91	0.02	0.02	0.93	0.95	0.02	0.26	0.28	—	3,201	3,201	0.11	0.46	0.14	3,342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.57	1.54	1.08	15.0	0.00	0.00	4.13	4.13	0.00	0.97	0.97	—	4,086	4,086	0.08	0.16	4.61	4,141
Vendor	0.16	0.08	2.81	1.34	0.02	0.02	0.66	0.67	0.02	0.18	0.20	—	2,288	2,288	0.08	0.33	1.66	2,390
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.28	0.20	2.74	0.00	0.00	0.75	0.75	0.00	0.18	0.18	—	676	676	0.01	0.03	0.76	686
Vendor	0.03	0.01	0.51	0.25	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.04	—	379	379	0.01	0.06	0.28	396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.55	0.46	4.49	7.08	0.01	0.16	—	0.16	0.14	—	0.14	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.82	1.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.56	0.79	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	9.85	9.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	1.80	1.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.30	4.75	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,199	1,199	0.02	0.05	2.98	1,216
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.34	4.16	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,133	1,133	0.02	0.05	0.08	1,147
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.31	0.22	3.00	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	817	817	0.02	0.03	0.92	828
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.55	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	135	135	< 0.005	0.01	0.15	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	9.85	9.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	1.80	1.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.30	4.75	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,199	1,199	0.02	0.05	2.98	1,216
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.44	0.34	4.16	0.00	0.00	1.17	1.17	0.00	0.27	0.27	—	1,133	1,133	0.02	0.05	0.08	1,147
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.31	0.22	3.00	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	817	817	0.02	0.03	0.92	828
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.55	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	135	135	< 0.005	0.01	0.15	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2030	12/31/2030	5.00	261	—
Site Preparation	Site Preparation	1/1/2030	12/31/2030	5.00	261	—
Grading	Grading	1/1/2030	12/31/2030	5.00	261	—
Building Construction	Building Construction	1/1/2030	12/31/2030	5.00	261	—
Paving	Paving	1/1/2030	12/31/2030	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2030	12/31/2030	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.18	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	691	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	145	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	138	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.18	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	691	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	145	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	138	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	569,531	189,844	593,559	197,853	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	4,031	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Hotel	0.00	0%
University/College (4yr)	0.00	0%
Medical Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update SIO 2030 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update SIO 2030 Scenario Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.8686233286696, -117.24976706916924
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6320
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Research & Development	3.75	1000sqft	0.09	3,750	0.00	—	—	—

University/College (4yr)	441	Student	1.86	25,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	7.91	6.72	54.9	62.1	0.10	2.33	5.71	8.05	2.15	2.63	4.77	—	10,594	10,594	0.43	0.12	2.32	10,641
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	7.90	6.72	54.9	61.8	0.10	2.33	5.71	8.05	2.15	2.63	4.77	—	10,564	10,564	0.44	0.12	0.06	10,610
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.65	4.80	39.3	44.2	0.07	1.67	4.08	5.75	1.54	1.88	3.41	—	7,557	7,557	0.31	0.08	0.72	7,590
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.03	0.88	7.17	8.07	0.01	0.30	0.74	1.05	0.28	0.34	0.62	—	1,251	1,251	0.05	0.01	0.12	1,257

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.93	1.88	11.1	62.2	0.10	0.23	5.71	5.94	0.23	2.63	2.85	—	10,594	10,594	0.43	0.12	2.32	10,641
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.93	1.87	11.1	61.9	0.10	0.23	5.71	5.94	0.23	2.63	2.85	—	10,564	10,564	0.44	0.12	0.06	10,610
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.38	1.34	7.95	44.3	0.07	0.16	4.08	4.24	0.16	1.88	2.04	—	7,557	7,557	0.31	0.08	0.72	7,590
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.25	0.24	1.45	8.08	0.01	0.03	0.74	0.77	0.03	0.34	0.37	—	1,251	1,251	0.05	0.01	0.12	1,257

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	1.47	13.9	15.1	0.02	0.57	—	0.57	0.52	—	0.52	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	1.47	13.9	15.1	0.02	0.57	—	0.57	0.52	—	0.52	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.25	1.05	9.96	10.8	0.02	0.41	—	0.41	0.37	—	0.37	—	1,783	1,783	0.07	0.01	—	1,789
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.82	1.97	< 0.005	0.07	—	0.07	0.07	—	0.07	—	295	295	0.01	< 0.005	—	296
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	2.27	14.6	0.02	0.05	—	0.05	0.05	—	0.05	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	2.27	14.6	0.02	0.05	—	0.05	0.05	—	0.05	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	1.62	10.4	0.02	0.03	—	0.03	0.03	—	0.03	—	1,783	1,783	0.07	0.01	—	1,789
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.30	1.90	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.66	8.68	0.01	0.40	—	0.40	0.37	—	0.37	—	1,476	1,476	0.06	0.01	—	1,481
Dust From Material Movement	—	—	—	—	—	—	1.75	1.75	—	0.84	0.84	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.58	1.58	< 0.005	0.07	—	0.07	0.07	—	0.07	—	244	244	0.01	< 0.005	—	245
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	71.2	71.2	< 0.005	< 0.005	0.27	72.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.01	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.5	48.5	< 0.005	< 0.005	0.08	49.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,065	2,065	0.08	0.02	—	2,072

Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.14	0.72	8.49	0.01	0.03	—	0.03	0.03	—	0.03	—	1,476	1,476	0.06	0.01	—	1,481
Dust From Material Movement	—	—	—	—	—	—	1.75	1.75	—	0.84	0.84	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.13	1.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	244	244	0.01	< 0.005	—	245
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	71.2	71.2	< 0.005	< 0.005	0.27	72.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.01	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.5	48.5	< 0.005	< 0.005	0.08	49.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.08	10.1	10.4	0.02	0.46	—	0.46	0.42	—	0.42	—	1,755	1,755	0.07	0.01	—	1,761
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.20	1.84	1.89	< 0.005	0.08	—	0.08	0.08	—	0.08	—	291	291	0.01	< 0.005	—	292
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.6	64.6	< 0.005	< 0.005	0.11	65.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.20	14.2	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.20	14.2	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	0.86	10.2	0.02	0.03	—	0.03	0.03	—	0.03	—	1,755	1,755	0.07	0.01	—	1,761
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.16	1.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	291	291	0.01	< 0.005	—	292

Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.6	64.6	< 0.005	< 0.005	0.11	65.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.92	0.76	6.40	7.17	0.01	0.23	—	0.23	0.22	—	0.22	—	1,288	1,288	0.05	0.01	—	1,292
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.17	1.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	111	111	0.01	< 0.005	0.42	113

Vendor	0.01	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.31	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	105	105	0.01	< 0.005	0.01	106
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.01	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.7
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.3	84.3	< 0.005	0.01	0.09	88.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.02	12.7
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.21	3.10	7.87	0.01	0.05	—	0.05	0.04	—	0.04	—	1,288	1,288	0.05	0.01	—	1,292
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.57	1.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	111	111	0.01	< 0.005	0.42	113
Vendor	0.01	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.31	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	105	105	0.01	< 0.005	0.01	106
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	118	118	0.01	0.02	0.01	123
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.7
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.3	84.3	< 0.005	0.01	0.09	88.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.02	12.7
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.42	0.35	3.31	4.65	0.01	0.15	—	0.15	0.13	—	0.13	—	709	709	0.03	0.01	—	712
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.60	0.85	< 0.005	0.03	—	0.03	0.02	—	0.02	—	117	117	< 0.005	< 0.005	—	118
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	1.30	6.89	0.01	0.03	—	0.03	0.03	—	0.03	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	1.30	6.89	0.01	0.03	—	0.03	0.03	—	0.03	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	0.93	4.93	0.01	0.02	—	0.02	0.02	—	0.02	—	709	709	0.03	0.01	—	712
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.90	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	117	117	< 0.005	< 0.005	—	118
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.58	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	119	119	0.01	< 0.005	0.44	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	80.8	80.8	< 0.005	< 0.005	0.14	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	0.82	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	0.08	22.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	< 0.005	21.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	0.08	22.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	< 0.005	21.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	12/31/2025	5.00	261	—
Site Preparation	Site Preparation	1/1/2025	12/31/2025	5.00	261	—
Grading	Grading	1/1/2025	12/31/2025	5.00	261	—
Building Construction	Building Construction	1/1/2025	12/31/2025	5.00	261	—
Paving	Paving	1/1/2025	12/31/2025	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	1.00	6.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	10.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	11.7	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	4.71	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.34	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	11.7	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	4.71	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.34	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	43,125	14,375	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	1.88	0.00	—
Grading	—	—	4.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update SIO 2040 Scenario Construction Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update SIO 2040 Scenario Construction
Construction Start Date	1/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	19.8
Location	32.8686233286696, -117.24976706916924
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6320
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	175	Dwelling Unit	4.61	75,000	0.00	—	175	—

University/College (4yr)	404	Student	1.70	136,750	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	14.9	13.3	73.1	98.6	0.15	2.80	13.1	15.9	2.57	5.91	8.48	—	19,080	19,080	0.70	0.35	7.62	19,210
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	14.9	13.3	73.2	97.4	0.15	2.80	13.1	15.9	2.57	5.91	8.48	—	18,945	18,945	0.71	0.35	0.20	19,068
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	10.7	9.51	52.3	69.7	0.11	2.00	9.33	11.3	1.84	4.22	6.06	—	13,562	13,562	0.51	0.25	2.35	13,652
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.95	1.74	9.54	12.7	0.02	0.36	1.70	2.07	0.34	0.77	1.11	—	2,245	2,245	0.08	0.04	0.39	2,260

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	6.88	6.81	16.2	101	0.15	0.33	13.1	13.4	0.33	5.91	6.24	—	19,080	19,080	0.70	0.35	7.62	19,210
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	6.88	6.81	16.3	99.7	0.15	0.33	13.1	13.4	0.33	5.91	6.24	—	18,945	18,945	0.71	0.35	0.20	19,068
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	4.91	4.86	11.6	71.3	0.11	0.24	9.33	9.57	0.23	4.22	4.45	—	13,562	13,562	0.51	0.25	2.35	13,652
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.90	0.89	2.12	13.0	0.02	0.04	1.70	1.75	0.04	0.77	0.81	—	2,245	2,245	0.08	0.04	0.39	2,260

3. Construction Emissions Details

3.1. Demolition (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.78	1.49	13.0	13.4	0.02	0.51	—	0.51	0.47	—	0.47	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.37	2.44	< 0.005	0.09	—	0.09	0.09	—	0.09	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.0	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.29	3.71	0.01	0.14	—	0.14	0.13	—	0.13	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.76	1.48	12.6	17.3	0.03	0.51	—	0.51	0.47	—	0.47	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	1.48	12.6	17.3	0.03	0.51	—	0.51	0.47	—	0.47	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.26	1.06	9.02	12.4	0.02	0.37	—	0.37	0.34	—	0.34	—	2,116	2,116	0.09	0.02	—	2,123
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.65	2.26	< 0.005	0.07	—	0.07	0.06	—	0.06	—	350	350	0.01	< 0.005	—	352
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.29	2.04	17.8	0.03	0.06	—	0.06	0.06	—	0.06	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.29	2.04	17.8	0.03	0.06	—	0.06	0.06	—	0.06	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.21	1.46	12.7	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.09	0.02	—	2,123
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.96	0.96	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.27	2.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	350	350	0.01	< 0.005	—	352

Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.00	9.21	0.02	0.19	—	0.19	0.17	—	0.17	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.10	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.39	6.30	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,591	1,591	0.02	0.06	3.96	1,614

Vendor	0.06	0.03	1.08	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	1.52	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.45	5.52	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,503	1,503	0.03	0.06	0.10	1,522
Vendor	0.06	0.03	1.12	0.54	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	0.04	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.41	0.29	3.98	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,084	1,084	0.02	0.04	1.22	1,099
Vendor	0.04	0.02	0.80	0.38	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	649	649	0.02	0.09	0.47	678
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.73	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	180	180	< 0.005	0.01	0.20	182
Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	< 0.005	0.02	0.08	112
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	2.01	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.39	6.30	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,591	1,591	0.02	0.06	3.96	1,614
Vendor	0.06	0.03	1.08	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	1.52	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.45	5.52	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,503	1,503	0.03	0.06	0.10	1,522
Vendor	0.06	0.03	1.12	0.54	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	907	907	0.03	0.13	0.04	948
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.42	0.41	0.29	3.98	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,084	1,084	0.02	0.04	1.22	1,099
Vendor	0.04	0.02	0.80	0.38	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	649	649	0.02	0.09	0.47	678
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.73	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	180	180	< 0.005	0.01	0.20	182
Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	< 0.005	0.02	0.08	112
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.55	0.46	4.49	7.08	0.01	0.16	—	0.16	0.14	—	0.14	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.82	1.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.56	0.79	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	3.02	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	0.55	0.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.08	1.26	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	318	318	< 0.005	0.01	0.79	323
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.09	1.10	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	301	301	0.01	0.01	0.02	304
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.80	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.24	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.9	35.9	< 0.005	< 0.005	0.04	36.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	4.23	4.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	3.02	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	0.55	0.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.08	1.26	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	318	318	< 0.005	0.01	0.79	323
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.09	1.10	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	301	301	0.01	0.01	0.02	304
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.80	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.24	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.9	35.9	< 0.005	< 0.005	0.04	36.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2030	12/31/2030	5.00	261	—
Site Preparation	Site Preparation	1/1/2030	12/31/2030	5.00	261	—
Grading	Grading	1/1/2030	12/31/2030	5.00	261	—
Building Construction	Building Construction	1/1/2030	12/31/2030	5.00	261	—
Paving	Paving	1/1/2030	12/31/2030	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2030	12/31/2030	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Backh	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	183	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	41.1	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	36.7	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	183	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	41.1	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	36.7	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	151,875	50,625	205,125	68,375	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	261	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification

Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update West Campus 2030 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update West Campus 2030 Scenario Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	32.88090662910177, -117.23684580485022
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	625	Dwelling Unit	16.4	218,750	0.00	—	625	—

General Office Building	7.50	1000sqft	0.17	7,500	0.00	—	—	—
Hotel	43.0	Room	1.43	62,436	0.00	—	—	—
Health Club	62.5	1000sqft	1.43	62,500	0.00	—	—	—
University/College (4yr)	551	Student	2.32	31,250	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	24.4	22.0	108	136	0.20	4.36	17.8	22.2	4.01	6.93	10.9	—	28,404	28,404	1.20	0.74	31.0	28,686
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	24.4	21.9	108	132	0.20	4.36	17.8	22.2	4.01	6.93	10.9	—	28,041	28,041	1.23	0.76	0.80	28,298
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	17.4	15.7	77.3	94.7	0.14	3.12	12.7	15.8	2.87	4.94	7.81	—	20,090	20,090	0.87	0.54	9.56	20,283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.86	14.1	17.3	0.03	0.57	2.32	2.89	0.52	0.90	1.43	—	3,326	3,326	0.14	0.09	1.58	3,358

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	13.4	13.0	22.4	142	0.20	0.43	17.8	18.3	0.42	6.93	7.35	—	28,404	28,404	1.20	0.74	31.0	28,686
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	13.4	13.0	22.7	138	0.20	0.43	17.8	18.3	0.42	6.93	7.35	—	28,041	28,041	1.23	0.76	0.80	28,298
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	9.54	9.27	16.2	98.8	0.14	0.31	12.7	13.0	0.30	4.94	5.25	—	20,090	20,090	0.87	0.54	9.56	20,283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.74	1.69	2.96	18.0	0.03	0.06	2.32	2.38	0.06	0.90	0.96	—	3,326	3,326	0.14	0.09	1.58	3,358

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.04	1.71	15.9	14.2	0.02	0.66	—	0.66	0.60	—	0.60	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.09	0.09	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.90	2.60	< 0.005	0.12	—	0.12	0.11	—	0.11	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.35	169

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.22	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.01	169
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.11	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,449	2,449	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.09	0.09	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	405	405	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.35	169

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.22	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	161	161	0.01	0.03	0.01	169
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.11	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.82	2.37	22.6	21.6	0.03	0.98	—	0.98	0.90	—	0.90	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.13	3.94	0.01	0.18	—	0.18	0.16	—	0.16	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	0.01	< 0.005	0.19	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.29	21.2	20.2	0.04	0.88	—	0.88	0.81	—	0.81	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.87	3.69	0.01	0.16	—	0.16	0.15	—	0.15	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,719	4,719	0.19	0.04	—	4,735
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.59	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	129	129	0.01	0.01	0.22	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.4	21.4	< 0.005	< 0.005	0.04	21.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.81	7.47	9.32	0.02	0.31	—	0.31	0.28	—	0.28	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.27	2.09	1.58	24.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,915	4,915	0.23	0.17	18.4	4,990

Vendor	0.20	0.09	3.12	1.45	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,344	2,344	0.10	0.33	6.08	2,451
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.05	1.77	21.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,641	4,641	0.25	0.18	0.48	4,702
Vendor	0.20	0.09	3.24	1.49	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,345	2,345	0.10	0.33	0.16	2,446
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58	1.45	1.26	15.2	0.00	0.00	3.10	3.10	0.00	0.73	0.73	—	3,348	3,348	0.17	0.13	5.69	3,397
Vendor	0.14	0.07	2.30	1.05	0.01	0.02	0.42	0.45	0.02	0.12	0.14	—	1,676	1,676	0.07	0.24	1.88	1,751
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.23	2.78	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	554	554	0.03	0.02	0.94	562
Vendor	0.03	0.01	0.42	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.31	290
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.08	—	0.08	0.07	—	0.07	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.24	2.02	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,715	1,715	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.27	2.09	1.58	24.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,915	4,915	0.23	0.17	18.4	4,990
Vendor	0.20	0.09	3.12	1.45	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,344	2,344	0.10	0.33	6.08	2,451
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.05	1.77	21.0	0.00	0.00	4.38	4.38	0.00	1.03	1.03	—	4,641	4,641	0.25	0.18	0.48	4,702
Vendor	0.20	0.09	3.24	1.49	0.02	0.03	0.60	0.63	0.03	0.17	0.20	—	2,345	2,345	0.10	0.33	0.16	2,446
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.58	1.45	1.26	15.2	0.00	0.00	3.10	3.10	0.00	0.73	0.73	—	3,348	3,348	0.17	0.13	5.69	3,397
Vendor	0.14	0.07	2.30	1.05	0.01	0.02	0.42	0.45	0.02	0.12	0.14	—	1,676	1,676	0.07	0.24	1.88	1,751
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.23	2.78	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	554	554	0.03	0.02	0.94	562
Vendor	0.03	0.01	0.42	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.31	290
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.68	0.57	5.33	7.14	0.01	0.25	—	0.25	0.23	—	0.23	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.97	1.30	< 0.005	0.05	—	0.05	0.04	—	0.04	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,081	1,081	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	180
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.0	97.0	< 0.005	< 0.005	0.16	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	0.82	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architectural Coatings	5.83	5.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architect Coatings	1.06	1.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.32	4.80	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	983	983	0.05	0.03	3.69	998
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.41	0.35	4.20	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	928	928	0.05	0.04	0.10	940
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.05	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	670	670	0.03	0.03	1.14	679
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.56	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	< 0.005	0.19	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	8.15	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Architect ural Coatings	5.83	5.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9

Architectural Coatings	1.06	1.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.32	4.80	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	983	983	0.05	0.03	3.69	998
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.41	0.35	4.20	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	928	928	0.05	0.04	0.10	940
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.05	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	670	670	0.03	0.03	1.14	679
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.56	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	< 0.005	0.19	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	12/31/2025	5.00	261	—
Site Preparation	Site Preparation	1/1/2025	12/31/2025	5.00	261	—
Grading	Grading	1/1/2025	12/31/2025	5.00	261	—
Building Construction	Building Construction	1/1/2025	12/31/2025	5.00	261	—
Paving	Paving	1/1/2025	12/31/2025	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	2.24	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	518	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	93.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	104	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	2.24	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	518	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	93.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	104	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	442,969	147,656	245,529	81,843	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	50,741	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
General Office Building	0.00	0%
Hotel	0.00	0%
Health Club	0.00	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

UCSD LRDP Update West Campus 2040 Scenario Construction Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	UCSD LRDP Update West Campus 2040 Scenario Construction
Construction Start Date	1/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	15.4
Location	9500 Gilman Dr, La Jolla, CA 92093, USA
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6352
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	2,250	Dwelling Unit	59.2	955,000	0.00	—	2,250	—

University/College (4yr)	1,348	Student	5.69	456,250	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	16.8	94.2	179	0.24	3.22	32.8	36.1	2.97	10.5	13.4	—	46,275	46,275	1.33	1.98	60.9	46,960
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	18.9	16.7	95.2	170	0.24	3.22	32.8	36.1	2.97	10.5	13.4	—	45,204	45,204	1.38	1.99	1.58	45,833
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	13.5	11.9	67.6	122	0.17	2.30	23.3	25.6	2.12	7.46	9.58	—	32,438	32,438	0.99	1.42	18.8	32,906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.46	2.17	12.3	22.2	0.03	0.42	4.26	4.68	0.39	1.36	1.75	—	5,371	5,371	0.16	0.24	3.12	5,448

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	9.76	9.38	30.6	190	0.24	0.45	32.8	33.3	0.45	10.5	10.9	—	46,275	46,275	1.33	1.98	60.9	46,960
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	9.75	9.32	31.7	180	0.24	0.45	32.8	33.3	0.45	10.5	10.9	—	45,204	45,204	1.38	1.99	1.58	45,833
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	6.91	6.60	22.2	129	0.17	0.32	23.3	23.7	0.32	7.46	7.78	—	32,438	32,438	0.99	1.42	18.8	32,906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.26	1.20	4.05	23.6	0.03	0.06	4.26	4.32	0.06	1.36	1.42	—	5,371	5,371	0.16	0.24	3.12	5,448

3. Construction Emissions Details

3.1. Demolition (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.1	18.7	0.03	0.72	—	0.72	0.66	—	0.66	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.78	1.49	13.0	13.4	0.02	0.51	—	0.51	0.47	—	0.47	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.33	0.33	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.37	2.44	< 0.005	0.09	—	0.09	0.09	—	0.09	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.64	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	520	520	0.02	0.08	0.86	546

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.66	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	521	521	0.02	0.08	0.02	546
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.47	0.19	< 0.005	0.01	0.11	0.11	0.01	0.03	0.03	—	372	372	0.02	0.06	0.26	390
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	61.6	61.6	< 0.005	0.01	0.04	64.6

3.2. Demolition (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.46	0.46	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	3.22	13.0	0.02	0.05	—	0.05	0.05	—	0.05	—	2,450	2,450	0.10	0.02	—	2,458
Demolition	—	—	—	—	—	—	0.33	0.33	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.59	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.64	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	520	520	0.02	0.08	0.86	546

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.66	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	521	521	0.02	0.08	0.02	546
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.47	0.19	< 0.005	0.01	0.11	0.11	0.01	0.03	0.03	—	372	372	0.02	0.06	0.26	390
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	61.6	61.6	< 0.005	0.01	0.04	64.6

3.3. Site Preparation (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.47	2.92	25.2	28.4	0.05	1.07	—	1.07	0.98	—	0.98	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.48	2.09	18.0	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.29	3.71	0.01	0.14	—	0.14	0.13	—	0.13	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	1.85	20.2	0.03	0.07	—	0.07	0.07	—	0.07	—	3,787	3,787	0.15	0.03	—	3,800
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	3.69	0.01	0.01	—	0.01	0.01	—	0.01	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.60	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.38	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.53	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.12	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.72	21.7	26.9	0.06	0.88	—	0.88	0.81	—	0.81	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.94	15.5	19.2	0.04	0.63	—	0.63	0.58	—	0.58	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	2.83	3.50	0.01	0.12	—	0.12	0.11	—	0.11	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,596	6,596	0.27	0.05	—	6,619
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.46	3.16	25.3	0.04	0.09	—	0.09	0.09	—	0.09	—	4,717	4,717	0.19	0.04	—	4,733
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.58	4.61	0.01	0.02	—	0.02	0.02	—	0.02	—	781	781	0.03	0.01	—	784

Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.43	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.60	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.13	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	19.6	19.6	< 0.005	< 0.005	0.02	19.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.00	9.21	0.02	0.19	—	0.19	0.17	—	0.17	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.10	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.75	3.87	62.3	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	15,714	15,714	0.24	0.60	39.1	15,938

Vendor	0.49	0.25	8.27	4.03	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,952	6,952	0.23	1.00	11.7	7,269
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.71	4.46	54.5	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	14,844	14,844	0.28	0.60	1.01	15,030
Vendor	0.47	0.24	8.58	4.15	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,958	6,958	0.23	1.01	0.30	7,265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.11	4.03	2.82	39.3	0.00	0.00	10.8	10.8	0.00	2.54	2.54	—	10,709	10,709	0.20	0.43	12.1	10,853
Vendor	0.34	0.18	6.12	2.92	0.04	0.04	1.43	1.47	0.04	0.40	0.43	—	4,973	4,973	0.16	0.72	3.61	5,196
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.73	0.52	7.18	0.00	0.00	1.98	1.98	0.00	0.46	0.46	—	1,773	1,773	0.03	0.07	2.00	1,797
Vendor	0.06	0.03	1.12	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	823	823	0.03	0.12	0.60	860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.81	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	2.01	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	1.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.75	3.87	62.3	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	15,714	15,714	0.24	0.60	39.1	15,938
Vendor	0.49	0.25	8.27	4.03	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,952	6,952	0.23	1.00	11.7	7,269
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.71	4.46	54.5	0.00	0.00	15.3	15.3	0.00	3.59	3.59	—	14,844	14,844	0.28	0.60	1.01	15,030
Vendor	0.47	0.24	8.58	4.15	0.05	0.05	2.02	2.07	0.05	0.56	0.61	—	6,958	6,958	0.23	1.01	0.30	7,265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	4.11	4.03	2.82	39.3	0.00	0.00	10.8	10.8	0.00	2.54	2.54	—	10,709	10,709	0.20	0.43	12.1	10,853
Vendor	0.34	0.18	6.12	2.92	0.04	0.04	1.43	1.47	0.04	0.40	0.43	—	4,973	4,973	0.16	0.72	3.61	5,196
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.73	0.52	7.18	0.00	0.00	1.98	1.98	0.00	0.46	0.46	—	1,773	1,773	0.03	0.07	2.00	1,797
Vendor	0.06	0.03	1.12	0.53	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	823	823	0.03	0.12	0.60	860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.28	9.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.55	0.46	4.49	7.08	0.01	0.16	—	0.16	0.14	—	0.14	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.82	1.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.38	7.58	0.01	0.02	—	0.02	0.02	—	0.02	—	1,080	1,080	0.04	0.01	—	1,084
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	1.38	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	179	179	0.01	< 0.005	—	179
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	0.32	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	< 0.005	0.01	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.7	88.7	< 0.005	< 0.005	0.10	89.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.78	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.56	0.79	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.15	0.77	12.5	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	3,143	3,143	0.05	0.12	7.82	3,188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.14	0.89	10.9	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	2,969	2,969	0.06	0.12	0.20	3,006
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82	0.81	0.56	7.87	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,142	2,142	0.04	0.09	2.41	2,171
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	0.10	1.44	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	355	355	0.01	0.01	0.40	359
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.15	0.77	12.5	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	3,143	3,143	0.05	0.12	7.82	3,188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.17	1.14	0.89	10.9	0.00	0.00	3.06	3.06	0.00	0.72	0.72	—	2,969	2,969	0.06	0.12	0.20	3,006
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.82	0.81	0.56	7.87	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,142	2,142	0.04	0.09	2.41	2,171
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	0.10	1.44	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	355	355	0.01	0.01	0.40	359
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2030	12/31/2030	5.00	261	—
Site Preparation	Site Preparation	1/1/2030	12/31/2030	5.00	261	—
Grading	Grading	1/1/2030	12/31/2030	5.00	261	—
Building Construction	Building Construction	1/1/2030	12/31/2030	5.00	261	—
Paving	Paving	1/1/2030	12/31/2030	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2030	12/31/2030	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	8.25	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2

Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,812	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	315	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	362	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—

Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	8.25	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,812	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	315	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	362	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	187,210	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
University/College (4yr)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	589	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of 2025-2030 construction occurs in one year. Assumes 1 bed = 1 DU. Student pop derived by dividing net change by academic square footage.
Construction: Construction Phases	Default construction schedule scaled to occur over one year.

Existing Generators

Permit Number	Fuel Type	HP	Annual Fuel Usage (gal/yr for diesel million cuft/yr for NG)	Daily Fuel Usage (gal/day for diesel; million cuft/day for NG)	CO2e Emission Factors (lbs/1,000 gal diesel or lbs/million cuft NG)	CO2e Emissions (lbs/day)	MT CO2e per year
358	NG	228	0.1	0.001	120,248.22	120.248	5.45
360	DIESEL	550	30.7	0.307	22,473.00	6.899	0.31
599	DIESEL	398	17.5	0.175	22,473.00	3.933	0.18
860	DIESEL	685	36.3	0.363	22,383.85	8.125	0.37
877	DIESEL	1141	128	1.28	22,383.85	28.651	1.30
1035	DIESEL	237	10	0.1	22,473.00	2.247	0.10
1185	DIESEL	1490	64	0.64	22,383.85	14.326	0.65
1595	DIESEL	256	6.2	0.062	22,473.00	1.393	0.06
1596	DIESEL	433	18	0.18	22,473.00	4.045	0.18
1597	DIESEL	314	13	0.13	22,473.00	2.921	0.13
1598	DIESEL	314	13	0.13	22,473.00	2.921	0.13
1599	DIESEL	314	13	0.13	22,473.00	2.921	0.13
1600	DIESEL	314	12	0.12	22,473.00	2.697	0.12
1644	NG	195	1	0.01	22,473.00	0.225	0.01
2240	DIESEL	2206	330	3.3	22,383.85	73.867	3.35
2241	DIESEL	2206	287	2.87	22,383.85	64.242	2.91
3006	DIESEL	2937	287	2.87	22,383.85	64.242	2.91
3007	DIESEL	2937	290	2.9	22,383.85	64.913	2.94
3081	DIESEL	1220	58.5	0.585	22,383.85	13.095	0.59
3373	DIESEL	463	11.9	0.119	22,473.00	2.674	0.12
3445	DIESEL	5646	509	5.09	22,383.85	113.934	5.17
3462	DIESEL	315	8.1	0.081	22,473.00	1.820	0.08
3463	DIESEL	538	12.3	0.123	22,473.00	2.764	0.13
3464	DIESEL	538	14.7	0.147	22,473.00	3.304	0.15
3465	DIESEL	538	14.4	0.144	22,473.00	3.236	0.15
3498	DIESEL	923	57.6	0.576	22,383.85	12.893	0.58
3518	DIESEL	923	50.4	0.504	22,383.85	11.281	0.51
3519	DIESEL	1214	40.6	0.406	22,383.85	9.088	0.41
4015	DIESEL	1114	55.9	0.559	22,383.85	12.513	0.57
4305	DIESEL	609	40	0.4	22,383.85	8.954	0.41
960488	DIESEL	195	9.4	0.094	22,473.00	2.112	0.10
960494	DIESEL	50	2.2	0.022	22,473.00	0.494	0.02
972338	DIESEL	2168	101	1.01	22,383.85	22.608	1.03
972339	DIESEL	535	21.5	0.215	22,473.00	4.832	0.22
972341	DIESEL	535	22.7	0.227	22,473.00	5.101	0.23
972343	DIESEL	830	27.8	0.278	22,383.85	6.223	0.28
972345	DIESEL	158	6.7	0.067	22,473.00	1.506	0.07
972346	DIESEL	100	5.3	0.053	22,473.00	1.191	0.05
972347	DIESEL	1232	48.1	0.481	22,383.85	10.767	0.49
972348	DIESEL	150	9.5	0.095	22,473.00	2.135	0.10
972349	DIESEL	890	34.7	0.347	22,383.85	7.767	0.35
972350	DIESEL	1447	16.1	0.161	22,383.85	3.604	0.16
972351	DIESEL	890	23.3	0.233	22,383.85	5.215	0.24
972352	DIESEL	890	0	0	22,383.85	-	-
972353	DIESEL	2168	120	1.2	22,383.85	26.861	1.22
972354	DIESEL	463	18.8	0.188	22,473.00	4.225	0.19
972355	DIESEL	749	29.2	0.292	22,383.85	6.536	0.30
972849	DIESEL	605	25.3	0.253	22,383.85	5.663	0.26
975498	DIESEL	68	4.2	0.042	22,473.00	0.944	0.04
975499	DIESEL	102	4	0.04	22,473.00	0.899	0.04
976415	DIESEL	347	14.9	0.149	22,473.00	3.348	0.15
976883	DIESEL	2172	72.7	0.727	22,383.85	16.273	0.74
977348	DIESEL	2534	40	0.4	22,383.85	8.954	0.41
977380	DIESEL	823	32	0.32	22,383.85	7.163	0.32
978480	DIESEL	1480	63.5	0.635	22,383.85	14.214	0.64
978745	DIESEL	1501	50	0.5	22,383.85	11.192	0.51

979277	DIESEL	166	4.3	0.043	22,473.00	0.966	0.04
980924	DIESEL	1114	43.5	0.435	22,383.85	9.737	0.44
981264	DIESEL	317	14.1	0.141	22,473.00	3.169	0.14
982217	DIESEL	470	15.6	0.156	22,473.00	3.506	0.16
983815	DIESEL	2922	97.7	0.977	22,383.85	21.869	0.99
983817	DIESEL	385	9.1	0.091	22,473.00	2.045	0.09
983850	DIESEL	158	3.9	0.039	22,473.00	0.876	0.04
984277	DIESEL	364	15.2	0.152	22,473.00	3.416	0.15
985269	DIESEL	1502	31.1	0.311	22,383.85	6.961	0.32
987516	DIESEL	158	0	0	22,473.00	-	-
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
	DIESEL	744	109.5	1.095	22,383.85	24.510	1.11
Total						**1,068.317**	**48.458**

Sources:

https://www.sdapcd.org/content/sdapcd/permits/toxics-emissions/calculation-procedures.html#v1-2f8774f98a-item-973b5e6814

https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors-stationary-sources

Future Generators

Near Term - 2030

Campus	Number of Engines	BHP	BkW	Potential Daily Operating Hrs (hr/engine)	Potential Operating Days per Year	Load Factor	Emissions (lbs/day)							MT
							ROG	NOX	CO	SOX	PM10	PM2.5	CO2e	CO2e/yr
SIO	0	780	500	0.3	26	0.73	-	-	-	-	-	-	-	-
East Campus	8	780	500	0.3	26	0.73	0.42	0.90	7.83	-	0.05	0.04	4,364.79	51.48
West Campus	17	780	500	0.3	26	0.73	0.90	1.92	16.65	-	0.10	0.09	9,275.18	109.39
						Total	**1.32**	**2.82**	**24.48**	**-**	**0.14**	**0.14**	**13,639.98**	**160.86**

Horizon - 2040

Campus	Number of Engines	BHP	BkW	Potential Daily Operating Hrs (hr/engine)	Potential Operating Days per Year	Load Factor	Emissions (lbs/day)							MT
							ROG	NOX	CO	SOX	PM10	PM2.5	CO2e	CO2e/yr
SIO	1	780	500	0.3	26	0.73	0.05	0.11	0.98	-	0.01	0.01	545.60	6.43
East Campus	5	780	500	0.3	26	0.73	0.26	0.56	4.90	-	0.03	0.03	2,728.00	32.17
West Campus	7	780	500	0.3	26	0.73	0.37	0.79	6.85	-	0.04	0.04	3,819.19	45.04
						Total	**0.69**	**1.47**	**12.73**	**-**	**0.07**	**0.07**	**7,092.79**	**83.65**

CalEEMod CO2e Emergency Generator Emission Factors		
Low HP	High HP	CO2e lb/hp-hr
300	600	3.194
750	9999	3.194

Tier 4f Emergency Generator Emission Factors (g/bhp-hr)				
kWh	ROG	NOX	CO	PM
<560	0.14	0.3	2.6	0.015
>560	0.14	0.5	2.6	0.022

Operational GHG Emissions - Solid Waste

Annual GHG Emissions

Scenario	Population	Total Waste Generation (MT)	Waste Diverted (MT)	Waste Sent to Landfill (MT)	Emission Factor (MT CO_2e / MT of Waste)	Emissions (MT CO_2e / year)
Horizon - 2040	96,300	30,103	21,975	8,128	0.30	2,438

Waste Generation Per Capita (MT)	0.31
Current Diversion Rate	73%

Notes:

MT = metric ton; CO2e = carbon dioxide equivalent

Waste generation rate and emission factor from 2018 LRDP

Operational GHG Emissions - Water Consumption

Category	MG/year	MWh/year	Emission Factor (lb CO2e/MWh)	Total Emissions (MT CO2e/year)
Existing				
Domestic Water Demand	959.95	10,665.04	422	2,009
Wastewater Generation	843.15	1,611.26	508	365
Total		12,276.30		2,375
Horizon - 2040				
Domestic Water Demand	1627.9	18,085.97	88	708
Wastewater Generation	1470.95	2,810.99	123	154
Total		20,896.95		862

Notes: MG = million gallons; MWh = megawatt-hour

Process	kWhr/MG
Supply & Conveyance	9,727
Treatment	111
Distribution	1,272
Domestic Supply Total	1,911

Notes: kWhr = kilowatt-hour; MG = million gallons
CEC 2006. Refined Estimates of Water-Related Energy Use in California

Output Emission Rates and SB100 RPS Targets

	Statewide Average		SDGE	
Year	Percent Renewable	CO_2e (lb/MWh)	Percent Renewable	CO_2e (lb/MWh)
2022	36%	422	45%	508
2040	87%	88	87%	123

Notes: SDGE = San Diego Gas and Electric; CO2e = carbon dioxide equivalent; lb/MWh = pound per megawatt-hour
Source: SDGE 2022 Power Content Label

Conversions	
pounds per metric ton	2,240
kilowatts per megawatt	1,000

Operational GHG Emissions - Business Travel

		Total Emissions (MT CO2e/year)	
		Existing - 2022	Horizon - 2040
Scope 3	Business Travel	4,314	5,508

Forecasts based on the LRDP's anticipated growth of student and staff populations by 2040, and then adjusted to account for the expected continuation of fuel efficiency improvements over time. A study by the FAA reports that "Aircraft fuel efficiency has historically improved by about one percent per year. This trend is expected to continue for the forseeable future."
Source: https://catsr.vse.gmu.edu/SYST460/AviationEnv_PrimerFAA.pdf

18% reduction to account for fuel efficiency (1% reduction per year for 2022-2040)

	Existing - 2022	Horizon - 2040
Population	61,849	96,300
Percent Growth		56%

Appendix B

Trip Generation Calculations

MEMORANDUM

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San Diego

To:	Robert Clossin UC San Diego	Date:	March 14, 2025
From:	John Boarman, PE Amelia Giacalone LLG	LLG Ref:	3-23-3843
Subject:	Trip Generation Calculations Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan		

Linscott, Law & Greenspan, Engineers (LLG) has prepared this *Trip Generation Calculations Memorandum* for the Update to the 2018 University of California (UC) San Diego La Jolla Campus Long Range Development Plan Update (hereby referred to as the "Project"). The UC San Diego La Jolla Campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego. This memo has been prepared to document the trip generation and assignment methodology and procedure for the Project.

Background

The Project Area is located within a Transit Priority Area (TPA) and can therefore be presumed to have a less than significant transportation (VMT) impact, as documented under separate cover. Since the Project can be presumed to have a less than significant transportation impact, Project trip generation and assignment were not needed to determine the Project's potential CEQA impact from a transportation perspective. However, this data was required for use in the Project's air quality. Greenhouse gas, and noise analyses and was therefore developed by LLG in association with staff at the UC San Diego La Jolla Campus and the Project team.

2018 LRDP

Project Description

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total of 42,400 students during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 6,700 new beds by 2035.

Trip Generation

Total average daily trips (ADT) for the campus at 2035 including buildout of the 2018 LRDP was calculated as **117,209 ADT**. Trip generation was calculated for each component of the 2018 LRDP project description listed above based on the following documents.

- *UC San Diego Trip Generation Assessment* report (2010)
- *2004 UC San Diego Long Range Development Plan Traffic Update* (2010)
- Published City of San Diego trip generation rates from the Land Development Code *Trip Generation Manual*, revised May 2003.

Update to the 2018 LRDP

Project Description

The proposed Project would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development is proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP. The projected campus-wide population in 2040 is **96,300 people**.

Trip Generation

Given the fact that the trip generation sources listed above are very dated and in some cases over 20-years old, the trip generation for the Project was not calculated based on trip rates, the methodology used for the 2018 LRDP. Instead, trip generation was estimated based on the anticipated campus population at Project buildout and Winter 2023 mode split data provided by UC San Diego (included as ***Attachment A***).

This methodology calculates ADT based on campus population and assumes 2 trips per person per day as a starting point for the calculations, based on expected travel patterns (e.g., each member of the campus population will arrive and depart once per day). As noted above, the projected campus-wide population for the Project in 2040 is 96,300 people. **96,300 people x 2 trips per person = 192,600 average person trips per day**. Person trips are the number of trips made to and from Campus by the campus population via all modes of transportation including single occupancy vehicle, carpool, transit, biking, walking or some other mode and includes theoretical trips[1] associated with remote workers and on-campus student residents.

Adjustments were made to the person trips calculated above to account for members of the campus population who would not be expected to commute to campus, including fully remote workers and

[1] A theoretical trip is an expected trip to/from campus by a member of the campus population that is not made because the person lives on campus or is working from home /not commuting to campus on that day.

on-campus student residents. Based on Winter 2023 mode split data provided by UC San Diego, summarized in ***Table A***, approximately 18% of the campus population reported working remotely and approximately 19% reported as non-commuting on-campus student residents. Applying this mode split data to the Project's calculated 192,600 average daily person trips equates to a reduction of 34,709 person trips for remote workers and 36,631 person trips for on-campus student residents, as shown in ***Table B***.

Additional adjustments were made to the Project's person trips to account for alternative modes of transportation and occupancy rates based on Winter 2023 mode split data provided by UC San Diego. The Winter 2023 mode split data summarized in *Table A* shows that approximately 28.4% of the campus population reported commuting by single occupant vehicle, 19% by multi-occupant vehicle (carpool), 0.8% utilizing the campus-wide shuttle service, 6.4% taking public transportation with an additional 3.5% taking the trolley, 4.7% biking or walking, 0.1% by vanpool, and 0.1% by motorcycle.

Applying the non-vehicular mode split and vehicle occupancy reductions to the Project's calculated 192,600 average daily person trips equates to **73,915 average daily vehicular trips (ADT)**, as calculated in ***Table B***.

Trip Distribution

The calculated Project traffic summarized above was assigned to the local and regional street system based on the methodology outlined in the 2018 LRDP Transportation Impact Study (TIS).

Trip Generation Comparison

The trip generation for buildout (2035) of the 2018 LRDP was calculated using a more traditional methodology that considered published land-use specific trip generation rates and proposed development square footage. Total ADT for the campus including the 2018 LRDP at buildout was calculated as **117,209 ADT**. It should be noted that more traditional methodologies do not always accurately account for the nuanced travel behaviors associated with a university/campus context.

As noted above, trip generation for the Project was not calculated based on the methodology used for the 2018 LRDP. Instead, trip generation was estimated based on UC San Diego specific Winter 2023 mode split data and the projected campus population under 2040 conditions. Using this refined methodology, total buildout (2040) ADT for the campus including the Update to the 2018 LRDP was calculated as **73,915 ADT**.

Year 2040 Traffic Volumes

Traffic volumes were forecast for the same segments analyzed in the 2018 LRDP Traffic Impact Analysis for the following scenarios:

- Year 2040 with buildout of the 2018 LRDP without Project
- Year 2040 with buildout of the 2018 LRDP + Project.

Year 2040 with buildout of the 2018 LRDP **without** Project Traffic Volumes

Consistent with methodology from the 2018 LRDP TIA, the 2040 without Project forecast volumes are based on the *University Community Plan Amendment Transportation Impact Study* (2016). This study forecasted community buildout for the Year 2035.

The Year 2040 traffic volumes were developed based on an interpolation between the Existing and the Year 2035 traffic volumes from the 2018 LRDP TIA. A standard incremental year-over-year increase was developed and applied to the 2035 traffic volumes to account for the five-years between 2035 and 2040. Next, the net-new buildout trips from the 2018 LRDP TIA were added to the 2040 volumes to develop the "2040 with buildout of the 2018 LRDP without Project" traffic volumes, which are provided in ***Table C***.

Year 2040 with buildout of the 2018 LRDP **with** Project Traffic Volumes

The net-new Project buildout traffic volumes were added to the 'Year 2040 with buildout of the 2018 LRDP without Project Traffic Volumes' based on the distribution methodology from the 2018 LRDP TIA to develop the 'Year 2040 with buildout of the 2018 LRDP with Project Traffic Volumes', which are provided in *Table C.*

As noted above, buildout of the 2018 LRDP was calculated to generate a campus wide total of 117,209 ADT and buildout of the Update to the 2018 LRDP was calculated to generate a campus wide total of 73,915 ADT. The decrease in total campus ADT between the without Update and with Update scenarios results in "with Project" volumes that are lower than the "without Project" volumes and in some cases, lower than the existing traffic volumes from the 2018 LRDP study.

The calculated decrease in total campus ADT associated with the refined trip generation methodology accounts for changes in remote work, increases in on-campus student housing, and more accurate self-reporting data, and thus provides improved modeling of the campus' expected ADT. Previous methodology was based on more generalized trip generation standards that may not have accurately accounted for the more nuanced transportation patterns of a university campus. More specifically, standard methodologies do not always accurately account for student travel patterns that are unique to both commuters and on-campus residents. In addition, these methodologies do not always accurately reflect the university's robust transportation demand management programs. Today students account for approximately 65 percent of the total campus population and in the future that number will be approximately 58 percent, as estimated under the Update to the 2018 LRDP, representing a significant portion of the total campus population.

Table A: UC San Diego Winter 2023 Mode Split Summary

Mode[a]	Percentage[c]	Vehicle Occupancy Rate [b]
Single Occupant Vehicle	28.4%	1.0
Motorcycle	0.1%	1.0
Multi-Occupant Vehicle (carpool)	19.0%	2.1
Vanpool	0.1%	5.9
Shuttle	0.8%	12.7
Bike & Pedestrian	4.7%	-
Transit: Bus	6.4%	10.8
Transit: Trolley	3.5%	23.6
Remote Workers (no commute)	18.0%	-
Non-Commuting On-campus Student Residents	19.0%	-
Total	**100%**	**-**

Footnotes:

a. Winter 2023 mode split data and vehicle occupancy data provided by UC San Diego.
b. People / vehicle
c. Mode split percentages are reported as rounded to the nearest tenth.

Table B: Year 2040 Project Trip Type Summary

Mode[a]	Percentage[f]	Vehicle Occupancy Rate [b]	Person Trips[d]	Vehicle Trips (ADT)[e]
Single Occupant Vehicle	28.4%	1.0	54,682	54,682
Motorcycle	0.1%	1.0	263	263
Multi-Occupant Vehicle (carpool)	19.0%	2.1	36,559	17,410
Vanpool	0.1%	5.9	98	17
Shuttle	0.8%	12.7	1,484	117
Bike & Pedestrian	4.7%	-	9,128	0
Transit: Bus	6.4%	10.8	12,321	1,141
Transit: Trolley	3.5%	23.6	6,725	285
Remote Workers (no commute)	18.0%	-	34,709	0
On-campus Student Residents (no commute)	19.0%	-	36,631	0
Total	**100%**	**-**	**192,600[c]**	**73,915**

Footnotes:

a. Winter 2023 mode split data and vehicle occupancy data provided by UC San Diego.
b. People / vehicle
c. Total person trips calculated based on the Project Year 2040 campus population of 96,300 people and the rate of 2 trips per person per day.
d. Person trips calculated by multiplying the calculated total person trips of 192,600 by the applicable mode split share.
e. Vehicle trips calculated by multiplying the person trips by the vehicle occupancy rate.
f. Mode split percentages are reported as rounded to the nearest tenth. Calculations were conducted using the unrounded mode split percentages as reported by UC San Diego.

Table C: Project Trip Type Summary

Roadway	Roadway Segment	ADT		
		Existing	2040 Without Project	2040 With Project Update
Genessee Avenue	N Torrey Pines Road to Science Center Dr	36,320	50,060	47,290
	Science Center Dr to I-5 SB Ramps	40,170	62,790	60,020
	I-5 NB Ramps to Scripps Hospital Dr	39,900	61,200	58,120
	Scripps Hospital Dr to Campus Point Dr	33,720	67,510	64,430
	Campus Point Dr to Regents Rd	34,260	65,600	60,300
N Torrey Pines Road	Genessee Ave to Northpoint Driveway	21,940	25,630	22,690
	Northpoint Driveway to Torrey Pines Scenic Dr	20,410	28,840	26,490
	Torrey Pines Scenic Dr to Salk Institute Rd	20,750	27,080	24,730
	Salk Institute Rd to Pangea Dr	22,390	26,930	23,400
	Pangea Dr to Muir College Dr	22,390	26,930	23,400
	Muir College Dr to La Jolla Shores Dr	25,240	30,060	24,760
	La Jolla Shores Dr to Expedition Wy	23,770	35,320	22,680
	Expedition Wy to S Torrey Pines Rd	23,770	35,320	22,680
La Jolla Shores Drive	Shellback Way to Downwind Way	10,670	13,420	12,990
	Downwind Way to El Paseo Grande	10,670	13,420	12,990
Regents Road	Genesee Avenue to Health Science Drive	5,680	11,870	9,240
	Health Science Drive to Eastgate Mall	13,760	24,490	19,220
	Eastgate Mall to Executive Drive	14,100	26,090	19,160
	Executive Drive to Regents Park Row	15,640	24,510	17,440
	Regents Park Row to La Jolla Village Drive	16,700	25,110	18,040
	La Jolla Village Drive to Nobel Drive	16,470	21,460	18,650
	South of Nobel Drive	10,920	12,000	11,570
La Jolla Village Drive	Torrey Pines Road to La Jolla Scenic Drive	42,450	63,920	51,450
	La Jolla Scenic Drive to Villa La Jolla Drive	44,790	63,690	51,380
	Villa La Jolla Drive to I-5 SB Ramps	59,540	86,590	73,400
	I-5 NB Ramps to Lebon Drive	52,360	57,710	49,020
	Lebon Drive to Regents Road	40,290	58,710	50,610
Gilman Drive	East of Villa La Jolla Drive	16,990	26,030	21,150
	Villa La Jolla Drive to La Jolla Village Drive	15,470	22,620	24,140
Villa La Jolla Drive	La Jolla Village Drive to Nobel Drive	17,620	28,020	20,660
	Nobel Drive to Gilman Drive (South)	14,030	17,460	17,040
Interstate 5	Nobel Drive to La Jolla Village Drive	156,470	187,580	181,090
	La Jolla Village Drive to Genesee Avenue	170,980	207,550	205,000

Appendix G

Supplemental Noise Analysis

Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan

Supplemental Noise Analysis

March 2025 | 00888.00076.001

Prepared for:

UC San Diego
Campus Planning
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Prepared by:

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Acronyms and Abbreviations

AB	Assembly Bill
ADT	average daily traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GSF	gross square feet
HT	heavy trucks
HVAC	heating, ventilation, and air conditioning
L_{EQ}	equivalent sound level
LLG	Linscott, Law and Greenspan, Engineers
LLN	Living and Learning Neighborhood
LRDP	Long Range Development Plan
mph	miles per hour
MT	medium trucks
NB	northbound
NSLU	noise-sensitive land use
SB	southbound
SEIR	Subsequent Environmental Impact Report
SIO	Scripps Institution of Oceanography
TNM	Traffic Noise Model
UC	University of California

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EXECUTIVE SUMMARY

This report presents an analysis in support of the University of California (UC) San Diego Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan (2018 LRDP) (Update to the 2018 LRDP) Subsequent Environmental Impact Report (SEIR). The analysis provides a supplementary assessment of potential impacts associated with implementation of the Update to the 2018 LRDP, as compared to those identified in the 2018 LRDP EIR.

The Update to the 2018 LRDP anticipates greater population and development growth on UC San Diego’s La Jolla Campus, as compared to the 2018 LRDP. Due to these changes, changes in noise related to increased construction, development, and traffic volumes is anticipated.. In addition, this report assesses noise associated with the Update to the 2018 LRDP according to California Environmental Quality Act (CEQA) guidelines, which were updated in 2019.

With implementation of the Update to the 2018 LRDP, the assumptions, methodology, and analysis conclusions from the 2018 LRDP EIR remain unchanged for vibration, construction noise, stationary noise, and noise related to rail traffic. Updated vehicular traffic modeling was conducted to account for anticipated traffic associated with the Update to the 2018 LRDP. The revised methodology used to calculate trip generation by campus uses has been updated which shows a reduction in trips as compared to the methodology used in the 2018 LRDP. The results of the modeling indicate that no additional vehicular noise impacts due to implementation of the Update to the 2018 LRDP not analyzed in the EIR for the 2018 LRDP EIR would occur.

Although no new or additional impacts were identified, this report presents an updated list of mitigation measures to replace and/or revise those from the 2018 LRDP EIR. This reflects changes to how the noise issues are presented under the updated CEQA guidelines. Mitigation measure Noi-1C would require screening distances for future stationary noise sources. Noi-1D and Noi-1E would require a preliminary assessment and/or project-specific analysis, if new stationary sources are located within the screening distances defined in mitigation measure Noi-1C. Mitigation measures Noi-1F and Noi-2B would identify screening distances related to construction noise and vibration, respectively.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report analyzes potential noise and vibration impacts in support of the University of California (UC) San Diego Update to the 2018 UC San Diego La Jolla Campus Long Range Development Plan (LRDP) (Update to the 2018 LRDP) Subsequent Environmental Impact Report (SEIR). The analysis provides an assessment of potential impacts associated with the implementation of the Update to the 2018 LRDP (project). This report has been prepared to comply with the California Environmental Quality Act (CEQA) and serves as a supplemental analysis to the 2018 LRDP EIR Noise Technical Report (AECOM 2018). It also reflects updates to the CEQA guidelines that occurred since the 2018 LRDP EIR was certified.

1.2 PROJECT BACKGROUND

The UC requires that each campus in the UC system maintain a LRDP. The LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected enrollment increases and new program initiatives. The current LRDP for the UC San Diego La Jolla campus (2018 LRDP) and its Environmental Impact Report (EIR; State Clearinghouse No. 2016111019) were adopted on November 15, 2018, by the UC Regents. The 2018 LRDP EIR analyzed and disclosed impacts from implementation of the 2018 LRDP.

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total student enrollment of 42,400 during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 6,700 new residential beds.

1.3 PROJECT LOCATION

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego (see Figure 1, *Regional Location*, and Figure 2, *Campus Boundary*). UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus). The East and West Campuses are bisected by Interstate 5 (I-5) but are internally connected via two bridges. The La Jolla del Sol housing complex is located southeast of these larger geographical areas and is not contiguous to the campus. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel, and the Torrey Pines Gliderport, Torrey Pines Center, and Torrey Pines Court.

1.4 PROJECT DESCRIPTION

The Update to the 2018 LRDP represents physical development and population growth capacities on UC San Diego's La Jolla campus that are projected to occur through the updated horizon year of 2040. The Update to the 2018 LRDP would revise and increase the previous population growth and development projections and extend the planning horizon year from 2035 to 2040. Corresponding land use development is expected to increase from the projections outlined in the 2018 LRDP. To accommodate this growth, limited land use changes would be made in the West and East Campuses (Figure 3, *Updated Land Use Map*). For a detailed Project Description, refer to the Supplemental EIR.

1.5 NOISE TERMINOLOGY

Section 1.2.1.1 of the 2018 LRDP EIR's Technical Noise Report (AECOM 2018) provides a full glossary of common terminology and noise descriptors, which are applicable to this report.

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A--weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. Sound levels expressed in CNEL are always based on dBA.

Because decibels are logarithmic units, they cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions.

1.6 NOISE AND VIBRATION-SENSITIVE LAND USES

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, or similar facilities where quiet is an important attribute of the environment. Noise receptors are individual locations that may be affected by noise.

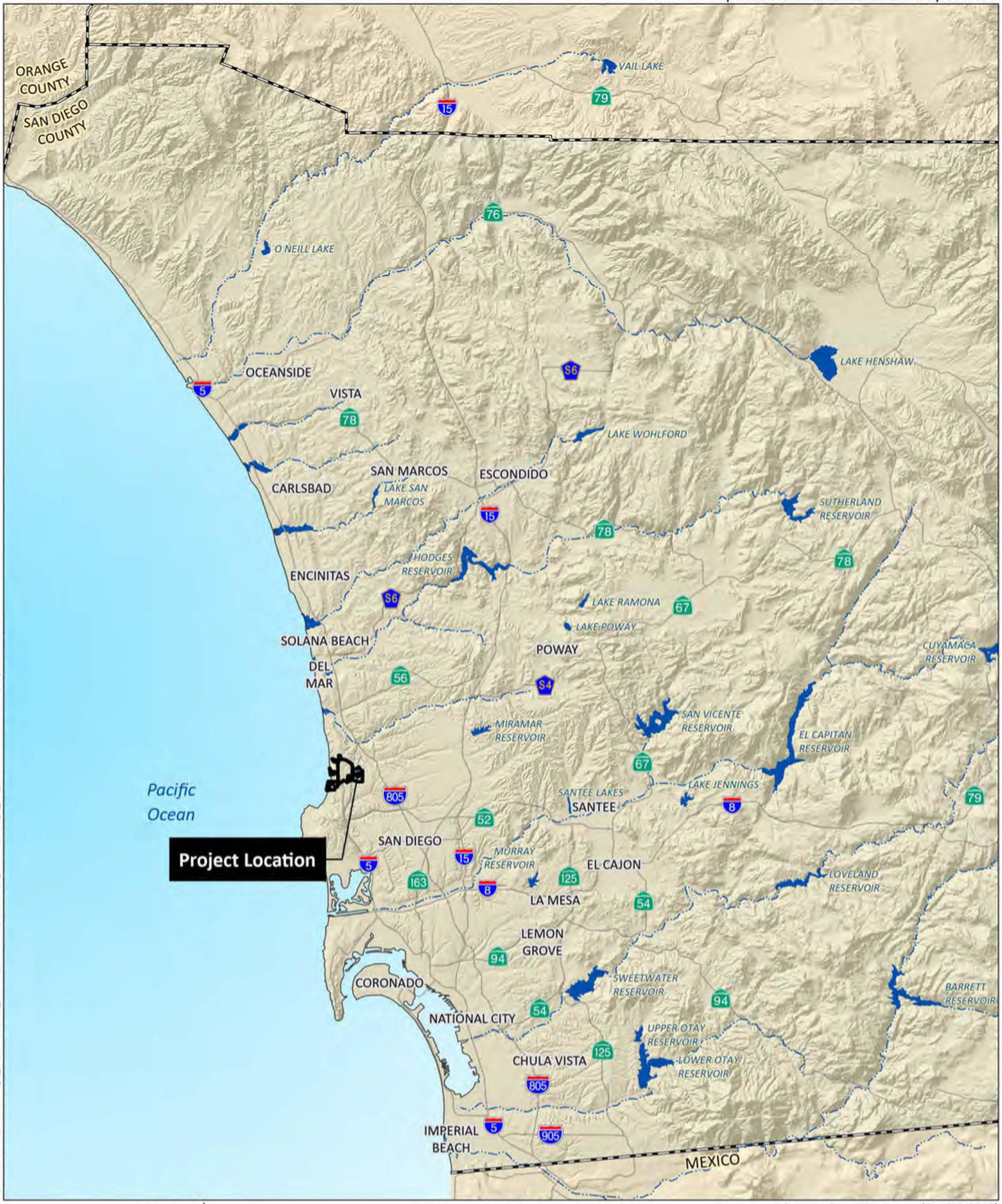
Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (Federal Transit Administration [FTA] 2018) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. In addition, excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses or schools.

1.7 REGULATORY FRAMEWORK

Section 2 of the 2018 LRDP EIR's Technical Noise Report (AECOM 2018) provides standards which address noise and vibration. This regulatory framework identified in that document remains applicable to the Update to the 2018 LRDP. The following regulatory framework focuses on new or updated regulations and guidance that have occurred since certification of the 2018 LRDP EIR:

1.7.1 Federal Transit Administration

The FTA guidance described in the 2018 LRDP EIR relied on a 2006 version of the FTA's Transit Noise and Vibration Impact Assessment Manual, which was updated in September 2018 (FTA 2018). However, the thresholds described in the 2018 LRDP EIR were not altered in the 2018 manual. As noted in the 2018 LRDP EIR, FTA thresholds vary with the existing outdoor sound level at the noise-sensitive receptor of concern. Generally, when the existing ambient sound level is relatively quiet, the allowable ambient



Source: Base Map Layers (SanGIS, 2016)

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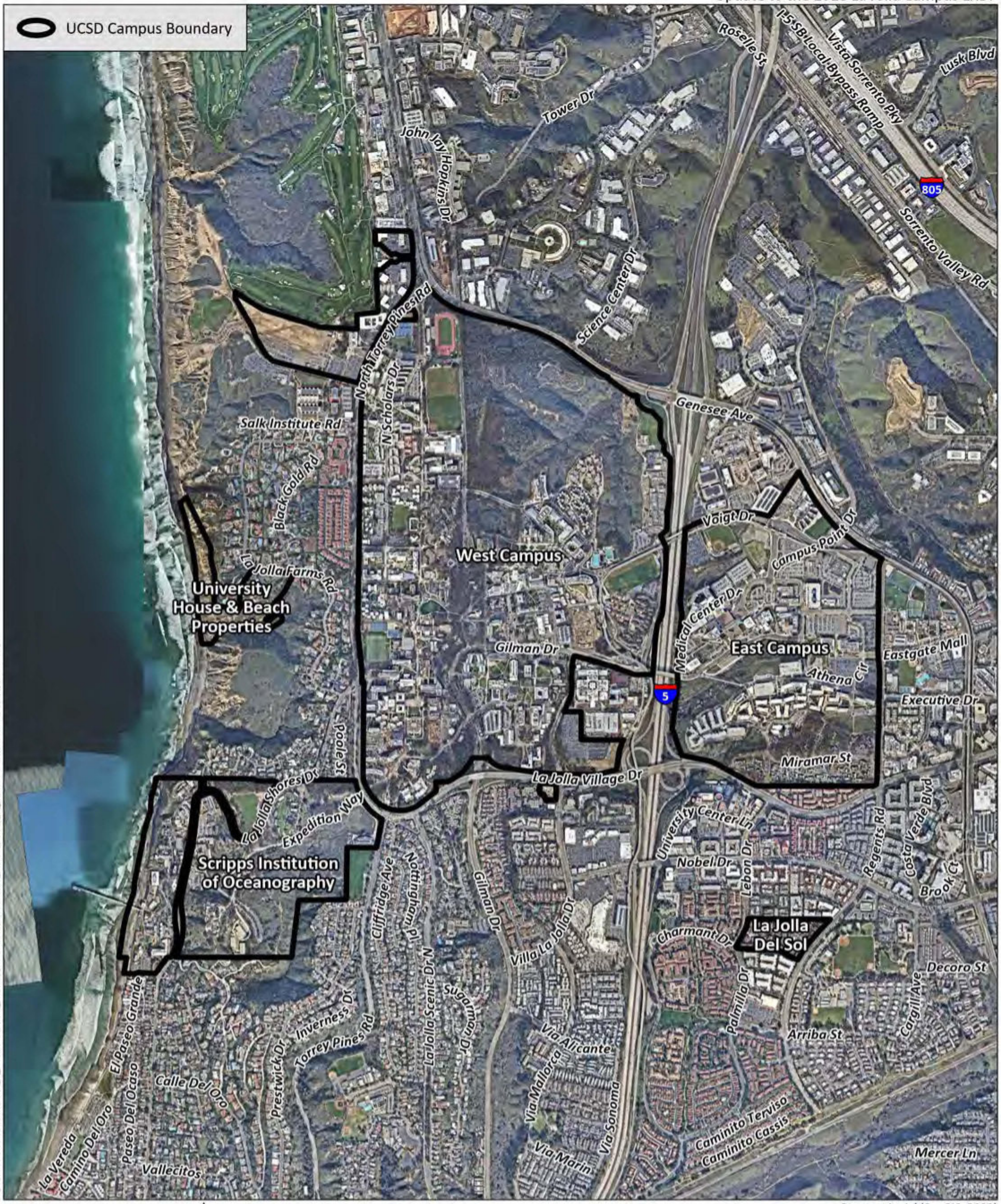
Regional Location

Figure 1



Source: Aerial (SanGIS, 2023)

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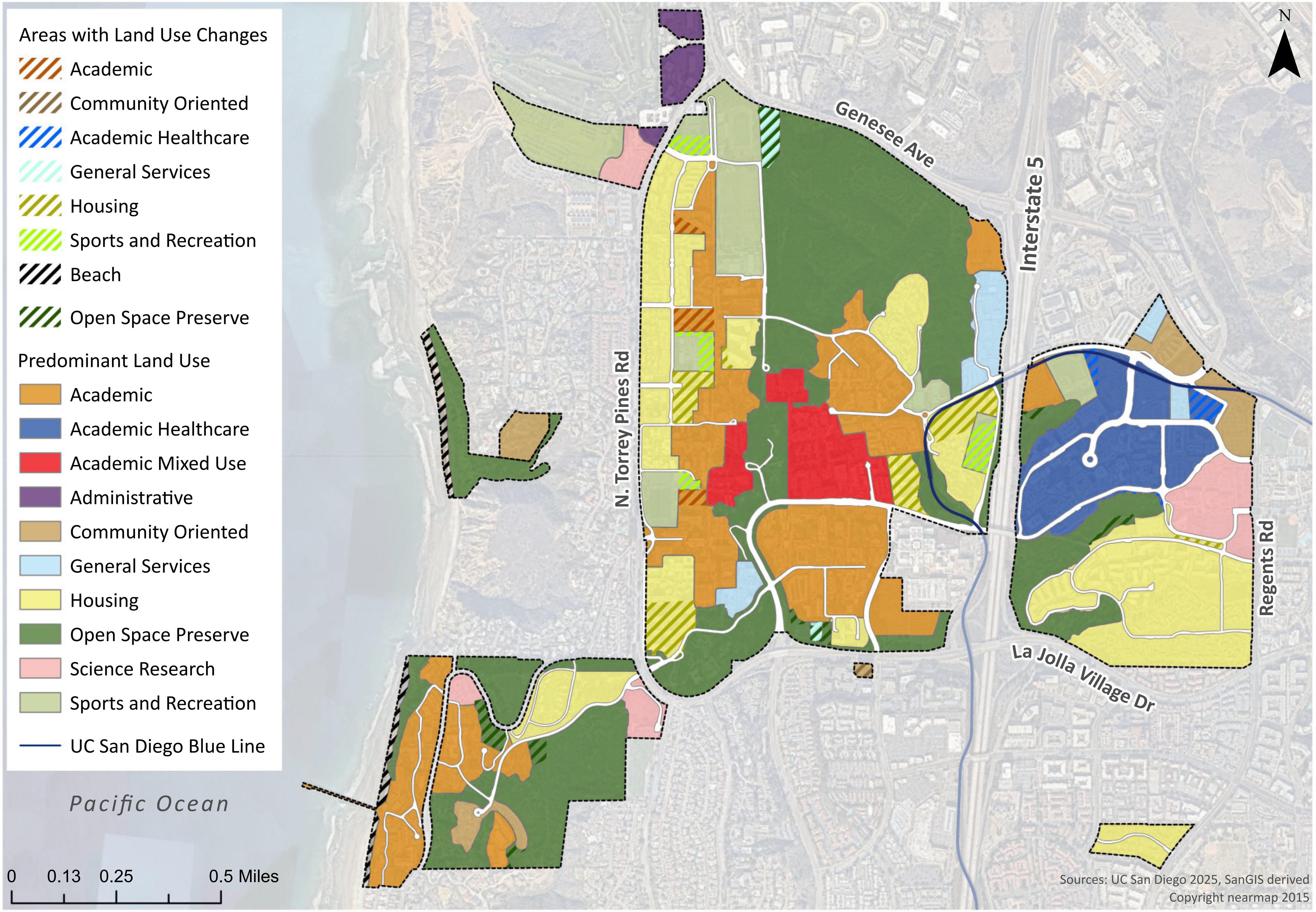
Campus Boundary

Figure 2



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Updated Land Use Map

Figure 3

increment due to noise contribution from a project is several dB whereas when the existing sound level is already loud, the allowable ambient increment can be modest or even zero.

1.7.2 California Assembly Bill 1307

Assembly Bill (AB) 1307 was approved by Governor Newsom on September 7, 2023. The bill adds section 21085 to the Public Resources Code relating to environmental quality. Section 21085 states that for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment.

1.7.3 California Building Code

As was the case in the 2018 LRDP EIR, the UC has adopted the California Building Code (CBC) as its building code for campus development. The CBC is updated regularly with the most recent update being the 2022 version contained in CCR Title 24, Part 2. Requirements for sound transmission between adjacent dwelling or sleeping units, and between public areas and dwelling units or sleeping units have been moved to Part 2, Volume 1, Chapter 12, Section 1206 of the 2022 CBC (ICC 2022). However, the allowable interior noise level attributed to external sound sources remains 45 dB CNEL (or L_{DN}).

Section 1206.5 of the CBC directs the reader to the California Green Building Standards Code, Chapter 5, Division 5.5 for additional sound transmission requirements (as they relate to non-residential land uses). Consistent with the regulatory framework provided in the 2018 LRDP EIR, CCR Title 24, Part 11, Section 5.507 specifies building requirements for environmental comfort with regard to noise exposure for non-residential buildings. The requirements for interior acoustical control provided therein have not been altered from those described in the 2018 LRDP EIR, including wall and roof assemblies with sound transmission class (STC) ratings of at least 50 (or a composite outdoor-indoor transmission class [OITC] rating of not less than 40) and exterior windows rated with a minimum STC of 40 (or OITC of 30) when occupied structures are planned with a 65 dBA CNEL contour of an airport, railroad, highway traffic, or industrial noise source. The alternative performance method requires that the interior noise environment attributable to outdoor noise sources not exceed an hourly L_{EQ} of 50 dBA, as demonstrated by an acoustical analysis. For public schools and community colleges, Section 5.507.4 is applied only to new construction.

1.7.4 California Code of Regulations Section 65302(f)

CCR Section 65302 was amended by Senate Bill (SB) 932 in 2022; however, the revisions to Section 65302(f) were minor, consisting of revisions to text referencing other sections of this regulation, and the changes were not substantive and did not affect the analysis. In addition, it remains the case that a General Plan Noise Element is not required for UC campuses.

2.0 2018 LONG RANGE DEVELOPMENT PLAN EIR

2.1 SUBSEQUENT REVIEW

As outlined in CEQA Guidelines Section 15162(a), when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was adopted, shows any of the following:

A. The project will have one or more significant effects not discussed in the EIR;

B. Significant effects previously examined will be substantially more severe than shown in the EIR;

C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

D. Mitigation measures or alternatives which are considerably different from those in the EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

UC San Diego adopted the 2018 LRDP EIR, which identified that noise generated by the implementation of the 2018 LRDP would increase noise levels in the vicinity of UC San Diego. The 2018 LRDP examined four noise issue areas, based on Appendix G of the CEQA Guidelines at the time. For each of the four noise issue areas, the 2018 LRDP identified mitigation measures to reduce potential impacts. Each issue area is identified below, along with the resulting mitigation measures that would be applied to future UC San Diego projects at the La Jolla Campus.

2.2 SUMMARY OF NOISE IMPACTS FROM 2018 LRDP EIR

2.2.1 Issue 1 – Exceed Noise Standards

Would implementation of the 2018 LRDP expose persons to noise in excess of standards?

Under Issue 1, the 2018 LRDP EIR identified impacts based on an assessment of whether transportation, stationary, or construction noise exceeded the criteria listed in Table 7 of the noise report[1] (AECOM 2018). The analysis concluded that increased traffic volumes on local roadways, new stationary noise sources, and construction activities would potentially expose NSLUs to excessive noise levels, resulting in potentially significant impacts.

The 2018 LRDP EIR concluded that the implementation of mitigation measures Noi-1A through Noi-1F would reduce impacts to less than significant levels. Mitigation measures Noi-1A and Noi-1B required noise analyses for new on-campus NSLUs which may be exposed to existing elevated vehicle and rail noise levels, respectively. Noi-1C identified screening distances for new or modified stationary noise sources. Noi-1D required preliminary noise assessments for noise sources proposed within the screening distances identified in Noi-1C. Noi-E required noise analyses if impacts were determined by the preliminary assessments. Noi-1F identified construction noise screening distance and noise reduction measures.

2.2.2 Issue 2 – Excessive Groundborne Vibration or Noise

Would implementation of the 2018 LRDP result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Under Issue 2, the 2018 LRDP EIR identified impacts based on an assessment of whether groundborne vibration or noise exceeded the criteria listed in Tables 3, 4, and 5 of the noise report[2] (AECOM 2018). The analysis concluded that vibration-sensitive receptors' proximity to the San Diego Trolley and construction equipment would result in a potentially significant impact.

Implementation of mitigation measures Noi-2A and Noi-2B would reduce impacts to less than significant levels. Mitigation measure Noi-2A required vibration analyses for new vibration-sensitive receptors which may be exposed to new or modified stationary vibration sources. Mitigation measure Noi-2B identified vibration screening distances for construction equipment.

2.2.3 Issue 3 – Permanent Increases in Ambient Noise

Would implementation of the 2018 LRDP result in a substantial permanent increase in ambient noise levels in the project vicinity?

Under Issue 3, the 2018 LRDP EIR identified that the establishment of NSLUs near roads, rail, or stationary sources could expose NSLUs to excessive noise levels. Implementation of mitigation measures Noi-1A through Noi-1E would reduce impacts to less than significant levels.

2.2.4 Issue 4 – Temporary Increases in Ambient Noise

Would implementation of the 2018 LRDP result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity?

[1] This table is identical to Table 3.10-8 of the 2018 LRDP EIR.
[2] These tables are identical to Tables 3.10-13, 3.10-14, and 3.10-15 of the 2018 LRDP EIR.

Under Issue 4, the 2018 LRDP EIR identified potential impacts due to construction activities. Mitigation measure Noi-1F would reduce impacts to less than significant levels.

3.0 UPDATES TO STANDARDS OF SIGNIFICANCE

As described above in Section 2.2, the 2018 LRDP EIR determined that impacts would be potentially significant for four noise and vibration issues. Since the 2018 LRDP EIR was approved, Appendix G of the state CEQA Guidelines was updated, which identified three issue areas related to noise and vibration that replaced the four questions in the previous version of the CEQA Guidelines. Because the Governor's Office of Planning and Research (OPR) proposed these amendments and additions to Appendix G of the State CEQA Guidelines in 2018, UC San Diego was able to anticipate the checklist changes during the preparation of the 2018 LRDP EIR and incorporate those concepts into the certified EIR. Therefore, while the 2018 LRDP EIR reflects the Appendix G checklist questions that were in effect at the time of EIR certification, the analyses contained therein reflect the context of and appropriately address the amended Appendix G that was approved in 2019.

Significance thresholds from the current Appendix G of the state CEQA Guidelines and the Update to the 2018 LRDP EIR are identified below for noise. A significant adverse impact is identified if implementation of the Update to the 2018 LRDP would result in any of the following:

1) Generate 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;

2) Generate excessive ground-borne vibration or ground-borne noise levels; or

3) 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 use airport or private airstrip, expose people residing or working in the project area to excessive noise.

Previously, as shown in Section 2.2, Issues 1 and 4 of the 2018 LRDP EIR are now covered under Issue 1 under the Update to the 2018 LRDP SEIR. Issue 2 remains associated with vibration. Issue 3 under the 2018 LRDP EIR, which concerned the placement of new uses near existing noise sources, is no longer considered under the revised Appendix G Guidelines. Issue 3 under the Update to the LRDP SEIR now concerns proposed projects' proximity to airport noise. The standards of significance and impact analysis for each issue area are discussed below.

4.0 UPDATE TO THE 2018 LRDP ANALYSIS

4.1 ISSUE 1 – EXCEED NOISE STANDARDS

Implementation of the Update to the 2018 LRDP may have a significant impact if it results in new or substantially more severe impacts than what was identified in the 2018 LRDP EIR, in terms of the generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

4.1.1 Standards of Significance

UC San Diego is a constitutionally autonomous state entity and therefore is exempt from municipal regulations. Nevertheless, the City of San Diego standards are often pertinent for establishing thresholds and evaluating impacts from the implementation of the 2018 LRDP, as adjacent off-campus uses are located within the City limits. For example, UC San Diego has chosen to adopt a similar construction noise standard as required in City of San Diego Municipal Code Section 59.5.0404. This ordinance prohibits construction from 7 p.m. to 7 a.m. during weekdays and Saturdays except for extenuating circumstances, and anytime on Sundays or legal holidays. When construction activity is allowed, its noise shall not exceed 75 dBA L_{EQ} during the 12 hours from 7 a.m. to 7 p.m. Additionally, Section 59.5.0401 of the City of San Diego Municipal Code restricts operational noise sources related to nearby land uses.

UC San Diego has chosen to develop standards of significance based in part, on City of San Diego standards. The 2018 LRDP EIR established these standards in Table 3.10-8, *Summary of Applicable Noise Impact Significance Criteria* of the 2018 LRDP EIR. These standards were revised for the Update to the 2018 LRDP SEIR to reflect the simplified thresholds and are included below as amended as Table 1, *Noise Impact Standards of Significance*. As a result of the implementation of the Update to the 2018 LRDP, a significant impact would occur if transportation, stationary, or construction noise were to exceed the criteria listed in Table 1, *UC San Diego Noise Impact Standards of Significance*.

Table 1
UC SAN DIEGO NOISE IMPACT STANDARDS OF SIGNIFICANCE

Noise Source	Noise-Sensitive Land Uses	Standards of Significance
Transportation Noise Sources (vehicular traffic)	Campus Housing, Temporary Lodging, Inpatient Medical Care Facilities Single-family residences, multi-family residences, schools, hospitals, day care, hotels, motels, parks, convalescent homes	65 dBA CNEL (exterior), or 3 dBA CNEL increase if existing noise level meets or exceeds 65 dBA CNEL 45 dBA CNEL (interior)
	Classrooms, Child Development Center, Libraries (and related Learning Spaces)	65 dBA CNEL (exterior) 50 dBA CNEL (interior)
	Offices, Churches, Business, Professional Uses	70 dBA CNEL at exterior usable spaces or 3 dBA CNEL increase if existing noise level meets or exceeds 70 dBA CNEL; no interior space noise level criterion
	Commercial, Retail, Industrial, Outdoor Spectator Sports Uses	75 dBA CNEL at exterior usable spaces or 3 dBA CNEL increase if existing noise level meets or exceeds 75 dBA CNEL; no interior space noise level criterion
Stationary Noise Sources (e.g., HVAC equipment, utility plants, ventilated parking structures)	Campus Housing, Temporary Lodging, Inpatient Medical Care Facilities	65 dBA CNEL (exterior), or 3 dBA CNEL increase if existing noise level meets or exceeds 65 dBA CNEL 45 dBA CNEL (interior)

Noise Source	Noise-Sensitive Land Uses	Standards of Significance
	Classrooms, Child Development Center, Libraries (and related Learning Spaces)	65 dBA CNEL (exterior), or 3 dBA CNEL increase if existing noise level meets or exceeds 65 dBA CNEL 50 dBA CNEL (interior)
	Single-Family Residence	40 dBA L_{EQ} (nighttime) at residential property line or 65 dBA CNEL at residential property line
	Multi-Family Residential**	45 dBA L_{EQ} (nighttime) at residential property line
	All Other Residential**	50 dBA L_{EQ} (nighttime) at residential property line
Construction	Housing, Temporary Lodging, Inpatient Medical Care Facilities All Residentially-Zoned Properties	75 dBA L_{EQ} averaged over a 12-hour period between 7:00 a.m. and 7:00 p.m. Monday through Saturday (exterior)

* interior criteria only applicable to designated areas of land use where residences, inpatient beds, temporary lodging, and comparable project/building purposes are anticipated
** consistent with the City of San Diego Noise Ordinance

4.1.2 Environmental Setting

Following certification of the 2018 LRDP EIR, changes in the environmental setting include changes in the built environment both on- and off-campus. UC San Diego has completed or constructed multiple projects that implement the 2018 LRDP, including, but not limited to, the Theater District LLN, Pepper Canyon West LLN, and Franklin Antonio Hall. The Mid-Coast Extension of the San Diego Trolley is now complete; noise related to the light rail vehicles, such as train horns, are now audible within portions of East and West Campus.

Noise sources both on- and off-campus include vehicular traffic noise, which can vary depending on the volume, speed, vehicle types, and other physical conditions of a given roadway. The proximity to I-5, which generally bisects UC San Diego's La Jolla Campus, is a contributor to outdoor noise. Rail noise sources audible within UC San Diego include the San Diego Trolley, which extends into West Campus and East Campus.

Although the UC San Diego campus is not located within two miles of a public airport or public use airport, approved aircraft departure flight patterns from the nearby Marine Corps Air Station (MCAS) Miramar are located within one-half mile north of the campus. Noise levels resulting from MCAS Miramar flights near campus are less than 60 dBA CNEL per the 2020 Marine Corps Air Station (MCAS) Miramar Air Installations Compatible Use Zones (AICUZ) study. Medical helicopter operations occur within UC San Diego, on the roof of the Jacobs Medical Center on East Campus. Medical helicopter operations also occur at the nearby Scripps Memorial Hospital, just north of East Campus.

UC San Diego contains numerous stationary noise sources not related to transportation, such as power plants, heating, ventilation, and air conditioning (HVAC) systems, and mechanically ventilated parking structures. Due to the size of the campus and implementation of the 2018 LRDP, individual construction projects may also be occurring, which contribute to overall noise.

4.1.3 Assumptions and Methodology

4.1.3.1 Vehicular Noise Sources

Existing and future exterior noise levels along the roadways listed in Table 2 below were modeled using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.5. An updated calculation of existing and future traffic volumes was prepared by Linscott, Law, and Greenspan (LLG) for the Update to the 2018 LRDP. Traffic levels are presented in terms of average daily traffic (ADT), which describes the number of vehicles on a given roadway segment on a given day. A traffic distribution of 96 percent automobiles, 2 percent medium trucks, and 2 percent heavy trucks on local roads was used in this analysis, to replicate the assumptions used in the 2018 LRDP EIR. The Update to the 2018 LRDP EIR does not propose uses which would cause changes to the traffic distribution. Table 2, *Year 2016 and Future (Year 2040) Traffic Volumes*, summarizes the ADT data for nearby roadway's conditions in 2040. This includes the 2018 LRDP Buildout ADT from the 2018 LRDP EIR and the future conditions from the Update to the 2018 LRDP, which are based on revised methodology for counting trips now being used by UC San Diego (LLG 2025). Although the future ADT is less than what was identified in the 2018 LRDP, this methodology provides a more accurate description of trip generation of campus land uses.. In addition, the 2016 conditions from the 2018 LRDP EIR are provided for contextual purposes.

Table 2
YEAR 2016 AND FUTURE (YEAR 2040) TRAFFIC VOLUMES

Roadway Segment	Year 2016 ADT[1]	Year 2040 ADT with 2018 LRDP Buildout[2]	Year 2040 ADT with Update to the 2018 LRDP[3]
Genesee Avenue			
North Torrey Pines Rd to Science Center Dr	36,320	50,060	47,290
Science Center Dr to I-5 SB Ramps	40,170	62,790	60,020
I-5 NB Ramps to Scripps Hospital Dr	39,900	61,200	58,120
Scripps Hospital Dr to Campus Point Dr	33,720	67,510	64,430
Campus Point Dr to Regents Rd	34,260	65,600	60,300
North Torrey Pines Road			
Genessee Ave to Northpoint Driveway	21,940	25,630	22,690
Northpoint Driveway to Torrey Pines Scenic Dr	20,410	28,840	26,490
Torrey Pines Scenic Dr to Salk Institute Rd	20,750	27,080	24,730
Salk Institute Rd to Pangea Dr	22,390	26,930	23,400
Pangea Dr to Muir College Dr	22,390	26,930	23,400
Muir College Dr to La Jolla Shores Dr	25,240	30,060	24,760
La Jolla Shores Dr to Expedition Wy	23,770	35,320	22,680
Expedition Wy to S Torrey Pines Rd	23,770	35,320	22,680
La Jolla Shores Drive			
Shellback Way to Downwind Way	10,670	13,420	12,990
Downwind Way to El Paseo Grande	10,670	13,420	12,990
Regents Road			
Genesee Avenue to Health Science Drive	5,680	11,870	9,240
Health Science Drive to Eastgate Mall	13,760	24,490	19,220
Eastgate Mall to Executive Drive	14,100	26,090	19,160
Executive Drive to Regents Park Row	15,640	24,510	17,440
Regents Park Row to La Jolla Village Drive	16,700	25,110	18,040

Roadway Segment	Year 2016 ADT[1]	Year 2040 ADT with 2018 LRDP Buildout[2]	Year 2040 ADT with Update to the 2018 LRDP[3]
La Jolla Village Drive to Nobel Drive	16,470	21,460	18,650
South of Nobel Drive	10,920	12,000	11,570
La Jolla Village Drive			
Torrey Pines Road to La Jolla Scenic Drive	42,450	63,920	51,450
La Jolla Scenic Drive to Villa La Jolla Drive	44,790	63,690	51,380
Villa La Jolla Drive to I-5 SB Ramps	59,540	86,590	73,400
I-5 NB Ramps to Lebon Drive	52,360	57,710	49,020
Lebon Drive to Regents Road	40,290	58,710	50,610
Gilman Drive			
East of Villa La Jolla Drive	16,990	26,030	21,150
Villa La Jolla Drive to La Jolla Village Drive	15,470	22,620	24,140
Villa La Jolla Drive			
La Jolla Village Drive to Nobel Drive	17,620	28,020	20,660
Nobel Drive to Gilman Drive (South)	14,030	17,460	17,040
Interstate 5			
Nobel Drive to La Jolla Village Drive	156,470	187,580	181,090
La Jolla Village Drive to Genesee Avenue	170,980	207,550	205,000

Source: LLG 2025
SB = southbound; NB = northbound
[1] Existing ADT from 2016 conducted for the 2018 LRDP EIR.
[2] Future conditions assume full buildout of the 2018 LRDP based on the 2018 LRDP EIR's calculations for 2035 plus a year-over-year incremental increase from the buildout year 2035 until 2040.
[3] Future conditions with the Update to the 2018 LRDP assume full buildout of the Update based on the revised methodology for counting trips generated by UC San Diego. This results in a more accurate, but lower, ADT than what was modeled in the 2018 LRDP EIR.
SB = southbound; NB = northbound

Noise levels were modeled for the following scenarios: 2016 conditions from the 2018 LRDP EIR and future conditions in 2040 with the 2018 LRDP Buildout and the total inclusive of the incremental increase from the Update to the 2018 LRDP. The roadway noise modeling represents a conservative analysis that does not consider topography or attenuation provided by existing structures. Similar to the methodology in the 2018 LRDP EIR, noise levels for off-site NSLUs were calculated at standard distances from each roadway segment. To assess changes in noise levels associated with the implementation of the Update to the 2018 LRDP, 50-foot distances were analyzed.

Peak-hour traffic volumes are estimated based on the assumption that approximately 10 percent of the average daily traffic would occur during a peak hour. The one-hour L_{EQ} noise level is calculated utilizing this peak-hour traffic. To analyze traffic noise against the standards of significance, hourly noise levels must be converted to the CNEL 24-hour average. The L_{EQ} can then be converted to CNEL using the following equation, where L_{EQ}(h)pk is the peak hour L_{EQ}, P is the peak hour volume percentage of the ADT, d and e are divisions of the daytime fraction of ADT to account for daytime and evening hours, and N is the nighttime fraction of ADT:

$$CNEL = L_{EQ}(h)pk + 10\log10\ 4.17/P + 10\log10(d + 4.77e + 10N)$$

The model-calculated one-hour L_{EQ} noise output is therefore approximately equal to the CNEL (Caltrans 2013).

4.1.3.2 Other Noise Sources

Although stationary noise sources such as HVAC systems, utility plants, events, and parking structures may be sited in new locations, changes in types of stationary sources are not proposed. Although there may be an increase in stationary noise sources, the noise levels of these sources are assumed to be similar to those analyzed under the 2018 LRDP EIR, as standard equipment technologies have not changed substantially in the intervening years. The Epstein Family Amphitheater was constructed in 2023 in the Pepper Canyon Neighborhood and currently hosts performing arts events on a periodic basis on the outdoor stage. No additional modeling or analysis is proposed or assumed to be required. Similarly, construction noise sources are assumed to be similar to what was analyzed previously, and no new modeling or analysis is provided in this report. Nighttime noise construction may occur to reduce conflicts with traffic or existing facility operations, under certain circumstances such as large concrete pours.

Rail noise is not expected to be generated by the Update to the 2018 LRDP and is not further analyzed in this report. Noise generated by residents of student housing is exempt from CEQA per AB 1307 and is not further analyzed in this SEIR.

4.1.4 Impacts Analysis

Using TNM 2.5 and input data from the 2018 LRDP traffic analysis and updated data provided by LLG, future roadway traffic noise was modeled at the same set of roadway segments presented in Table 2. The model provides the sound level at 50 feet from the roadway pavement edge and at the approximate line-of-sight distance to noise contours at 60, 65, and 70 dBA CNEL.

Table 3, *2018 LRDP Future (2040) Roadway Traffic Noise Levels*, identifies the noise levels generated by nearby roadways in 2040, without implementation of the Update to the 2018 LRDP. Table 4, *Update to the 2018 LRDP Future (2040) Roadway Traffic Noise Levels*, identifies the noise levels with implementation of the Update to the 2018 LRDP. Table 5, *Comparison of Existing and Future Roadway Traffic Noise Levels*, compares the two scenarios and provides the increase in noise due to implementation of the Update to the 2018 LRDP. Refer to Appendix A, *Modeled Traffic Volumes and Noise Levels* for traffic volumes, resulting noise levels, and distances to noise contours.

Table 3
2018 LRDP FUTURE (2040) ROADWAY TRAFFIC NOISE LEVELS

Roadway Segment	ADT	% MT	% HT	Speed Limit (mph)	CNEL at 50 feet (dBA)	Distance to 65 CNEL Noise Contour
Genesee Avenue						
North Torrey Pines Rd to Science Center Dr	50,060	2	2	45	74.5	135 feet
Science Center Dr to I-5 SB Ramps	62,790	2	2	45	75.5	155 feet
I-5 NB Ramps to Scripps Hospital Dr	61,200	2	2	45	75.4	150 feet
Scripps Hospital Dr to Campus Point Dr	67,510	2	2	45	75.8	160 feet
Campus Point Dr to Regents Rd	65,600	2	2	45	75.7	155 feet
North Torrey Pines Road						
Genessee Ave to Northpoint Driveway	25,630	2	2	45	71.6	100 feet
Northpoint Driveway to Torrey Pines Scenic Dr	28,840	2	2	45	72.2	105 feet

Roadway Segment	ADT	% MT	% HT	Speed Limit (mph)	CNEL at 50 feet (dBA)	Distance to 65 CNEL Noise Contour
Torrey Pines Scenic Dr to Salk Institute Rd	27,080	2	2	45	71.9	100 feet
Salk Institute Rd to Pangea Dr	26,930	2	2	45	71.9	100 feet
Pangea Dr to Muir College Dr	26,930	2	2	45	71.9	100 feet
Muir College Dr to La Jolla Shores Dr	30,060	2	2	45	72.3	105 feet
La Jolla Shores Dr to Expedition Wy	35,320	2	2	45	73.0	115 feet
Expedition Wy to S Torrey Pines Rd	35,320	2	2	45	73.0	115 feet
La Jolla Shores Drive						
Shellback Way to Downwind Way	13,420	2	2	30	64.4	45 feet
Downwind Way to El Paseo Grande	13,420	2	2	30	64.4	45 feet
Regents Road						
Genesee Avenue to Health Science Drive	11,870	2	2	25	63.1	30 feet
Health Science Drive to Eastgate Mall	24,490	2	2	25	66.2	65 feet
Eastgate Mall to Executive Drive	26,090	2	2	40	70.7	145 feet
Executive Drive to Regents Park Row	24,510	2	2	40	70.5	140 feet
Regents Park Row to La Jolla Village Drive	25,110	2	2	40	70.6	140 feet
La Jolla Village Drive to Nobel Drive	21,460	2	2	40	70.0	125 feet
South of Nobel Drive	12,000	2	2	40	67.4	80 feet
La Jolla Village Drive						
Torrey Pines Road to La Jolla Scenic Drive	63,920	2	2	45	75.6	165 feet
La Jolla Scenic Drive to Villa La Jolla Drive	63,690	2	2	45	75.6	165 feet
Villa La Jolla Drive to I-5 SB Ramps	86,590	2	2	45	77.4	420 feet
I-5 NB Ramps to Lebon Drive	57,710	2	2	45	75.6	330 feet
Lebon Drive to Regents Road	58,710	2	2	45	75.7	330 feet
Gilman Drive						
East of Villa La Jolla Drive	26,030	2	2	25	66.5	70 feet
Villa La Jolla Drive to La Jolla Village Drive	22,620	2	2	25	65.9	60 feet
Villa La Jolla Drive						
La Jolla Village Drive to Nobel Drive	28,020	2	2	25	64.8	70 feet
Nobel Drive to Gilman Drive (South)	17,460	2	2	25	64.8	50 feet
Interstate 5						
Nobel Drive to La Jolla Village Drive	187,580	2.32	1.78	65	85.2	400 feet
La Jolla Village Drive to Genesee Avenue	207,550	2.32	1.78	65	85.6	420 feet

ADT = average daily traffic; MT = medium truck; HT = heavy truck; mph = miles per hour; CNEL = community equivalent noise level; dBA = A-weighted decibel; SB = southbound; NB = northbound

Table 4
UPDATE TO THE 2018 LRDP FUTURE (2040) ROADWAY TRAFFIC NOISE LEVELS

Roadway Segment	ADT	% MT	% HT	Speed Limit (mph)	CNEL at 50 feet (dBA)	Distance to 65 CNEL Noise Contour
Genesee Avenue						
North Torrey Pines Rd to Science Center Dr	47,290	2	2	45	74.3	135 feet
Science Center Dr to I-5 SB Ramps	60,020	2	2	45	75.3	150 feet
I-5 NB Ramps to Scripps Hospital Dr	58,120	2	2	45	75.2	150 feet
Scripps Hospital Dr to Campus Point Dr	64,430	2	2	45	75.6	155 feet
Campus Point Dr to Regents Rd	60,300	2	2	45	75.4	150 feet
North Torrey Pines Road						
Genessee Ave to Northpoint Driveway	22,690	2	2	45	71.1	95 feet
Northpoint Driveway to Torrey Pines Scenic Dr	26,490	2	2	45	71.8	100 feet
Torrey Pines Scenic Dr to Salk Institute Rd	24,730	2	2	45	71.5	100 feet
Salk Institute Rd to Pangea Dr	23,400	2	2	45	71.3	95 feet
Pangea Dr to Muir College Dr	23,400	2	2	45	71.3	95 feet
Muir College Dr to La Jolla Shores Dr	24,760	2	2	45	71.5	100 feet
La Jolla Shores Dr to Expedition Wy	22,680	2	2	45	71.1	95 feet
Expedition Wy to S Torrey Pines Rd	22,680	2	2	45	71.1	95 feet
La Jolla Shores Drive						
Shellback Way to Downwind Way	12,990	2	2	30	64.2	45 feet
Downwind Way to El Paseo Grande	12,990	2	2	30	64.2	45 feet
Regents Road						
Genesee Avenue to Health Science Drive	9,240	2	2	25	61.9	25 feet
Health Science Drive to Eastgate Mall	19,220	2	2	25	65.2	50 feet
Eastgate Mall to Executive Drive	19,160	2	2	40	69.4	115 feet
Executive Drive to Regents Park Row	17,440	2	2	40	69.1	105 feet
Regents Park Row to La Jolla Village Drive	18,040	2	2	40	69.2	125 feet
La Jolla Village Drive to Nobel Drive	18,650	2	2	40	69.3	115 feet
South of Nobel Drive	11,570	2	2	40	67.3	75 feet
La Jolla Village Drive						
Torrey Pines Road to La Jolla Scenic Drive	51,450	2	2	45	74.7	150 feet
La Jolla Scenic Drive to Villa La Jolla Drive	51,380	2	2	45	74.7	150 feet
Villa La Jolla Drive to I-5 SB Ramps	73,400	2	2	45	76.7	380 feet
I-5 NB Ramps to Lebon Drive	49,020	2	2	45	75.1	300 feet
Lebon Drive to Regents Road	50,610	2	2	45	75.1	300 feet
Gilman Drive						
East of Villa La Jolla Drive	21,150	2	2	25	65.6	55 feet
Villa La Jolla Drive to La Jolla Village Drive	24,140	2	2	25	64.5	45 feet
Villa La Jolla Drive						
La Jolla Village Drive to Nobel Drive	20,660	2	2	25	65.5	55 feet
Nobel Drive to Gilman Drive (South)	17,040	2	2	25	64.7	55 feet
Interstate 5						
Nobel Drive to La Jolla Village Drive	181,090	2.32	1.78	65	85.0	400 feet
La Jolla Village Drive to Genesee Avenue	205,000	2.32	1.78	65	85.5	420 feet

ADT = average daily traffic; MT = medium truck; HT = heavy truck; mph = miles per hour; CNEL = community equivalent noise level; dBA = A-weighted decibel; SB = southbound; NB = northbound

Table 5
COMPARISON OF YEAR 2016 AND FUTURE ROADWAY TRAFFIC NOISE LEVELS

Roadway Segment	Year 2016 CNEL (dBA)	Year 2040 with 2018 LRDP Buildout[1] CNEL (dBA))	Year 2040 with Update to the 2018 LRDP Buildout[2] CNEL (dBA)	Change in CNEL from Year 2016 to Year 2040 with 2018 LRDP Buildout (dBA)	Change in CNEL from Year 2040 with 2018 LRDP Buildout to Year 2040 with Update to 2018 LRDP Buildout[2] (dBA)
Genesee Avenue					
North Torrey Pines Rd to Science Center Dr	73.2	74.5	74.3	1.3	-0.2
Science Center Dr to I-5 SB Ramps	73.6	75.5	75.3	1.9	-0.2
I-5 NB Ramps to Scripps Hospital Dr	73.6	75.4	75.2	1.8	-0.2
Scripps Hospital Dr to Campus Point Dr	72.9	75.8	75.6	2.9	-0.2
Campus Point Dr to Regents Rd	73.0	75.7	75.4	2.7	-0.3
North Torrey Pines Road					
Genessee Ave to Northpoint Driveway	71.0	71.6	71.1	0.6	-0.5
Northpoint Driveway to Torrey Pines Scenic Dr	70.7	72.2	71.8	1.5	-0.4
Torrey Pines Scenic Dr to Salk Institute Rd	70.8	71.9	71.5	1.1	-0.4
Salk Institute Rd to Pangea Dr	71.1	71.9	71.3	0.8	-0.6
Pangea Dr to Muir College Dr	71.1	71.9	71.3	0.8	-0.6
Muir College Dr to La Jolla Shores Dr	71.6	72.3	71.5	0.7	-0.8
La Jolla Shores Dr to Expedition Wy	71.4	73.0	71.1	1.6	-1.9
Expedition Wy to S Torrey Pines Rd	71.4	73.0	71.1	1.6	-1.9
La Jolla Shores Drive					
Shellback Way to Downwind Way	63.4	64.4	64.2	1.0	-0.2
Downwind Way to El Paseo Grande	63.4	64.4	64.2	1.0	-0.2
Regents Road					
Genesee Avenue to Health Science Drive	59.9	63.1	61.9	3.2	-1.2
Health Science Drive to Eastgate Mall	63.8	66.2	65.2	2.4	-1.0
Eastgate Mall to Executive Drive	68.2	70.7	69.4	2.5	-1.3
Executive Drive to Regents Park Row	68.6	70.5	69.1	1.9	-1.4
Regents Park Row to La Jolla Village Drive	68.9	70.6	69.2	1.7	-1.4
La Jolla Village Drive to Nobel Drive	68.8	70.0	69.3	1.2	-0.7
South of Nobel Drive	67.1	67.4	67.3	0.3	-0.1
La Jolla Village Drive					
Torrey Pines Road to La Jolla Scenic Drive	73.9	75.6	74.7	1.7	-0.9
La Jolla Scenic Drive to Villa La Jolla Drive	74.1	75.6	74.7	1.5	-0.9
Villa La Jolla Drive to I-5 SB Ramps	75.8	77.4	76.7	1.6	-0.7
I-5 NB Ramps to Lebon Drive	75.3	75.6	74.9	0.3	-0.7
Lebon Drive to Regents Road	74.1	75.7	75.1	1.6	-0.6
Gilman Drive					
East of Villa La Jolla Drive	64.7	66.5	65.6	1.8	-0.9
Villa La Jolla Drive to La Jolla Village Drive	64.3	65.9	64.5	1.6	-1.4
Villa La Jolla Drive					
La Jolla Village Drive to Nobel Drive	64.8	64.8	65.5	0.0	-1.3
Nobel Drive to Gilman Drive (South)	63.9	64.8	64.7	0.9	-0.1

Roadway Segment	Year 2016 CNEL (dBA)	Year 2040 with 2018 LRDP Buildout[1] CNEL (dBA))	Year 2040 with Update to the 2018 LRDP Buildout[2] CNEL (dBA)	Change in CNEL from Year 2016 to Year 2040 with 2018 LRDP Buildout (dBA)	Change in CNEL from Year 2040 with 2018 LRDP Buildout to Year 2040 with Update to 2018 LRDP Buildout[2] (dBA)
Interstate 5					
Nobel Drive to La Jolla Village Drive	84.8	85.2	85.0	0.4	-0.2
La Jolla Village Drive to Genesee Avenue	85.2	85.6	85.5	0.4	-0.1

1 Future conditions assume full buildout of the 2018 LRDP plus the incremental increase from ambient growth from 2035 to 2040.

2 Future conditions with the Update to the 2018 LRDP assume full buildout of the Update based on revised methodology for counting trips generated by UC San Diego. This results in a lower, but more accurate, ADT than what was modeled in the 2018 LRDP EIR.

ADT = average daily traffic; MT = medium truck; HT = heavy truck; mph = miles per hour; CNEL = community equivalent noise level; dBA = A-weighted decibel; SB = southbound; NB = northbound

4.1.5 Conclusion

4.1.5.1 Vehicular Noise Sources

As shown in Table 5, the decrease in vehicular traffic resulting from the implementation of the Update to the 2018 LRDP would not increase future noise levels by varying levels at 50 feet from the roadway pavement edge. An increase of less than 3 dBA would generally not be considered perceptible by the average human ear (Caltrans 2013). Because the roadway noise levels for all on- and off-campus roads would not increase by more than 3 dBA CNEL where the existing noise level would already exceed the applicable land use compatibility threshold, the proposed Update to the 2018 LRDP would not generate increased local traffic volumes that cause a substantial permanent on- or off-campus increase in traffic-related ambient noise levels above levels existing without the project. As described above, this decrease in traffic is based on the revised methodology for assessing trip generation by UC San Diego, which is a more accurate method for counting trip generation based on travel behaviors associated with a university context.

Although the noise levels have been updated due to new information, traffic attributable to the Update to the 2018 LRDP would not result in significant impacts to roadway traffic noise. This is the same conclusion that was made for the roadway traffic analysis for the 2018 LRDP detailed in Section 3.10 of the 2018 LRDP EIR. No new or substantially more severe impacts have been identified. No significant vehicular traffic noise impacts to existing or future on-campus or off-campus NSLU receptors would occur as a result of the proposed Update to the 2018 LRDP.

Due to the change in significance standards in Appendix G of the state CEQA Guidelines since adoption of the 2018 LRDP EIR, the potential effects of an existing environment's noise levels are no longer considered a noise impact. The compatibility of a proposed NSLU with noise levels in a specific location is addressed through compliance with planning guidelines, such as the California Building Code. Therefore 2018 LRDP EIR mitigation measure Noi-1A from the 2018 LRDP EIR, which addressed exposure of new land uses to existing vehicular traffic noise, is no longer required.

4.1.5.2 Other Noise Sources

As discussed in Section 4.1.3.2, noise related to stationary sources would remain similar to what was described in the 2018 LRDP EIR. The Update to the 2018 LRDP EIR proposes stationary noise sources similar to what was identified in the 2018 LRDP EIR. All future stationary noise sources would continue to be required to adhere to the noise impact significance thresholds outlined in Table 1. Similar to the conclusions of the 2018 LRDP EIR, new stationary noise sources would potentially expose NSLUs to excessive noise levels, resulting in potentially significant impacts.

Additional construction activities would occur from the implementation of the Update to the 2018 LRDP. While the location and timing of construction projects may be different from what was proposed under the 2018 LRDP, the noise sources and equipment types would be similar. Nighttime construction may be required for specific circumstances, such as infrequent instances to accommodate large concrete pours, to reduce conflicts with traffic or operation of nearby uses, and other case-by-case scenarios. These scenarios, if required, would adhere to the nighttime standards found in Table 1 to ensure noise levels do not exceed 40 or 45 dBA L_{EQ} at nearby off-site single-family or multi-family residences, respectively. Noise impacts related to construction would remain similar to what was described in the 2018 LRDP EIR; construction activities would potentially expose NSLUs to excessive noise levels.

Rail noise would not be directly affected by the implementation of the Update to the 2018 LRDP. While additional population projections would allow for more people to utilize the existing San Diego Trolley system, the additional population is not anticipated to directly require increased headways over what was already planned as part of the Mid-Coast Corridor Project. Headways would be limited to the physical infrastructure of the rail lines and the Update to the 2018 LRDP would not affect this infrastructure.

As described in 4.4.5.1, the potential effects of an existing environment’s noise levels on the project are no longer considered a noise impact. Therefore 2018 LRDP EIR mitigation measure Noi-1B from the 2018 LRDP EIR, which addressed exposure of new land uses to existing rail noise, is no longer required.

4.2 ISSUE 2 – EXCESSIVE GROUNDBORNE VIBRATION OR NOISE

Implementation of the Update to the 2018 LRDP may have a significant impact if it would result in new or substantially more severe impacts than what was identified in the 2018 LRDP EIR, in terms of the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

4.2.1 Standards of Significance

As listed in Table 6, *Caltrans Guidance on Maximum Vibration Levels for Construction Equipment*, the Caltrans Transportation and Construction Vibration Guidance Manual (Caltrans 2013) provides guidance for the analysis of vibratory impacts generated by transportation and construction projects by providing thresholds for structural damage risk. Table 7, *Federal Transit Administration Construction Vibration Criteria*, presents similar guidance from the FTA (2018), which offers vibration criteria comparable to that of Caltrans for continuous or steady sources of vibration but suggests a more stringent threshold for historic buildings.

Table 6
CALTRANS GUIDANCE ON MAXIMUM VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Building Category	Potential Damage Thresholds (PPV)	
	Transient* Sources (in/s)	Continuous/Frequent** Intermittent Sources (in/s)
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial and commercial buildings	2.0	0.5

Source: Caltrans 2013.
Notes:
* Transient sources generate a single vibratory event, such as blasting.
** Continuous/frequent sources include pile driving equipment and other construction activities generating multiple vibration-intensive events across a given period.
in/s = inches per second; PPV = peak particle velocity.

Table 7
FEDERAL TRANSIT ADMINISTRATION CONSTRUCTION VIBRATION CRITERIA

Building Category	Thresholds	
	PPV (in/s)	Approximate L_v (VdB)*
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA 2018.
Notes:
* RMS velocity in decibels (VdB) referenced to 1 micro-inch per second.
in/s = inches per second; PPV = peak particle velocity.

With respect to human annoyance, FTA guidance sets a threshold of 80 VdB for residential land uses and other buildings where people normally sleep (FTA 2018). This standard applies to campus housing, temporary lodging, and inpatient medical care facilities. For classrooms, libraries (and related learning spaces), and child development centers that would be considered “institutional land uses” per FTA guidance that features primarily daytime and evening use, a less stringent 83 VdB would apply.

A third category of vibration sensitivity relates to the potential for disruption of laboratory research, medical procedures, or commercial processes and activities. Table 8, *Interpretation of Vibration Criteria for Detailed Analysis*, presents FTA guidance with respect to activity vibration sensitivity levels for a variety of land uses and receptor types. This guidance provides VdB thresholds for disruption sensitivity based on the type of equipment at issue.

Table 8
INTERPRETATION OF VIBRATION CRITERIA FOR DETAILED ANALYSIS

Space Usage or Vibration Criterion (VC)	Maximum Level (VdB)[(1)]	Description of Use or Receptor
Computer equipment	78	Adequate for computer equipment and low- power optical microscopes (up to 20X).
Operating rooms	72	Suitable for medium-power optical microscopes (100X) and other equipment of low sensitivity.
VC-A	66	Adequate for medium- to high-power optical microscopes (400X), microbalances, optical balances, and similar specialized equipment.
VC-B	60	Adequate for high-power optical microscopes (1000X), inspection and lithography equipment to 3 micron line widths.
VC-C	54	Appropriate for most lithography and inspection equipment to 1 micron detail size.
VC-D	48	Suitable in most instances for the most demanding equipment, including electron microscopes operating to the limits of their capability.
VC-E	42	The most demanding criterion for extremely vibration-sensitive equipment.

Source: FTA 2018.
1 As measured in 1/3-octave bands of frequency over the frequency range 8 to 80 hertz.
VC = vibration criterion

Construction activities would also have the potential to generate levels of groundborne vibration that could adversely affect nearby sensitive land uses, buildings that are structurally sensitive to groundborne vibration, and facilities where equipment and/or activities may be sensitive to vibratory influences. The level of vibration experienced by these land uses would depend both on the vibrational energy-generating capability of the construction equipment or process, and the type of surface soils and strata through which the vibration transmit from the source to the receiver. By way of examples, Table 9, *Screening Distances per Vibration-Sensitive Receptor Type and Vibration Source*, identifies screening distances for two construction activity samples: (1) a vibratory roller, one of the largest sources of typical construction site vibration magnitude without using impact or vibratory-type pile driving equipment, and (2) an impact-type pile driver.

Table 9
SCREENING DISTANCES PER VIBRATION-SENSITIVE RECEPTOR TYPE AND VIBRATION SOURCE

Receptor Type	VdB Threshold	Distance from Vibration Source (feet)	
		Construction (vibratory roller[1])	Construction (impact pile driver[2])
FTA type IV – Buildings extremely susceptible to vibration damage	90	35	75
Classrooms, libraries (and related learning spaces), and child development centers	83	60	125
Campus housing, temporary lodging, inpatient medical care facilities	80	75	155
Computer equipment rooms	78	85	185
Operating rooms	72	135	300
VC-A	66	215	450

1 per FTA (2006), with reference 94 VdB at 25 feet
2 typical per FTA (2006), with reference 104 VdB at 25 feet
VC = vibration criterion

4.2.2 Environmental Setting

The environmental setting for vibration remains similar to what was analyzed in the 2018 LRDP EIR. Vibration sources would be primarily from proximity to rail and construction activities. Although the San Diego Trolley’s Mid-Coast Corridor project was not complete when the 2018 LRDP was approved, the 2018 LRDP EIR provided a vibration analysis with the assumption that it would be completed.

4.2.3 Assumptions and Methodology

As described above, the assumptions and methodology for groundborne vibration and noise would remain unchanged from what was assumed in the 2018 LRDP EIR. Vibration from the Trolley may increase or decrease depending on the frequency of headways, but vibration from individual train pass-bys would not increase compared to the analysis presented in the 2018 LRDP. Furthermore, the Trolley’s guideway within the vicinity of campus is elevated on aboveground guideways, which results in reduced groundborne vibration as compared to at-grade rail.

Operational vibration levels from vehicular traffic would not be expected to generate substantial levels of vibration or groundborne noise. Operating vehicles have inflated tires and vibration-dampening suspension systems to help minimize roadway roughness and engine operation vibration transmission to the roadway surface. Operational vibration from vehicular traffic would not increase compared to the analysis presented in the 2018 LRDP.

Stationary sources, typified by HVAC and other electromechanical systems, would also not be expected to generate substantial levels of vibration or groundborne noise. Such equipment is typically designed, manufactured, and operated with reciprocating or rotational moving parts that are well balanced and create negligible vibration. The Update to the 2018 LRDP does not propose additional stationary sources that would produce substantial vibration above what was analyzed in the 2018 LRDP EIR.

Because individual buildings and development projects under the Update to the 2018 LRDP would not differ greatly from those analyzed in the 2018 LRDP EIR, construction vibration would be generated by equipment similar to those previously identified and analyzed. As anticipated in the 2018 LRDP EIR, the use of pile driving equipment and a vibratory roller represent the largest sources of construction vibration that would be required for the implementation of the Update to the 2018 LRDP.

4.2.4 Conclusions

Vibration impacts would remain similar to what was described in the 2018 LRDP EIR. No additional or updated analysis related to those sources is provided and appropriate mitigation measures would be implemented on a project-by-project basis.

Due to the change in significance standards in Appendix G of the State CEQA Guidelines, the potential effects of an existing environment's vibration levels on the project are no longer considered an impact. The compatibility of proposed vibration-sensitive land use with noise levels in a specific location is addressed through compliance with planning guidelines. Therefore, mitigation measure Noi-2A from the 2018 LRDP EIR is no longer required.

4.3 ISSUE 3 – AIRCRAFT NOISE

4.3.1 Conclusions

Conditions related to aircraft noise at UC San Diego remain unchanged from the 2018 LRDP. The UC San Diego Campus is not located within the 60 CNEL contours of a public airport or public use airport. Implementation of the Update to the 2018 LRDP would therefore not expose people residing or working in the project area to excessive noise levels related to aircraft.

5.0 REVISED MITIGATION MEASURES

Because no additional impacts were identified following the implementation of the Update to the 2018 LRDP as compared to the 2018 LRDP, no additional mitigation is required. Revisions to the 2018 LRDP EIR's mitigation measures would be implemented to account for the revised CEQA Appendix G Guidelines, updated table references, and clarification of requirements. This includes clarifying text for nighttime construction.

Mitigation measures to be implemented as part of the Update to the 2018 LRDP are listed below and will be incorporated into a Mitigation Monitoring and Reporting Plan (MMRP) upon approval of the Update to the 2018 LRDP and associated SEIR. Changes have been tracked below with strikeout and underline text denoting text removals and additions, respectively, as compared to the mitigation measure language found in the 2018 LRDP EIR. As noted above, mitigation measures Noi-1A, Noi-1B, and Noi-2A from the 2018 LRDP EIR have been removed as they are no longer required. The following mitigation measures would reduce impacts to less than significant levels.

Noi-1C **Stationary Noise Source Screening Distances.** If new or modified stationary noise sources (including, major HVAC systems, utility plants, ventilated parking structures, or similar facilities with noise-producing operating mechanical equipment) are proposed in the vicinity of NSLUs (existing and future) ~~or NSLUs are proposed in the vicinity of existing stationary~~

~~sources~~, the project shall incorporate the following screening distances between the NSLU and the stationary noise source to avoid potential noise impacts:

i. Constructing new ventilated utility plants at least 500 feet from existing or proposed NSLUs

ii. Constructing new ventilated parking structures at least 250 feet from existing or proposed NSLUs

iii. Positioning new and renovated major outdoor HVAC equipment, not shielded by a noise-reducing barrier or other means, at least 100 feet from existing or proposed NSLUs.

Should the NSLU already be exposed to noise in excess of stated thresholds in Table 1, then the new or renovated stationary noise source(s) shall be evaluated in a preliminary noise assessment as noted in Noi-1D.

Noi-1D **Stationary Noise Source Preliminary Assessment.** If the screening distances noted in Noi-1C cannot be achieved, a preliminary noise assessment shall be conducted by a qualified acoustician to determine if there would be the potential for exterior noise impacts to NSLUs using ~~the sample analysis techniques contained in this report or comparably equivalent~~ methods for assessing the potential for exceeding the noise criteria outlined in Table 1. If the preliminary noise assessment predicts the potential for impacts, a project-specific noise analysis shall be conducted in accordance with Noi-1E:

Noi-1E **Stationary Noise Source Project-Specific Analysis.** If the potential for noise impacts is determined in accordance with Noi-1D, a project-specific noise analysis shall be conducted by a qualified acoustician to determine if the future stationary source would expose NSLU(s) to noise in excess of 65 dBA CNEL at the building façade.

i. The analysis shall ~~also~~ demonstrate that the sound level in all habitable rooms will be 45 dBA CNEL or less and/or that the interior noise level within classrooms shall also not exceed 50 dBA CNEL.

ii. If the stated interior noise standards cannot be achieved through standard construction techniques, noise reduction measures shall be specified in the detailed noise analysis and incorporated into the stationary noise source or NSLU to ensure compliance with the stated standards.

Noi-1F **Construction Noise Screening Distance.** If project construction activities resulting from implementation of the Update to the 2018 LRDP are proposed within less than 150 feet of an NSLU, or may involve the use of vibratory or impact-type pile drivers, impact-type equipment (including, but not limited to, clam shovels, hydra break rams, hoe rams, and jackhammers), concrete saws, pavement scarifiers, sand blasters, or vibrating hoppers, mitigation shall be integrated into the project's construction specifications to minimize temporary noise caused by construction activities to less than significant levels:

i. Require the construction contractor to work with proper administrative controls on equipment operation periods so as not to exceed a 12-hour average sound level of

75 dBA L_{EQ} at any NSLU between 7:00 a.m. and 7:00 p.m. Monday through Saturday, except for infrequent, extenuating circumstances when nighttime work is required for short periods of time, such as to accommodate large concrete pours, to reduce conflicts with traffic or operation of nearby uses, and other case-by-case scenarios. These activities would need to be approved by UC San Diego Campus Planning and other applicable departments prior to occurrence.

ii. Outfit construction equipment with properly maintained, manufacturer-approved or recommended sound abatement means on air intakes, combustion exhausts, heat dissipation vents, and the interior surfaces of engine hoods and power train enclosures.

iii. Locate (to the extent practical) steady-state, continuously operating stationary construction equipment such as generators, pumps, and air compressors at least 150 feet from nearby NSLUs. If this screening distance cannot be achieved in the field, additional attenuation would be required. This may include deployment of temporary noise walls or acoustical blankets/curtains that would block direct sound paths between the operating equipment and the receptor(s) of concern.

iv. Position (to the extent practical) construction laydown and vehicle staging areas as far from NSLUs as feasible.

v. Inform, whenever possible and preferably with at least a two-week advanced notice, all neighboring NSLUs expected to be exposed to elevated noise levels that a construction project would commence.

vi. Where NSLUs are expected to be less than 100 feet away, schedule anticipated loud construction activities, which could involve impact-type equipment and processes such as pile driving, jackhammering, pavement breaking, compactors, etc., to not coincide with any final exams week and recognized holidays. Adjust hours or days of the construction activity to occur before or after these noise-sensitive periods of the UC San Diego academic year.

Noi-2B **Construction Vibration Screening Distance.** Prior to the commencement of construction of projects that would involve heavy earth-moving equipment or impact-type pile driving within the applicable screening distance per Table 9, or if the existing receptor involves activities that are vibration sensitive at a level more stringent than VC-A as appearing in Table 8, UC San Diego shall retain a qualified acoustician to prepare a construction vibration mitigation program to be implemented by the construction contractor(s). The construction vibration mitigation program shall identify and require measures to reduce vibration resulting from construction activities to the maximum extent practicable, as well as detail construction activity notification and monitoring processes that include, but are not limited to, the following:

i. Vibration monitoring shall be performed during construction to establish the level of vibration produced by high-impact activities. Monitoring shall be conducted when any construction activity occurs within the above-described screening distances noted in Table 8. Monitoring shall be conducted using portable vibration-monitoring instrumentation that provides a calibrated record of local ground movement/accelerations. If construction vibration exceeds the appropriate threshold, work should be stopped and resumed when alternative work methods and equipment can be implemented. Baseline vibration levels at specified locations shall be established prior to the construction activity.

ii. Building occupants of vibration-sensitive land uses within the applicable screening distance per Table 9 shall be notified at least two weeks prior to the start of construction.

6.0 REFERENCES

AECOM. 2018. Noise Technical Report for the 2018 Long Range Development Plan Environmental Impact Report. July 9.

California Department of Transportation (Caltrans). 2013. Caltrans Transportation and Construction Vibration Guidance Manual. September.

Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. May

LLG. 2025. Trip Generation Calculations for the Update to the UC San Diego 2018 La Jolla Campus Long Range Development Plan. March 14.

UC San Diego. 2018. University of California San Diego 2018 Long Range Development Plan, La Jolla Campus, California. Final Environmental Impact Report. State Clearinghouse No. 2016111019. November.

Appendix A

Traffic Volumes and Noise Levels

Existing and Future Traffic Volumes																	
Roadway	Segment	2018 LRDP					No Project (2040)					With Project (2040)					Posted Speed (mph)
		ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			
				Cars 96.0%	MT 2.0%	HT 2.0%			Cars 96.0%	MT 2.0%	HT 2.0%			Cars 96.0%	MT 2.0%	HT 2.0%	
Genessee Avenue	N Torrey Pines Road to Science Center Dr	36,320	3632	3487	73	73	50,060	5006	4806	100	100	47,290	4729	4540	95	95	45
	Science Center Dr to I-5 SB Ramps	40,170	4017	3856	80	80	62,790	6279	6028	126	126	60,020	6002	5762	120	120	45
	I-5 NB Ramps to Scripps Hospital Dr	39,900	3990	3830	80	80	61,200	6120	5875	122	122	58,120	5812	5580	116	116	45
	Scripps Hospital Dr to Campus Point Dr	33,720	3372	3237	67	67	67,510	6751	6481	135	135	64,430	6443	6185	129	129	45
	Campus Point Dr to Regents Rd	34,260	3426	3289	69	69	65,600	6560	6298	131	131	60,300	6030	5789	121	121	45
N Torrey Pines Road	Genessee Ave to Northpoint Driveway	21,940	2194	2106	44	44	25,630	2563	2460	51	51	22,690	2269	2178	45	45	45
	Northpoint Driveway to Torrey Pines Scenic Dr	20,410	2041	1959	41	41	28,840	2884	2769	58	58	26,490	2649	2543	53	53	45
	Torrey Pines Scenic Dr to Salk Institute Rd	20,750	2075	1992	42	42	27,080	2708	2600	54	54	24,730	2473	2374	49	49	45
	Salk Institute Rd to Pangea Dr	22,390	2239	2149	45	45	26,930	2693	2585	54	54	23,400	2340	2246	47	47	45
	Pangea Dr to Muir College Dr	22,390	2239	2149	45	45	26,930	2693	2585	54	54	23,400	2340	2246	47	47	45
	Muir College Dr to La Jolla Shores Dr	25,240	2524	2423	50	50	30,060	3006	2886	60	60	24,760	2476	2377	50	50	45
	La Jolla Shores Dr to Expedition Wy	23,770	2377	2282	48	48	35,320	3532	3391	71	71	22,680	2268	2177	45	45	45
	Expedition Wy to S Torrey Pines Rd	23,770	2377	2282	48	48	35,320	3532	3391	71	71	22,680	2268	2177	45	45	45
La Jolla Shores Drive	Shellback Way to Downwind Way	10,670	1067	1024	21	21	13,420	1342	1288	27	27	12,990	1299	1247	26	26	30
	Downwind Way to El Paseo Grande	10,670	1067	1024	21	21	13,420	1342	1288	27	27	12,990	1299	1247	26	26	30
Regents Road	Genesee Avenue to Health Science Drive	5,680	568	545	11	11	11,870	1187	1140	24	24	9,240	924	887	18	18	25
	Health Science Drive to Eastgate Mall	13,760	1376	1321	28	28	24,490	2449	2351	49	49	19,220	1922	1845	38	38	25
	Eastgate Mall to Executive Drive	14,100	1410	1354	28	28	26,090	2609	2505	52	52	19,160	1916	1839	38	38	40
	Executive Drive to Regents Park Row	15,640	1564	1501	31	31	24,510	2451	2353	49	49	17,440	1744	1674	35	35	40
	Regents Park Row to La Jolla Village Drive	16,700	1670	1603	33	33	25,110	2511	2411	50	50	18,040	1804	1732	36	36	40
	La Jolla Village Drive to Nobel Drive	16,470	1647	1581	33	33	21,460	2146	2060	43	43	18,650	1865	1790	37	37	40
	South of Nobel Drive	10,920	1092	1048	22	22	12,000	1200	1152	24	24	11,570	1157	1111	23	23	40
La Jolla Village Drive	Torrey Pines Road to La Jolla Scenic Drive	42,450	4245	4075	85	85	63,920	6392	6136	128	128	51,450	5145	4939	103	103	45
	La Jolla Scenic Drive to Villa La Jolla Drive	44,790	4479	4300	90	90	63,690	6369	6114	127	127	51,380	5138	4932	103	103	45
	Villa La Jolla Drive to I-5 SB Ramps	59,540	5954	5716	119	119	86,590	8659	8313	173	173	73,400	7340	7046	147	147	45
	I-5 NB Ramps to Lebon Drive	52,360	5236	5027	105	105	57,710	5771	5540	115	115	49,020	4902	4706	98	98	45
	Lebon Drive to Regents Road	40,290	4029	3868	81	81	58,710	5871	5636	117	117	50,610	5061	4859	101	101	45
Gilman Drive	East of Villa La Jolla Drive	16,990	1699	1631	34	34	26,030	2603	2499	52	52	21,150	2115	2030	42	42	25
	Villa La Jolla Drive to La Jolla Village Drive	15,470	1547	1485	31	31	22,620	2262	2172	45	45	24,140	2414	2317	48	48	25
Villa La Jolla Drive	La Jolla Village Drive to Nobel Drive	17,620	1762	1692	35	35	28,020	2802	2690	56	56	20,660	2066	1983	41	41	25
	Nobel Drive to Gilman Drive (South)	14,030	1403	1347	28	28	17,460	1746	1676	35	35	17,040	1704	1636	34	34	25
Interstate 5	Nobel Drive to La Jolla Village Drive	156,470	15647	15005	363	279	187,580	18758	17989	435	334	181,090	18109	17367	420	322	65
	La Jolla Village Drive to Genesee Avenue	170,980	17098	16397	397	304	207,550	20755	19904	482	369	205,000	20500	19660	476	365	65

Source: LLG 2025

Existing and Future Traffic Noise Levels														
Roadway	Segment	2018 LRDP				No Project (2040)				With Project (2040)				
		CNEL @ 50 ft	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ 50 ft	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ 50 ft	Δ at 50 ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
Genessee Avenue	N Torrey Pines Road to Science Center Dr	73.2	70	120	200	74.5	80	135	240	74.3	-0.2	75	135	230
	Science Center Dr to I-5 SB Ramps	73.6	75	65	210	75.5	90	155	260	75.3	-0.2	85	150	260
	I-5 NB Ramps to Scripps Hospital Dr	73.6	75	65	210	75.4	85	150	260	75.2	-0.2	85	150	260
	Scripps Hospital Dr to Campus Point Dr	72.9	65	115	195	75.8	90	160	270	75.6	-0.2	90	155	270
	Campus Point Dr to Regents Rd	73.0	65	115	200	75.7	90	155	270	75.4	-0.3	90	150	260
N Torrey Pines Road	Genessee Ave to Northpoint Driveway	71.0	55	95	160	71.6	60	100	170	71.1	-0.5	55	95	160
	Northpoint Driveway to Torrey Pines Scenic Dr	70.7	55	90	155	72.2	60	105	180	71.8	-0.4	60	100	175
	Torrey Pines Scenic Dr to Salk Institute Rd	70.8	55	90	155	71.9	60	100	170	71.5	-0.4	60	100	170
	Salk Institute Rd to Pangea Dr	71.1	55	95	160	71.9	60	100	170	71.3	-0.6	55	95	165
	Pangea Dr to Muir College Dr	71.1	55	95	160	71.9	60	100	170	71.3	-0.6	55	95	165
	Muir College Dr to La Jolla Shores Dr	71.6	60	100	170	72.3	65	105	180	71.5	-0.8	60	100	170
	La Jolla Shores Dr to Expedition Wy	71.4	55	95	165	73.0	65	115	200	71.1	-1.9	60	95	160
	Expedition Wy to S Torrey Pines Rd	71.4	55	95	165	73.0	65	115	200	71.1	-1.9	60	95	160
La Jolla Shores Drive	Shellback Way to Downwind Way	63.4	10	35	75	64.4	15	45	80	64.2	-0.2	15	45	80
	Downwind Way to El Paseo Grande	63.4	10	35	75	64.4	15	45	80	64.2	-0.2	15	45	80
Regents Road	Genesee Avenue to Health Science Drive	59.9	0	15	50	63.1	10	30	95	61.9	-1.2	10	30	75
	Health Science Drive to Eastgate Mall	63.8	10	40	110	66.2	20	65	170	65.2	-1.0	20	50	140
	Eastgate Mall to Executive Drive	68.2	35	90	220	70.7	55	145	330	69.4	-1.3	45	115	270
	Executive Drive to Regents Park Row	68.6	35	100	240	70.5	55	140	330	69.1	-1.4	40	105	260
	Regents Park Row to La Jolla Village Drive	68.9	40	105	250	70.6	55	140	330	69.2	-1.4	40	110	260
	La Jolla Village Drive to Nobel Drive	68.8	35	100	250	70.0	50	125	300	69.3	-0.7	45	115	270
	South of Nobel Drive	67.1	25	75	185	67.4	30	80	195	67.3	-0.1	30	75	190
La Jolla Village Drive	Torrey Pines Road to La Jolla Scenic Drive	73.9	75	135	560	75.6	90	165	290	74.7	-0.9	85	150	260
	La Jolla Scenic Drive to Villa La Jolla Drive	74.1	80	140	240	75.6	90	165	290	74.7	-0.9	85	150	260
	Villa La Jolla Drive to I-5 SB Ramps	75.8	145	340	620	77.4	190	420	690	76.7	-0.7	170	380	650
	I-5 NB Ramps to Lebon Drive	75.3	130	310	600	75.6	140	330	650	74.9	-0.7	125	290	600
	Lebon Drive to Regents Road	74.1	110	260	540	75.7	145	330	620	75.1	-0.6	125	300	600
Gilman Drive	East of Villa La Jolla Drive	64.7	0	45	125	66.5	25	70	180	65.6	-0.9	20	55	155
	Villa La Jolla Drive to La Jolla Village Drive	64.3	10	45	120	65.9	20	60	160	64.5	-1.4	15	45	120
Villa La Jolla Drive	La Jolla Village Drive to Nobel Drive	64.8	15	50	130	66.8	25	70	190	65.5	-1.3	20	55	145
	Nobel Drive to Gilman Drive (South)	63.9	10	40	110	64.8	15	50	130	64.7	-0.1	15	45	130
Interstate 5	Nobel Drive to La Jolla Village Drive	84.4	220	370	600	85.2	240	400	660	85.0	-0.2	240	400	660
	La Jolla Village Drive to Genesee Avenue	84.8	230	390	640	85.6	250	420	680	85.5	-0.1	250	420	680

Source: TNM 2.5

Appendix H

Vehicle Miles Traveled Assessment

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VEHICLE MILES TRAVELED ASSESSMENT

UPDATE TO THE UC SAN DIEGO 2018 LA JOLLA CAMPUS LONG RANGE DEVELOPMENT PLAN

March 14, 2025

LLG Ref. 3-23-3843

Prepared by:
Amelia Giacalone
Senior Transportation Planner

Under the Supervision of:
John Boarman, P.E.
Principal

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VEHICLE MILES TRAVELED ASSESSMENT

UPDATE TO THE UC SAN DIEGO 2018 LA JOLLA CAMPUS LONG RANGE DEVELOPMENT PLAN

March 14, 2025

1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers has prepared this Vehicle Miles Traveled (VMT) Assessment for the Update to the 2018 University of California (UC) San Diego La Jolla Campus Long Range Development Plan Update (hereby referred to as the "Project"). The UC San Diego La Jolla Campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego.

This VMT Assessment has been prepared to evaluate the transportation effects of the Project using VMT, as proposed by the California Governor's Office of Planning and Research (OPR) to implement California State Law Senate Bill (SB) 743. The analysis methodology contained in this report utilizes guidance from the *California Environmental Quality Act* (CEQA) and OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018).

1.1 VMT Background

VMT is defined as the "amount and distance of automobile travel attributable to a project" per CEQA Guidelines Section 15064.3. VMT is a measure of the use and efficiency of the transportation network as well land uses in a region. VMT is calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (roundtrip) travel and is estimated for a typical weekday for the purposes of measuring transportation impacts.

The potential transportation impacts of the proposed Project are based on VMT to satisfy the CEQA guidelines that were adopted consistent with SB 743. Public Resources Code section 20199, enacted pursuant to SB 743, identifies VMT as an appropriate metric for measuring transportation impacts along with the elimination of auto delay/ Level of Service (LOS) for CEQA purposes statewide, effective July 1, 2020. The justification for this paradigm shift is that auto delay/LOS impacts may lead to improvements that increase roadway capacity which may ultimately induce more traffic and greenhouse gas emissions. In contrast, constructing projects in VMT-efficient locations assists California in meeting greenhouse gas emissions targets. Therefore, consistent with SB 743 and CEQA Guidelines 15064.3, the CEQA significance determination for the Project is based only on VMT and not on LOS.

2.0 PROJECT DESCRIPTION

2.1 Background

The UC requires that each campus in the UC system maintain a Long Range Development Plan (LRDP). The LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected enrollment increases and new program initiatives. The current LRDP for the UC San Diego La Jolla campus (2018 LRDP) and its accompanying Environmental Impact Report (EIR; State Clearinghouse No. 2016111019) were adopted on November 15, 2018 by the UC Regents. The 2018 LRDP EIR analyzed and disclosed impacts from implementation of the 2018 LRDP.

The 2018 LRDP anticipated that the total campus population would grow by 16,750 people, resulting in a total population of 65,600 students, faculty, and staff by 2035. The student population was projected to increase to a total of 42,400 students during this period. The 2018 LRDP planned for the addition of 8.9 million gross square feet (GSF) of new academic, research, and support facilities, and 6,700 new beds by 2035.

2.2 Project Location

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego. UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus). The East and West Campuses are bisected by Interstate 5 (I-5) but are internally connected via two bridges. The La Jolla del Sol housing complex is located southeast of these larger geographical areas and is not contiguous to the campus. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel, and the Torrey Pines Gliderport, Torrey Pines Center North/South and Torrey Pines Court.

Figure 2–1 shows the vicinity map. ***Figure 2–2*** shows a more detailed Project area map.

2.3 Project Description

The proposed Update to the 2018 LRDP would revise the previous population growth and development projections, make related land-use modifications, and extend the planning horizon year from 2035 to 2040. Overall campus land use development would increase approximately 30 percent as compared to what was analyzed in the 2018 LRDP. Limited land use changes with increased density of development is proposed in the West and East Campuses, as well as potential utility and infrastructure upgrades as determined necessary to support the increased development. No increase in development is proposed at SIO beyond the approved 2018 LRDP.

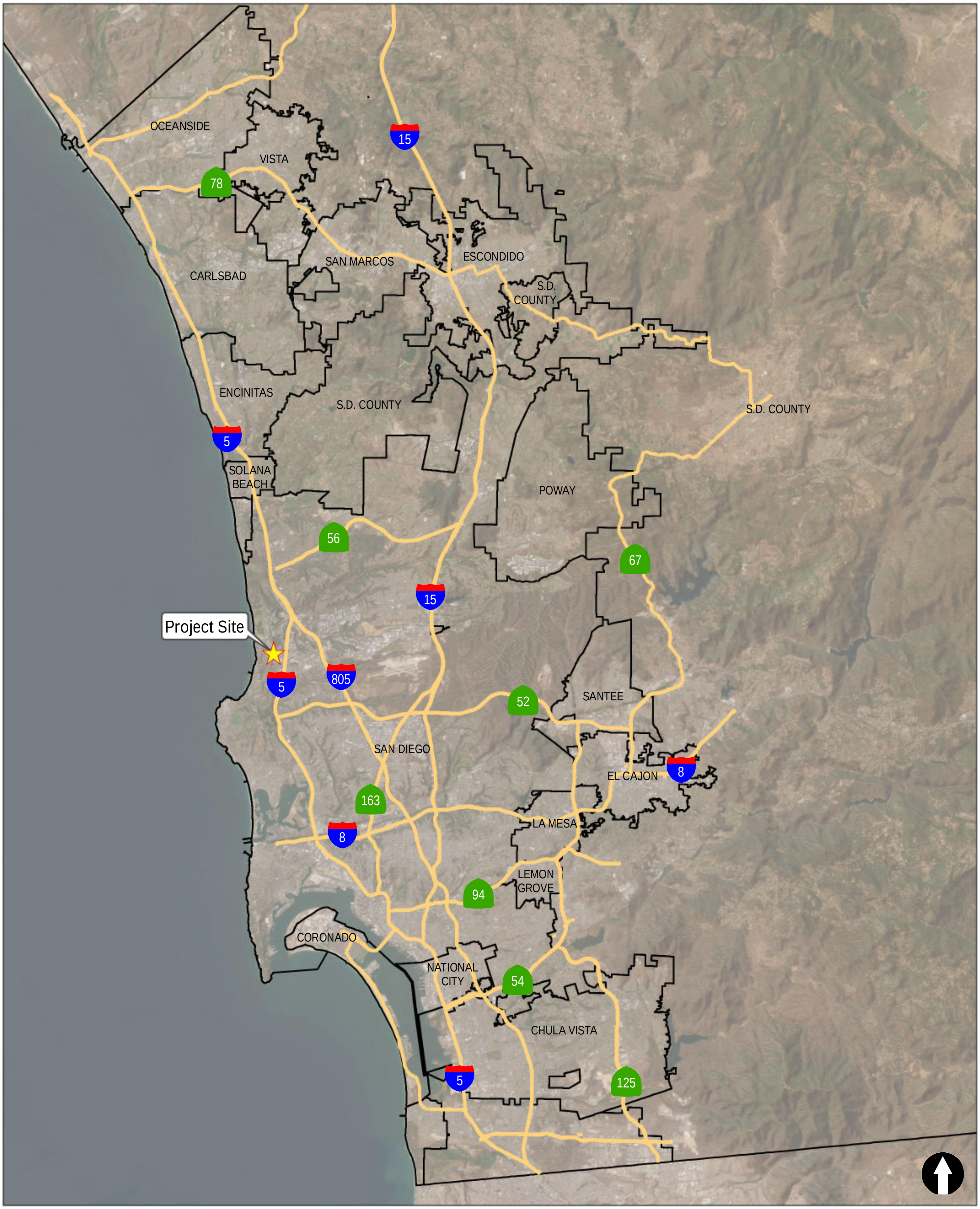

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Figure 2-1

Vicinity Map

UCSD LRDP

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Figure 2-2

Project Area Map

3.0 VEHICLE MILES TRAVELED ASSESSMENT

This VMT Assessment has been prepared to evaluate the transportation effects of the Project using VMT based on guidance from CEQA and OPR.

The Project study area is located within a Transit Priority Area (TPA) per the City of San Diego's TPA interactive mapping service, as shown in ***Figure 3-1***. Per the City website 'Transit Priority Areas' are defined as areas within one-half mile of a major transit stop that is existing or planned. The website notes that a 'major transit stop' is defined in Section 21064.3 of the Public Resources Code (PRC), as further discussed below in *Section 3.1*.

3.1 California Environmental Quality Act Guidelines

Per CEQA Guidelines 15064.3(b)(1) for Land Use Projects: "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to have a less than significant transportation impact". A 'major transit stop' is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods, per Section 21064.3 of the PRC. A 'high-quality transit corridor' is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours per PRC Section 21155. Per PRC section 21155(b), the definition of "major transit stop" also includes "major transit stops that are included in the applicable regional transportation plan.

3.2 OPR Guidelines

OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018, Pages 13-14), notes that CEQA Guideline Section 15064.3 (b)(1) states that projects proposed within half a mile of an existing major transit stop or an existing stop along a high-quality transit corridor should be presumed to have a less than significant transportation impact. The technical advisory document notes that 'major transit stop' and 'high-quality transit corridor' are defined in Sections 21064.3 and 21155 of the PRC, respectively, as further discussed above in *Section 3.1*.

However, per page 14 of the technical advisory, the above-described presumption of no significant impact would not apply if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For example, the presumption would potentially not be appropriate, pursuant to 21155(b) and OPR's Technical Advisory, if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75.
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking).
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization).

- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

None of these project-specific circumstances are applicable to the Project as summarized below, and therefore the presumption of no significant traffic (VMT) impact would apply.

- **Has a Floor Area Ratio (FAR) of less than 0.75**: FAR is calculated on an individual project basis. The 2018 LRDP, including the proposed Update, would be implemented through many individual building projects completed over time in various locations throughout campus. The majority of existing campus development has a FAR of between approximately 1.5 and 2, and future development would expect to have similar and even greater FARs. The majority of proposed campus development would be through the redevelopment of existing lower-density and replacement with higher-density developments, and infill development. Because of this, efficient use of space through the construction of mid- to high-rise buildings is necessary, which would have a larger FAR than 0.75. Therefore, this exception does not apply.

- **Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking): The UC system of which** UC San Diego is one campus is not subject to local land use regulation due to its constitutional autonomy and therefore sets its own parking supply requirements. UC San Diego does not set campus wide parking requirements and each project considers parking in a manner consistent with UC San Diego's sustainability goals. For example, a large majority of student residents on campus are not allowed to bring their cars to campus as part of university policy. Therefore, the Update to the LRDP would not allow for more parking than UC San Diego would otherwise allow.

  The 2018 LRDP prioritizes the redevelopment of surface parking lots and densification of campus areas well-served by transit. While over time UC San Diego must replace some of the parking lost through this infill development through the construction of parking structures and/or inclusion of subterranean parking garages, the overall campus parking demand continues to be reduced over time due to the increased availability of on-campus housing and expansion of alternative transportation programs. This allows the campus to supply less parking than typically provided in large-scale projects in neighboring jurisdictions. On a project-by-project basis, UC San Diego builds less parking than most projects in off-campus City of San Diego areas provide pursuant to the City of San Diego's standard parking ratios. This exception does not apply.

- **Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)**: The most relevant Sustainable Communities Strategy (although not applicable to UC San Diego due to its constitutional autonomy) would be the San Diego Association of Governments (SANDAG) 2021 Regional Transportation Plan, which includes the Sustainable Communities Strategy (SCS) and Regional Comprehensive Plan (collectively referred to as the SANDAG 2021 Regional Plan). The plan details "5 Big Moves", including use of complete corridors; a transit leap to provide a network of high-capacity, high-speed, and high-frequency transit service;

mobility hubs where high concentrations of people, destinations, and travel choices converge; flexible fleets to provide a variety of on-demand shared vehicles including micro transit, bikeshare, scooters, and other modes of transportation that connect to transit; and “Next Operating System”, a digital platform that ties the transportation system together in real time.

The UC San Diego 2018 LRDP and proposed Update to the 2018 LRDP integrate land use, housing, employment, and alternative transportation planning strategies that are similar to SANDAG’s efforts towards the “5 Big Moves”. For example, UC San Diego actively implements Complete Streets strategies by providing people with safe and comfortable spaces to get around on foot, bike, or micromobility device through ongoing efforts to increase safety of bicycle/micromobility lanes, reduce vehicle speeds, provide high-quality pedestrian and micromobility connections, and implement adaptive traffic signal technology to maximize roadway capacity and give priority to buses. The campus hosts the Gilman Transit Center, a central mobility hub, as well as two UC San Diego Blue Line Trolley stations – areas in which the 2018 LRDP and Update plan to increase density, consistent with the 2021 Regional Plan goals. Subsidized transit passes are available for all students, staff, and faculty to encourage the use of these transit options. Additionally, the Triton Transit campus shuttle operated by UC San Diego offers an efficient way to get around the entire campus and has partnered with Spin electric scooters to increase transit connection, consistent with the 2021 Regional Plan’s “Flexible Fleets” move.

Another key goal of the 2021 Regional Plan is to incentivize housing development in areas with access to transit jobs, and other amenities. The 2018 LRDP and Update significantly increase on-campus housing for both students and staff/faculty, in areas where these groups learn or work. A significant increase in housing is anticipated to occur immediately adjacent to the UC San Diego Central Campus Trolley Station. Student housing is also offered at 20% below market rate, consistent with the 2021 Regional Plan’s emphasis on affordable housing.

The 2018 LRDP effort received support from SANDAG in their August 30, 2018, comment letter on the 2018 LRDP EIR, from which the proposed Update to the 2018 LRDP is tiered. SANDAG recognized the regional benefit of the 2018 LRDP, including its smart growth and sustainable development approach, plan for additional housing and employment opportunities on campus, pedestrian and bike-friendly connections, and high frequency transit opportunities. The Update to the 2018 LRDP continues to utilize the same planning goals, objectives, and strategies of the 2018 LRDP, and takes it a step further to add even more housing and employment density and continue to improve upon its transit ridership and “last mile” connections.

Therefore, the proposed 2018 LRDP is consistent with the SANDAG 2021 Regional Plan, and this exception does not apply.

- **Replaces affordable residential units with a smaller number of moderate- or high-income residential units:** All student housing is offered at rents 20% below market rate or lower, and the Update to the 2018 LRDP would not change this. Student housing would be significantly increased to meet the 2018 LRDP goal of housing approximately 65% of eligible students.

In some cases, redevelopment under the Update to the 2018 LRDP would temporarily displace existing housing units on campus; however, these temporary displacements would be more than replaced with significantly more units via higher-density buildings such as mid- and high-rise buildings offering the same standard of affordable housing. The Update to the 2018 LRDP (Year 2040) plans to increase on-campus student housing by approximately 10,560 beds compared to the adopted 2018 LRDP. Therefore, this exception does not apply.

3.3 UC San Diego La Jolla Campus Transit Mobility

As noted above, the Project study area is located within a TPA per the City of San Diego's Transit Priority Area interactive mapping service, as shown in *Figure 3-1*. Per the City website 'Transit Priority Areas' are defined as areas within one-half mile of a major transit stop that is existing or planned. ***Figure 3-4*** shows the locations of the existing transit stops within a half mile of campus, 26 of which are considered 'major transit stops' as defined by Section 21064.3 of the PRC. As shown, the UC San Diego campus is served by a variety of transit services including the UC San Diego Blue line trolley, multiple transit stations and bus routes, and on-campus and off-campus shuttles, as shown in ***Figures 3-2*** and ***3-3***. ***Appendix A*** includes a list of the existing major transit stops in the area and a description of why they are considered major transit stops.

It should be noted that the southwest portion of the SIO is located just outside of the City's TPA, as shown on *Figure 3-1*. However, no updates to any of the approved 2018 LRDP development projections, which were analyzed under the 2018 LRDP EIR and associated VMT study, are proposed in the SIO. The only land use changes proposed in the SIO would be to expand the Open Space Preserve land use designation in the Restoration Lands and Ecological Reserve categories, which do not generate vehicular trips and do not have an effect on VMT. Therefore, SIO is not a part of the updated Project study area in this analysis. Therefore, it can be concluded that the Project site is located within a TPA, and the presumption of no significant traffic (VMT) impact would apply. It should be noted that the SIO is connected to the adjacent TPA via a robust shuttle system as shown on *Figure 3-3*.

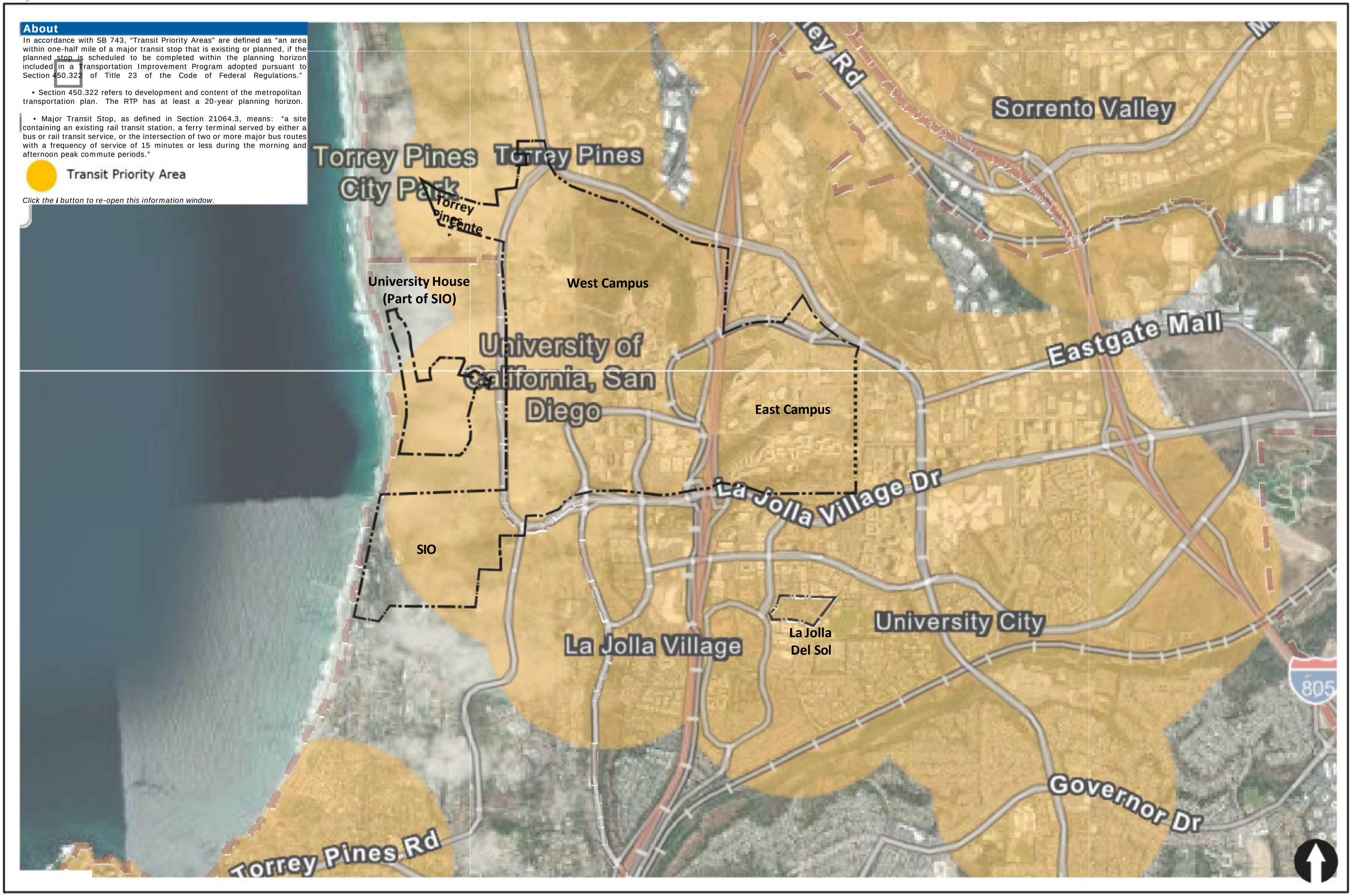

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Figure 3-1

City of San Diego Transit Priority Area Identification Map

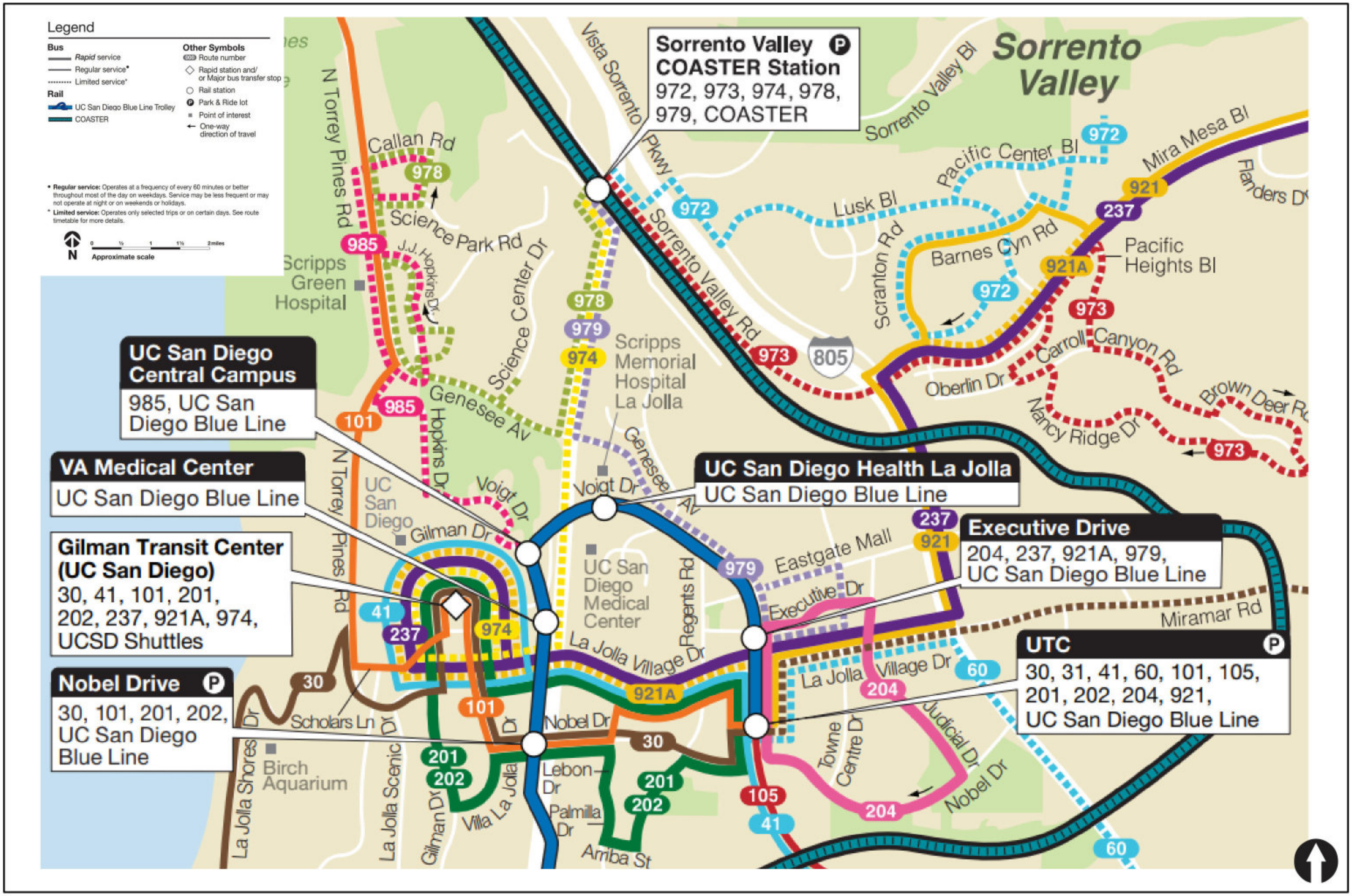

Figure 3-2

Existing Campus Transit Service

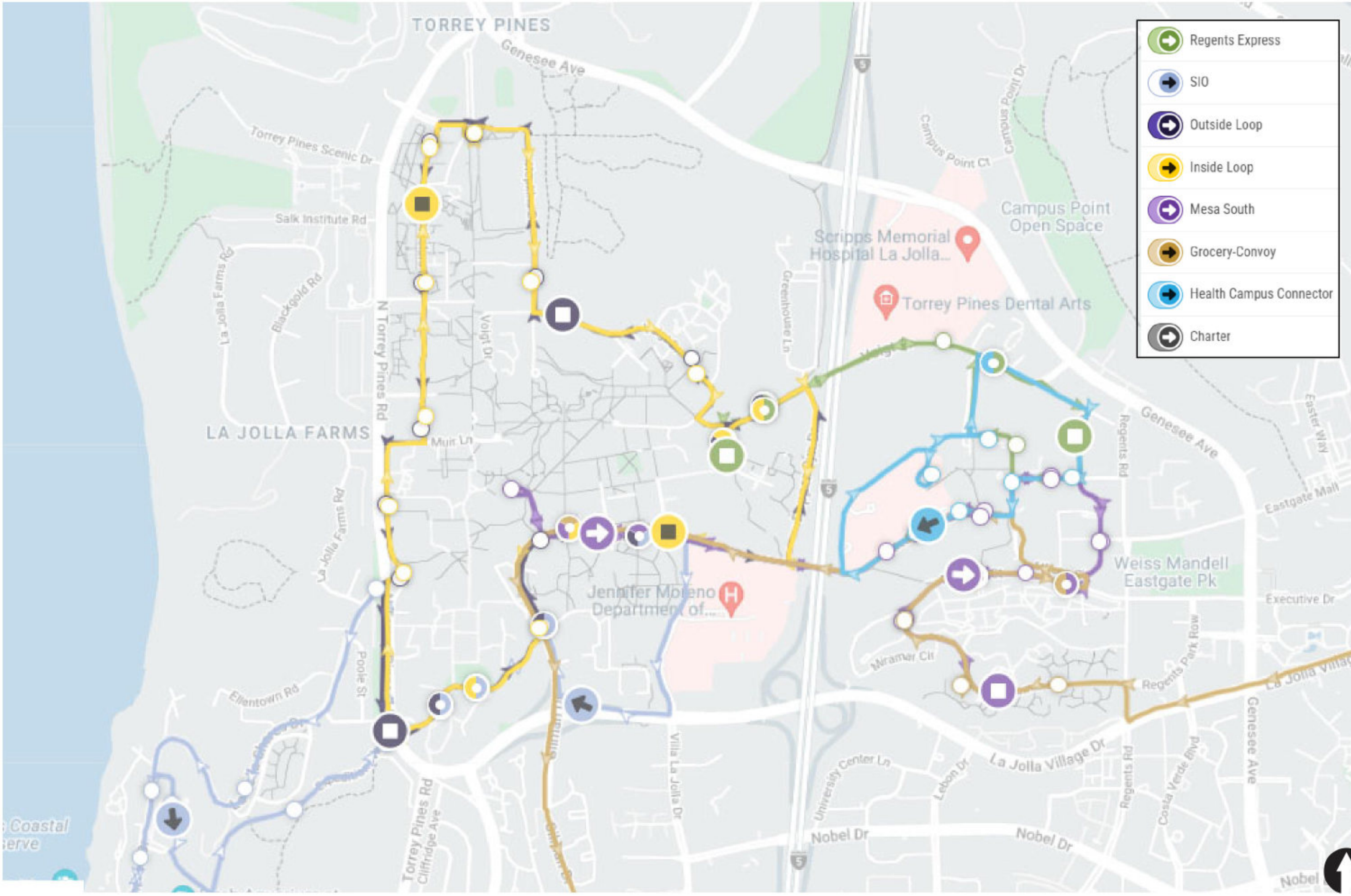

Figure 3-3

Existing Campus Shuttle Service

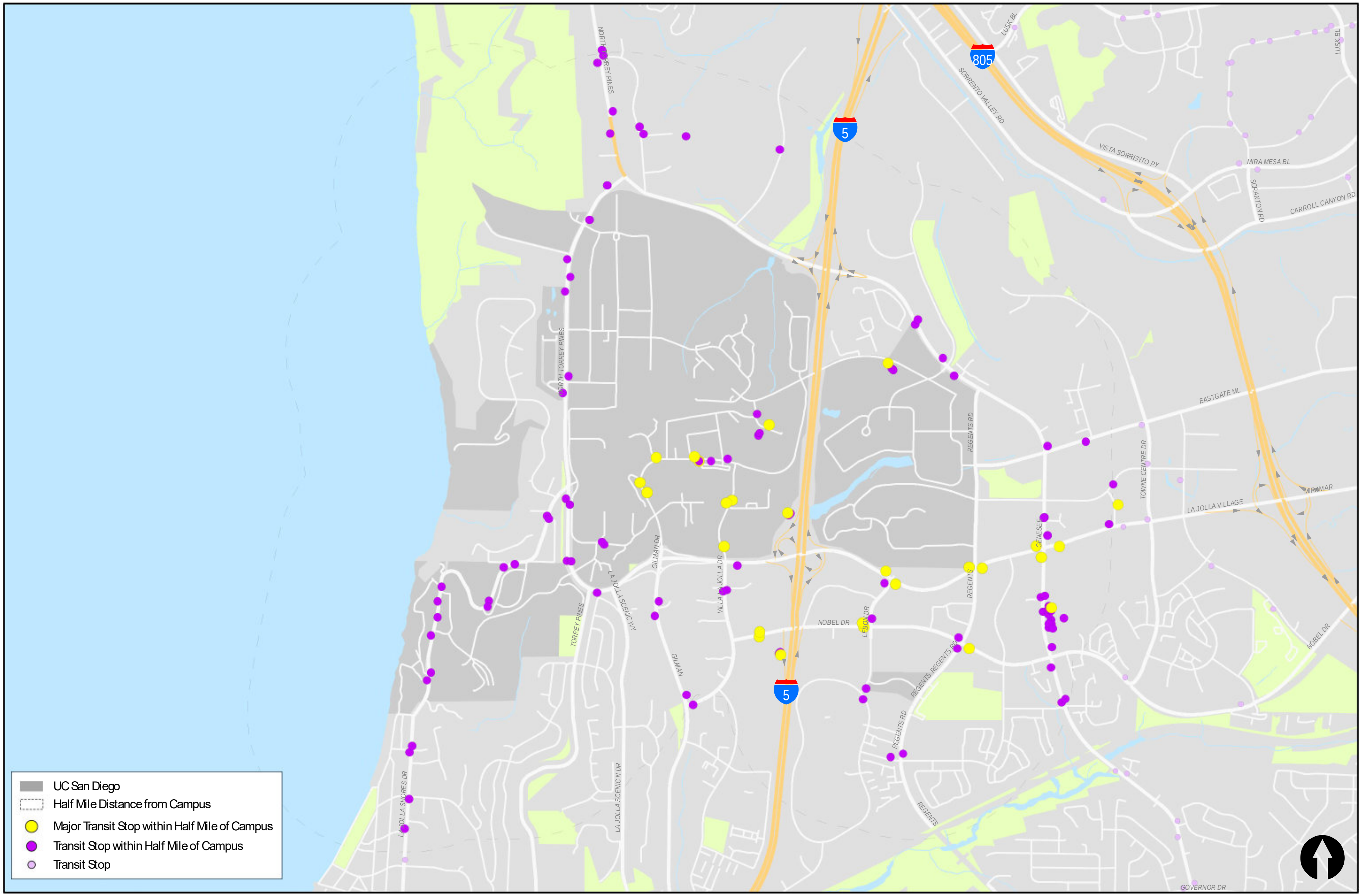

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Figure 3-4

Transit Within A 1/2-Mile of Campus

UCSD LRDP

4.0 CONCLUSIONS

This VMT Assessment has been prepared to evaluate the transportation effects of the Project using VMT based on guidance from CEQA and OPR.

Except as noted below and in *Section 3* for the SIO, the Project site is located within a TPA per the City of San Diego's TPA interactive mapping service, as shown in *Figure 3-1*. Per the City website 'Transit Priority Areas' are defined as areas within one-half mile of a major transit stop that is existing or planned, as defined in PRC Section 21064.3. *Figure 3-4* shows the locations of the existing transit stops within a half mile of campus, many of which are considered 'major transit stops' as defined by Section 21064.3 of the PRC. As shown in *Sections 2.0 and 3.0* of this chapter, the UC San Diego campus is served by a variety of transit services including the UC San Diego Blue line trolley, multiple transit stations and bus routes, and on-campus and off-campus shuttles, as shown in *Figures 3-2* and *3-3*.

Based on CEQA Guideline Section 15064.3 (b)(1) and OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018, Page 13), projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to have a less than significant transportation impact. The Project site is located within a TPA and can therefore be presumed to have a less than significant transportation (VMT) impact.

It should be noted that the southwest portion of the SIO is located just outside of the City's TPA, as shown on *Figure 3-1*. However, no updates to any of the approved 2018 LRDP development projections, which were analyzed under the 2018 LRDP EIR and associated VMT study, are proposed in the SIO. The only land use changes proposed in the SIO would be to expand the Open Space Preserve land use designation in the Restoration Lands and Ecological Reserve categories, which do not generate vehicular trips and do not have an effect on VMT. Therefore, SIO is not a part of the updated Project study area in this analysis. Therefore, it can be concluded that the Project site is located within a TPA and the presumption of no significant traffic (VMT) impact would apply. It should be noted that the SIO is connected to the adjacent TPA via a robust shuttle system as shown on *Figure 3-3*.

The above-described presumption of no significant impact would not apply if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For example, the presumption would potentially not be appropriate if a project has a FAR of less than 0.75, includes more parking than required by the jurisdiction, is inconsistent with the applicable Sustainable Communities Strategy, or replaces affordable residential units with a smaller number of moderate- or high-income residential units. As described further in *Section 3.2*, none of these project-specific circumstances are applicable to the Project, and therefore the presumption of no significant traffic (VMT) impact would apply.

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TECHNICAL APPENDICES TO THE VMT

UPDATE TO THE UC SAN DIEGO 2018 LA JOLLA CAMPUS LONG RANGE DEVELOPMENT PLAN

March 14, 2025

LLG Ref. 3-23-3843

APPENDICES

APPENDIX

A. List of Major Transit Stops Within ½ Mile of Campus

APPENDIX A

LIST OF MAJOR TRANSIT STOPS WITHIN ½ MILE OF CAMPUS

A ‘major transit stop’, as defined in Section 21064.3 of the Public Resources Code (PRC), means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

The stations and stops listed below are located within ½ of Campus and are considered to be major transit stops.

UCSD Blue Line Stations

The stations below contain an existing rail transit station and, therefore, are major transit stops.

Station	Location
UTC Transit Center	4545 La Jolla Village Drive
Executive Drive	9235 Genesee Ave
UC San Diego Health La Jolla	3669 Voigt Drive
UC San Diego Central Campus	415 Lyman Lane
VA Medical Center	3380 La Jolla Village Drive
Nobel Drive	3449 Nobel Drive

MTS/NCTD Bus Stop Intersections

The following intersections service 2+ bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods and are, therefore, major transit stops.

Stop	Services Routes
Gilman Dr & Myers Dr, Stop ID 10374 Gilman Dr & Myers Dr, Stop ID 10772	30, 101, 202, 479
Gilman Dr & Mandeville Ln, Stop ID 89022	30, 41, 201, 921
Gilman Dr & Eucalyptus Grove Ln, Stop ID 11548 Gilman Dr & Eucalyptus Grove Ln, Stop ID 12320	30, 41, 101, 201, 202, 237, 479, 921
VA Hospital, Stop ID 88962	30, 41, 101, 201, 202, 479, 921

VA Hospital, Stop ID 88988	
Villa La Jolla Dr & La Jolla Village Dr, Stop ID 99931	30, 41, 101, 921
Nobel Dr & La Jolla Village Square Drwy, Stop ID 13058 Nobel Dr & La Jolla Village Square Drwy, Stop ID 13024	30, 101, 201, 202
Nobel Dr & Lebon Dr, Stop ID 11151 Nobel Dr & Lebon Dr, Stop ID 10034	30, 101, 201, 202
La Jolla Village Dr & Lebon Dr, Stop ID 11153 La Jolla Village Dr & Lebon Dr, Stop ID 10391	40, 101, 201, 202, 479, 921
Nobel Dr & Regents Rd, Stop ID 10399	30, 201, 202
La Jolla Village Dr & Regents Rd, Stop ID 10793 La Jolla Village Dr & Regents Rd, Stop ID 10400	40, 101, 201, 202, 479, 921
La Jolla Village Dr & Genesee Av, Stop ID 11923 La Jolla Village Dr & Genesee Av, Stop ID 95036 Genesee Av & La Jolla Village Dr, Stop ID 13171 Genesee Av & La Jolla Village Dr, Stop ID 13387	31, 41, 60, 101, 204, 237, 479, 921 31, 60, 204, 237, 921 31, 41, 60, 101, 237, 479, 921 31, 41, 60, 101, 204, 237, 479, 921

The following bus stops are also located within ½ of Campus, but would **not** be considered a major transit stop:

Stop	Services Routes
N Torrey Pines Rd & John J Hopkins Dr, Stop ID 13141 N Torrey Pines Rd & John J Hopkins Dr, Stop ID 24959	101, 478, 985 *Only 1 route (985) has a frequency of service interval of 15 minutes or less
N Torrey Pines Rd & Scripps Clinic Drwy, Stop ID 12639	101 *Only services 1 route which has a frequency of service interval of more than 15 minutes
N Torrey Pines Rd & Scripps Clinic Drwy, Stop ID 11882	101, 478, 985 *Only 1 route (985) has a frequency of service interval of 15 minutes or less
John Jay Hopkins Dr & General Atomics Ct, Stop ID 89012	478, 985 *Only 1 route (985) has a frequency of service interval of 15 minutes or less
John Hopkins Ct & General Atomics (Building Entran, Stop ID 98545	478 *Only services 1 route which has a frequency of service interval of more than 15 minutes
10350 Science Center Dr, Stop ID 98544	478 *Only services 1 route which has a frequency of service interval of more than 15 minutes
N Torrey Pines Rd & Genesee Av, Stop ID 11885	101, 985 *Only 1 route (985) has a frequency of service interval of 15 minutes or less
N Torrey Pines Rd & UCSD Northpoint Drwy, Stop ID 12316	101, 985 *Only 1 route (985) has a frequency of service interval of 15 minutes or less

N Torrey Pines Rd & Torrey Pines Scenic Dr, Stop ID 11538 N Torrey Pines Rd & Torrey Pines Scenic Dr, Stop ID 12311	101 *Only services 1 route which has a frequency of service interval of more than 15 minutes
N Torrey Pines Rd & Salk Institute Rd, Stop ID 11877	101 *Only services 1 route which has a frequency of service interval of more than 15 minutes
N Torrey Pines Rd & Muir College Dr, Stop ID 12631	101 *Only services 1 route which has a frequency of service interval of more than 15 minutes
N Torrey Pines Rd & Almahurst Row, Stop ID 11875	101 *Only services 1 route which has a frequency of service interval of more than 15 minutes
N Torrey Pines Rd & La Jolla Shores Dr, Stop ID 11876 N Torrey Pines Rd & La Jolla Shores Dr, Stop ID 12310	101, 30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
N Torrey Pines Rd & Expedition Way, Stop ID 11537 N Torrey Pines Rd & Revelle College Dr, Stop ID 12634	101, 30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Village Dr & N. Torrey Pines Rd, Stop ID 10368	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
Scholars Dr South & Revelle College Dr, Stop ID 24151 Scholars Dr South & Revelle College Dr, Stop ID 24150	101 *Only services 1 route which has a frequency of service interval of more than 15 minutes
La Jolla Shores Dr & Inyaha Ln, Stop ID 11873	30

La Jolla Shores Dr & Poole St, Stop ID 12308	*Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Horizon Way, Stop ID 12626 La Jolla Shores Dr & Horizon Way, Stop ID 11867	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Discovery Way, Stop ID 11528 La Jolla Shores Dr & Discovery Way, Stop ID 12623	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Shellback Way, Stop ID 12286	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Biological Grade, Stop ID 11852	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Downwind Way, Stop ID 12615 La Jolla Shores Dr & Downwind Way, Stop ID 11850	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Scripps Institute, Stop ID 12284	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Naga Way, Stop ID 13129	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Camino Del Collado, Stop ID 12613 La Jolla Shores Dr & Camino Del Collado, Stop ID 11847	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less

La Jolla Shores Dr & Calle De Oro, Stop ID 12281	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Shores Dr & Calle Frescota, Stop ID 11518	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
Gilman Dr & Villa La Jolla Dr, Stop ID 10775	41, 237, 921 *Only 1 route (237) has a frequency of service interval of 15 minutes or less
Gilman Dr & Evening Way, Stop ID 13278	202 *Only 1 route (202) has a frequency of service interval of 15 minutes or less
Gilman Dr & Evening Way, Stop ID 13279	201 *Only 1 route (201) has a frequency of service interval of 15 minutes or less
Gilman Dr & Villa La Jolla Dr, Stop ID 12326	202 *Only 1 route (202) has a frequency of service interval of 15 minutes or less
Villa La Jolla Dr & Gilman Dr, Stop ID 99463	201 *Only 1 route (201) has a frequency of service interval of 15 minutes or less
Villa La Jolla Dr & Villa Norte, Stop ID 89006 Villa La Jolla Dr & Holiday Ct, Stop ID 89007	30 *Only 1 route (30) has a frequency of service interval of 15 minutes or less
La Jolla Village Dr & Villa La Jolla Dr, Stop ID 10378	41, 921 *Only 1 route (30) has a frequency of service interval of 15 minutes or less

Genesee Av & Scripps Hospital, Stop ID 21195	479 *Only services 1 route which has a frequency of service interval of more than 15 minutes
Genesee Av & Campus Point Dr, Stop ID 11913	479 *Only services 1 route which has a frequency of service interval of more than 15 minutes
Eastgate Mall & Easter Wy, Stop ID 99183	479 *Only services 1 route which has a frequency of service interval of more than 15 minutes
Eastgate Mall & Towne Centre Dr, Stop ID 99184	479 *Only services 1 route which has a frequency of service interval of more than 15 minutes
Executive Dr & Executive Wy, Stop ID 99075	204 *Only services 1 route which has a frequency of service interval of more than 15 minutes
La Jolla Village Dr & Executive Wy, Stop ID 11167	31, 60, 479, 921 *Only 1 route (60) has a frequency of service interval of 15 minutes or less
Genesee Av & Nobel Dr, Stop ID 12666 Genesee Av & Nobel Dr, Stop ID 11924	41, 105 *Only 1 route (41) has a frequency of service interval of 15 minutes or less
Genesee Av & Decoro St, Stop ID 12668 Genesee Av & Decoro St, Stop ID 11572	41, 105 *Only 1 route (41) has a frequency of service interval of 15 minutes or less

END OF APPENDICES